PUBLIC DRAFT
INITIAL STUDY AND
MITIGATED NEGATIVE DECLARATION

IVANHOE PUBLIC UTILITY DISTRICT
WELL NO. 9 AND CONVEYANCE PIPELINE PROJECT

Prepared by:

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IVANHOE PUBLIC UTILITY DISTRICT
WELL NO. 9 AND CONVEYANCE PIPELINE PROJECT

Prepared for:

Ivanhoe Public Utility District
15859 Azalea Ave
Ivanhoe, CA 93235

Prepared by:

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February 2022

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APPENDICES

1.0 INTRODUCTION

The Ivanhoe Public Utility District (PUD or District) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of construction and operation of the proposed Ivanhoe PUD Well No. 9 and Conveyance Pipeline Project (Proposed Project). The Proposed Project and its location are described in Chapter 2. This document was prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) of 1970 (as amended) and the CEQA Guidelines (14 California Code of Regulations [CCR] § 15000 et seq.).

1.1 Intent and Scope of this Document

This IS/MND has been prepared in accordance with CEQA, under which the Proposed Project is evaluated at a project level (CEQA Guidelines § 15378). The Ivanhoe PUD, as the Lead Agency under CEQA, would consider the Proposed Project's potential environmental impacts when considering whether to approve the Project. This IS/MND is an informational document to be used in the planning and decision-making process for the Proposed Project and does not recommend approval or denial of the Proposed Project. The site plans for the Proposed Project included in this IS/MND are preliminary. The Ivanhoe PUD anticipates that the final design for the Proposed Project may include some modifications to these plans, and the environmental analysis has been developed with conservative assumptions to accommodate some level of modification. This document describes the Proposed Project; its environmental setting, including existing conditions and regulatory setting, as necessary; the potential environmental impacts of the Proposed Project with regard to the topics on the CEQA Initial Study checklist, and mitigation measures for any potentially significant impacts.

1.2 Public Involvement Process

CEQA Guidelines §15073 and §15105(b) require that the lead agency designate a period during the IS/MND process when the public and other agencies can provide comments on the potential impacts of the Proposed Project. Accordingly, the Ivanhoe PUD is circulating this document for a 30-day public and agency review period. In addition to the 30-day public and agency review, the District will hold a Public Hearing on the Project. After the close of that period, the IS/MND will be finalized and the Ivanhoe PUD will take its approval action on the Proposed Project.

1.3 Organization of this Document

This IS/MND contains the following components:

- **Chapter 1, Introduction**, provides a brief description of the intent and scope of this IS/MND, the public involvement process under CEQA, and the organization of and terminology used in this IS/MND.
- **Chapter 2, Project Description,** describes the Proposed Project, including its objectives, the Project area where the Proposed Project would be constructed, the construction approach and activities, operation-related activities, and related permits and approvals.
- **Chapter 3, Environmental Checklist,** presents the environmental checklist used to assess the Proposed Project's potential environmental effects, which is based on the model provided in Appendix G of the CEQA Guidelines. This chapter also includes a brief environmental setting description for each resource topic and identifies the Proposed Project's anticipated environmental impacts, as well as any mitigation measures that would be required to reduce potentially significant impacts to a less-than-significant level.
- **Chapter 4, References**, provides a bibliography of printed references, websites, and personal communications used in preparing this IS/MND.
- **Appendices:**

  Appendix A. Biological Resource Evaluation
  Appendix B. Mitigation Monitoring and Reporting Program

2.0 PROJECT DESCRIPTION

2.1 Background and Need for the Project

The Ivanhoe Public Utility District (PUD or District) is a small community services district formed in 1951 that provides potable water and sewerage services to a population of approximately 4,495 residents in the unincorporated community of Ivanhoe in Tulare County northeast of Visalia (see Figures 1 and 2). The District currently supplies water from two active groundwater wells. The approximately 0.98-square mile (approximately 625-acre) service area lies approximately 360 feet above mean sea level (MSL).

The District water system consists of groundwater wells, distribution pipelines, services, meters, fire hydrants, and related facilities. Groundwater is the only source of water supply for the District, which does not have access to a surface water supply. The District also provides sewerage services to the community.

The District has historically had a total of eight supply wells, two of which are currently active (Well Nos. 4 and 8), and three of which are in standby mode (Well No. 7) or inactive (Well Nos. 2 and 6) due to nitrate and/or 1,2,3- trichloropropane (1,2,3-TCP) contamination. Three wells have been destroyed. The existing wells and water distribution system and the location of the proposed Well No. 9 are shown on Figure 3. The District has an adequate groundwater supply in terms of quality and quantity, but both parameters are on a general trend of decline. The District requires additional source water supply to satisfy existing and future water demands and to address groundwater contamination affecting existing wells.

The District does not have any storage facilities and must meet the peak flow demand with well output only. Additional capacity is needed to meet current demands in accordance with State regulatory standards. The Maximum Day Demand and Peak Hour Demand based on the period 2006 to 2015 were calculated at 1,490 and 2,235 gallons per minute (gpm), respectively. However, the available water well capacity of the four active wells is 1,496 gpm. Thus, with its current system the District cannot meet the Peak Hour Demand, and also cannot meet the Maximum Day Demand, which requires having the highest capacity source off-line. Allowing for a 10% increase in future growth capacity would require a total well capacity of 2,460 gpm to satisfy Title 22 standards. Based on the Tulare County Community Plan, the District would need additional wells to meet future capacity demands and to replace existing older wells.

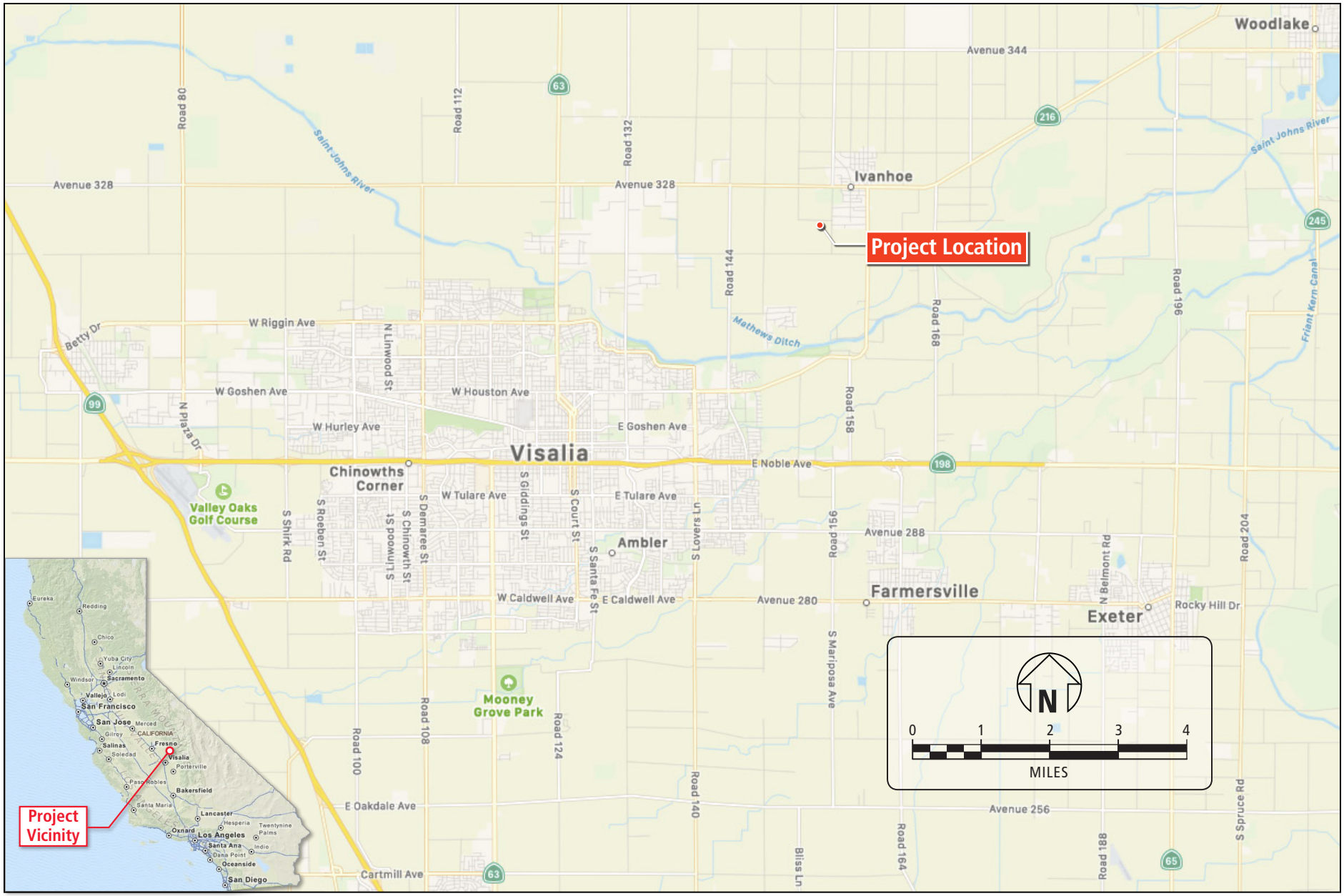


Figure 1
Regional Project Location

Source: Grassetti Environmental and TomTom Maps

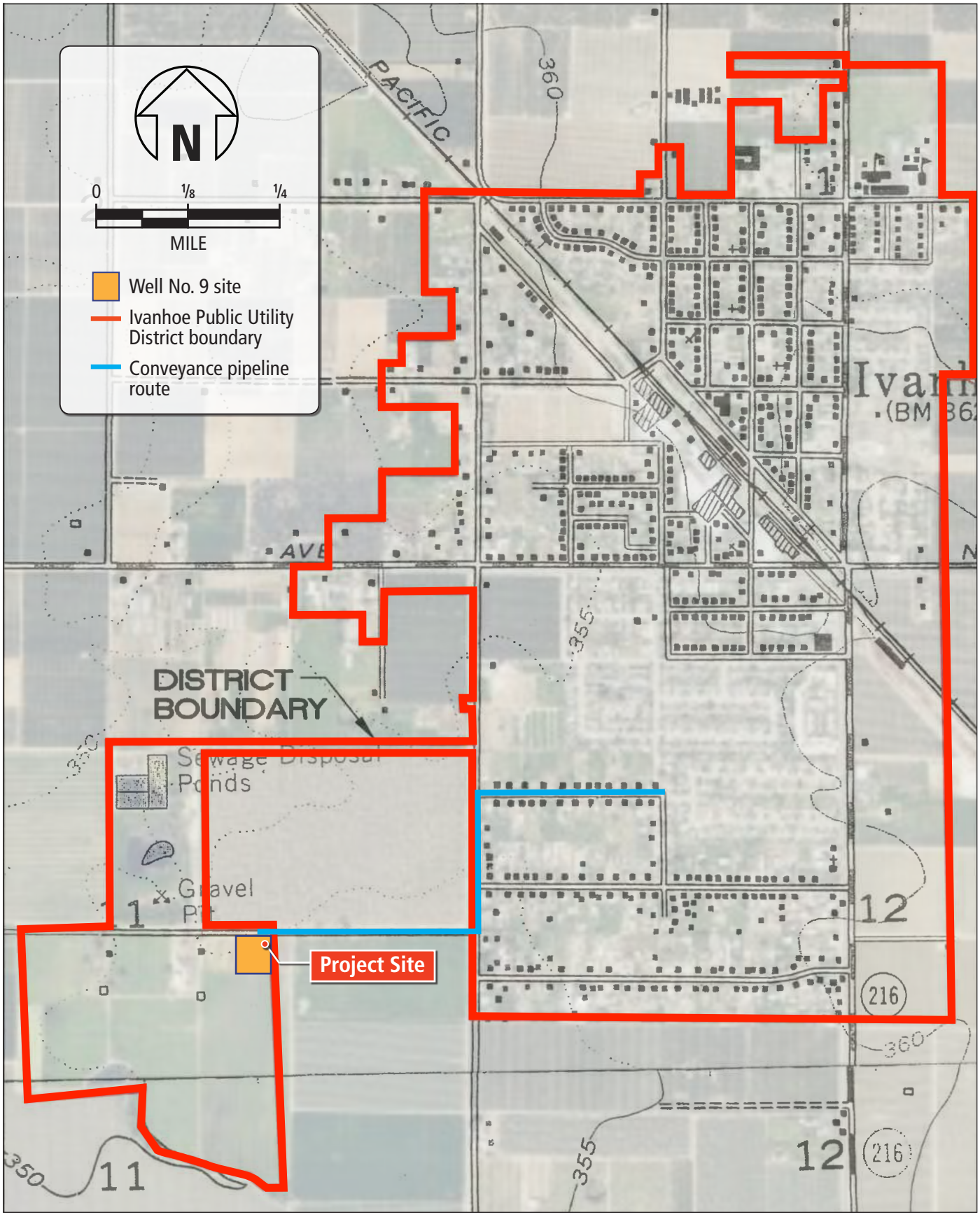


Figure 2
Project Site Location

Source: Grassetti Environmental and Keller/Wegley Consulting Engineers

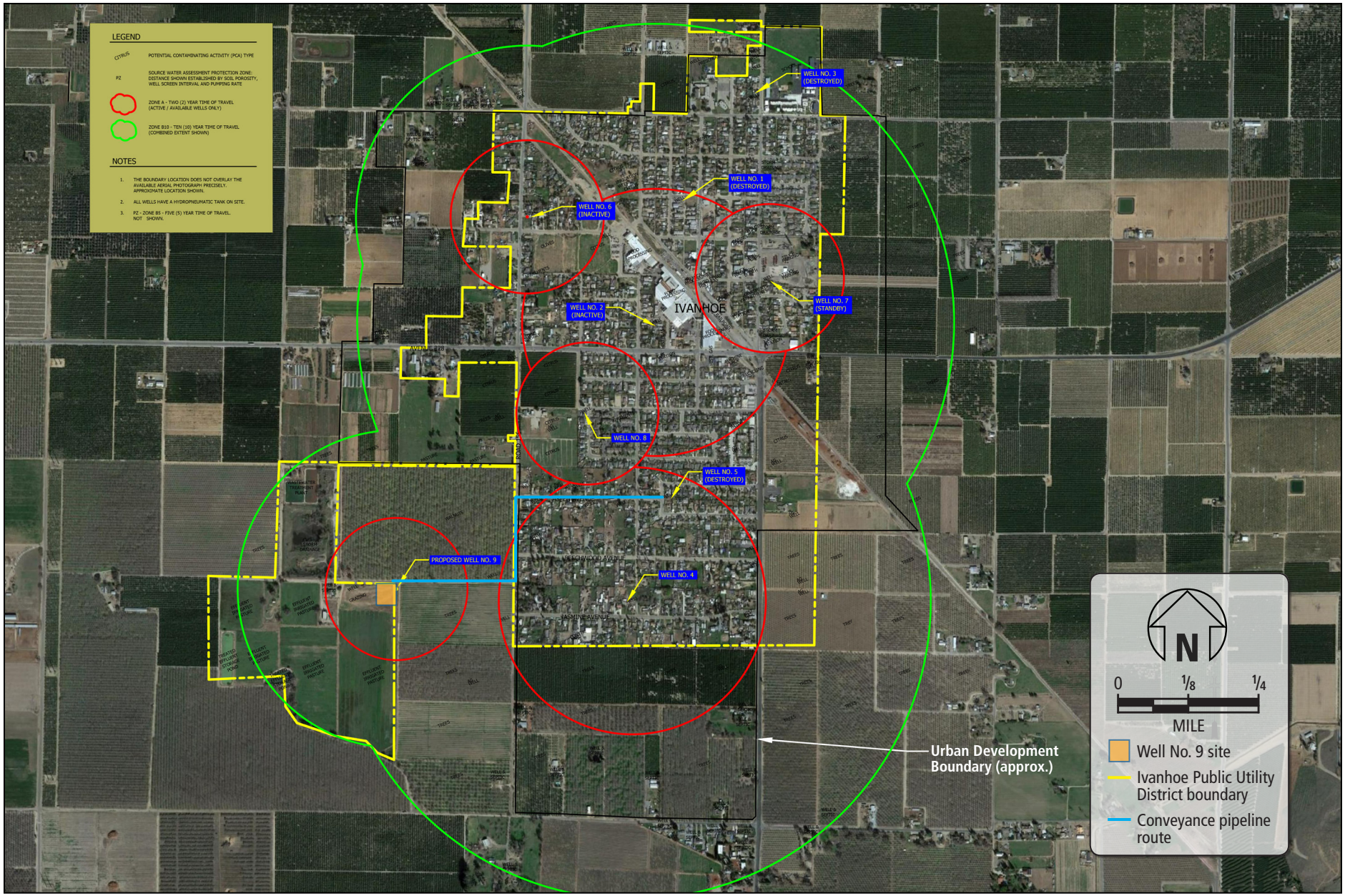


Figure 3
Existing Wells and Proposed Well No. 9

Source: Grassetti Environmental and Keller/Wegley Consulting Engineers

The impact of losing well capacity due to contamination is beginning to be felt. The primary water quality concerns are related to 1,2-dibromo-3-chloropropane (DBCP), nitrate, and/or 1,2,3-TCP contamination in the aquifer system that serves the community. The nitrate levels in existing wells have exhibited a general increasing trend. One supply well has been removed from the system due to high DBCP concentrations, and three wells have been destroyed due to elevated nitrate concentrations. More recently two additional wells were made inactive due to nitrate and/or 1,2,3-TCP contamination. The District has completed litigation over 1,2,3-TCP related concerns. Currently the delivered District water quality meets State and federal water quality standards, and DBCP concentrations in all existing wells were on a general decreasing trend over the period from 2010 to 2015.

In the three most recently completed wells, installed in 1984 and 2013, the upper well levels were sealed off to prevent contamination from the upper aquifers, but this also reduced their water yield. The greater depths of these newer wells and lengths of the sanitary seals significantly increased the cost of their construction. Any new production wells would have similar requirements and increased costs. Installation of a new well that is free of contaminants would result in substantially lower operational costs than installation and use of treatment facilities on an existing contaminated well. However, a new well would also have a significantly reduced output capacity than older wells.

After conducting an analysis of alternatives, the District has proposed installing a new water supply well as the most cost effective and recommended alternative to address existing and future water demands and groundwater contamination affecting existing wells. A new water supply well (Well No. 9) is recommended to meet current and projected future water supply needs and satisfy water quality regulations. The Project also would include an 8-inch diameter conveyance pipeline connecting to the District's existing water distribution system, and 26 water services connected to the new pipeline.

2.2 Project Purpose and Objectives

The Project objectives are to:

- Construct a new well that would increase the District’s water supply capacity to help it meet existing and projected future water demands, and also satisfy water quality requirements.
- Upgrade the water distribution and delivery system with a new conveyance pipeline to eliminate the existing substandard pipeline, and install new water services.

In order to achieve these objectives, the District is proposing the following:

- Construction of a new water supply well (Well No. 9);
- Installation of an 8-inch diameter conveyance pipeline that connects to the District's existing water distribution system; and
- Installation of 26 water services connected to the new pipeline.

The proposed improvements would conform to Chapter 16, California Waterworks Standards, Code of Regulations, Title 22. These regulations establish requirements related to quantity of supply, source capacity, reservoir design, system pressure, water mains, flushing, valves, and other distribution appurtenances.

2.3 Project Location and Setting

The Project is located in Ivanhoe, CA in unincorporated northwestern Tulare County, approximately 1.8 miles northeast of Visalia (see Figures 1 and 2). Ivanhoe is a small rural residential community along State Route (SR) 216. Land uses in the general area are a mix of mix of agricultural, public, mixed use, residential, and commercial.

The Project area consists of the proposed Well No. 9 site and a separate distribution improvements area (Figure 2). The 2.6-acre Well No. 9 site (Figure 4) is a mostly vacant, grass and weed covered field used for grazing and is located adjacent to, and immediately south of, Avenue 324. The property is owned by the District and is a buffer area associated with the District's treated effluent disposal area. An irrigation well, pump, and electrical pole and a recently completed test well currently exist in the central part of the Project area. The topography is mostly flat with small earthen mounds located in the east central area and along the northern edge of the Project area next to a valley oak (*Quercus lobata*) tree.

Nearby land uses include a mature walnut orchard on the north, an immature citrus orchard on the east, a grazed field and a house located on District's effluent disposal property on the west, and a wastewater-irrigated pasture on the south. The District provides treated wastewater for the irrigated pastures near the Project area from community stormwater and wastewater treatment effluent.

2.4 Project Characteristics

The Project involves the construction of a new water supply well, a new conveyance pipeline, and new water services. In summary, the individual Project components would be:

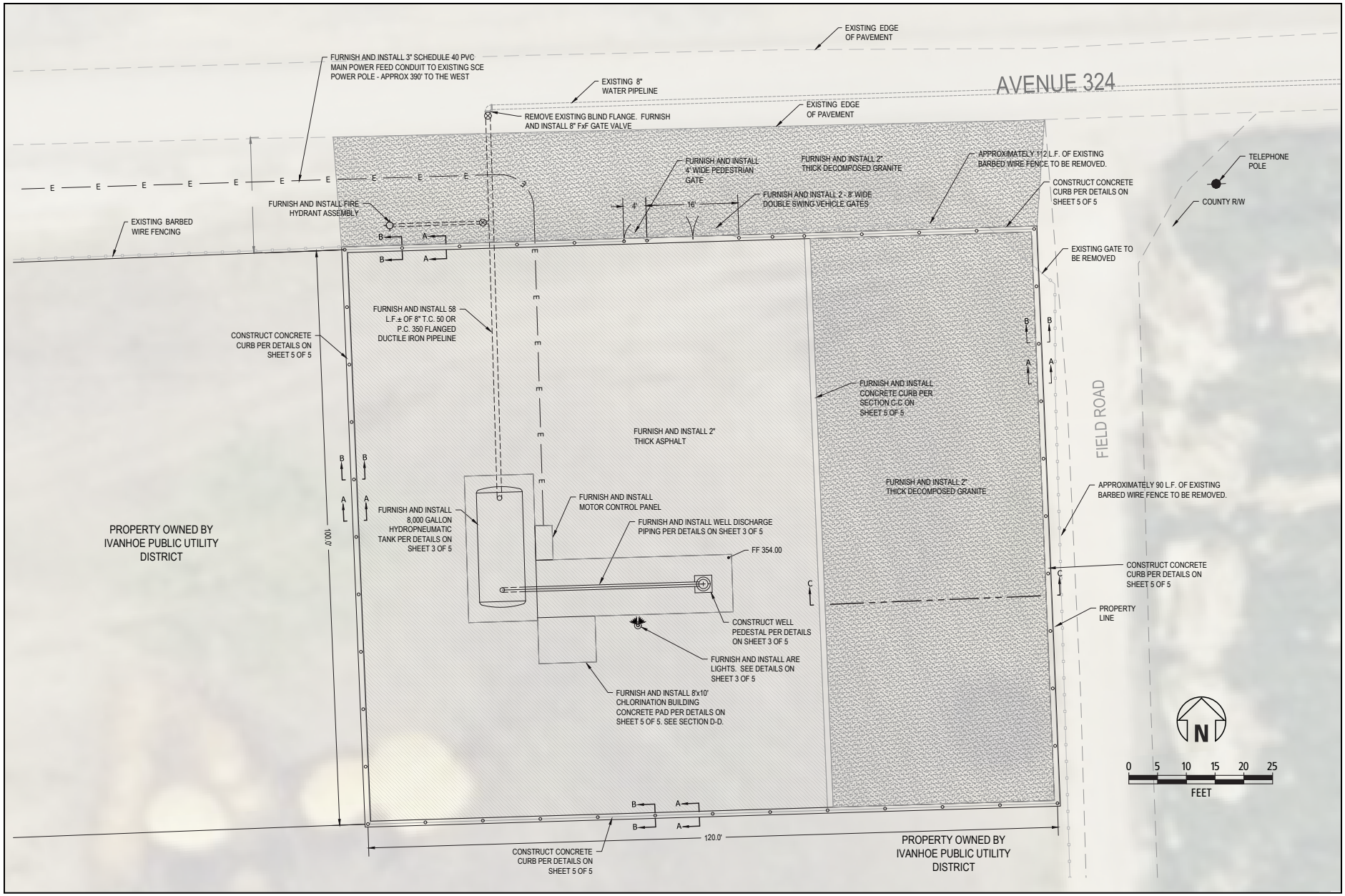


Figure 4
Well No. 9 Site Plan

Source: Grassetti Environmental, TomTom Maps and Keller/Wegley Consulting Engineers

- Construction of a new water supply well (Well No. 9);
- Installation of equipment and appurtenances associated with Well No. 9 (e.g., water meter, electric motor, pump, electrical system, valves, piping, and a chlorination system for disinfection);
- Construction of an 8,000-gallon hydropneumatic pressure balancing tank;
- Installation of an 8-inch diameter, 3,678-linear foot conveyance pipeline that connects to the District's existing water distribution system; and
- Installation of 26 water services connected to the new pipeline.

The proposed new well, hydropneumatic pressure balancing tank, and related infrastructure would be located on a 2.6-acre area along the south side of Avenue 324 and west of Road 156 in Ivanhoe. The proposed site layout is shown on Figure 4. The new Well No. 9 conveyance pipeline would be located to the northeast of the Project area along Avenue 324, Road 156, and Aspen Avenue (Figure 2). Each of the proposed facilities are discussed in detail in the following sections.

2.4.1 New Water Supply Well and Associated Equipment

The proposed Well No. 9 location was determined following Division of Drinking Water methodologies to ensure an adequate groundwater protection zone. A test well, located 175 feet west of the proposed final well location, was completed in September 2016 to verify water quality and quantity in the Project area.

The well foundation will consist of a concrete pump pedestal and a 6-inch concrete slab; concrete foundations will comprise a total of 800 square feet. The well will be constructed of 14-inch diameter steel casing and screen (perforated casing) to a total depth of 615 feet. The screened interval will extend to 615 feet below ground surface (bgs) and have a tentative length of 265 feet. The well design includes a 200-foot deep cement-grout seal, and a 200-foot long gravel pack to inhibit the flow of sand particulates into the well. The anticipated pumping water level will be 65 to 115 feet bgs. The new well is proposed to be equipped with a water meter, electric motor as the pump driver, and a pump with a design pumping capacity of 850 gallons per minute (gpm). Associated infrastructure will include an electrical system powered by a subsurface electric conduit from an existing power pole, valves, and piping.

The proposed facilities will include a chlorination system. The system will include a chlorine solution storage building on an 8-foot by 10-foot concrete pad, pump system, and associated equipment and appurtenances.

A 6,300 square-foot controlled area around the well will be maintained with fencing. The overall site will be surfaced with 9,600 square feet of 2-inch thick asphalt pavement and 7,200 square feet of 2-inch thick decomposed granite surfacing. A fire hydrant will be installed along Avenue 324 to the north of the hydropneumatic tank.

2.4.2 Hydropneumatic Pressure Balancing Tank

An 8,000-gallon hydropneumatic pressure balancing tank will be installed in the Project area to allow for water storage and pressure control. The tank will be installed on a 6-inch thick concrete pad. Associated infrastructure will include an inlet and piping, drain piping, valves, and a compressor system and appurtenances.

2.4.3 Well No. 9 Conveyance Pipeline

A new conveyance pipeline will be located to the northeast of the Project area along Avenue 324, Road 156, and Aspen Avenue (Figure 2). The new pipeline section will extend from the Well No. 9 site to the intersection of Aspen Avenue and Road 158, where it will connect to the existing water distribution system. The 8-inch PVC pipeline will measure a total of 3,678 linear feet. The overall pipeline route to be trenched will consist of 7,026 square feet of paved areas along Road 156 and Aspen Avenue, and 4,200 square feet of unpaved road shoulder along Avenue 324.

The general process for pipeline installation involves digging a trench, installing the pipe, and backfilling the trench ("cut and cover"). The approximate width of the trench will be 20 to 28 inches, and pipeline will be installed at a minimum depth of 3 feet below the ground surface (bgs). During construction, trenches would be temporarily backfilled at the close of each workday. The selected contractor will be required to obtain an encroachment permit from Tulare County to address traffic control and pavement restoration requirements. Soil excavated from the trench will be stockpiled alongside the trench within the road right-of-way for later reuse in backfilling the trench. Native soil will be reused for backfill to the greatest extent possible; however, native soil may not have the properties necessary for compaction and stability. If not reusable, the soil will be hauled off-site for disposal at an appropriate disposal site. Once the pipeline is installed, trenches will then be backfilled and compacted.

A total of 26 new water services will be connected to the conveyance pipeline. Five new fire hydrants will also be installed along Aspen Avenue as part of the pipeline construction.

2.5 Construction

2.5.1 Construction Sequence

Construction of the Proposed Project is anticipated to last for approximately 12 months, with work halts as required by weather conditions. Construction activities would occur Monday through Friday between 7:00 a.m. and 6:00 p.m.

The Project proposes the following sequencing for the various construction components:

- Well Drilling (75 total days)
  - Site Preparation = 10 days
  - Well Drilling and Completion = 55 days
  - Site Restoration = 10 days
- Conveyance Pipeline (155 total days)
  - Pipeline = 60 days
  - Water Services = 30 days
  - Connections = 5 days
  - Paving/Surface Restoration = 60 days
- Well No. 9 Site Elements (150 total days)
  - Site Preparation = 10 days
  - Foundations = 45 days
  - Equipment and Electrical = 60 days
  - Pipeline = 5 days
  - Paving/Site Completion = 30 days

2.5.2 Staging Areas

Construction staging for the Well No. 9 portion of the Project will occur at the well site and on District-owned property adjacent to and immediately west of the well site.

The District's Well No. 5 site, located at the east terminus of the conveyance pipeline, may be utilized as a staging area for the pipeline construction. Daily stockpiles of materials may be placed along the pipeline alignment during construction. However, overnight or long-term storage of materials are typically prohibited by Tulare County encroachment permits within the County right-of-way.

2.5.3 Easements

No private easements will be required for the Project. The conveyance pipeline will be constructed within public right-of-ways. The selected contractor will be required to obtain an encroachment permit from Tulare County to address traffic control and pavement restoration requirements.

2.5.4 Construction Equipment and Workers

The main pieces of equipment that may be used are as follows:

- track-mounted excavator
- end dump truck
- flat-bed delivery truck
- concrete truck
- tractor, loader, and/or backhoe
- roller
- plate compactor
- bore/drill rig
- crane
- welder
- generator set
- concrete saw
- cement/mortar mixer
- grader
- air compressors
- water truck

Approximately four to six construction workers are expected to be utilized at any given time for the well construction and related site work; the actual number of workers will be established by the selected contractors. One crew of up to approximately six workers is expected to be utilized for the pipeline construction.

2.5.5 Construction Fencing

The construction areas at the Well No. 9 site and along pipeline routes and all laydown areas will be temporarily fenced for safety and security purposes. The well site will also be permanently fenced after construction of the well and associated facilities.

2.6 Best Management Practices

The Proposed Project construction will include a range of environmental commitments, otherwise known as best management practices (BMPs), to avoid adverse effects on people and the environment. BMPs are developed to address anticipated effects from various construction activities and would be implemented pre-construction, during construction, and post-construction, as specified in Table 1.

TABLE 1

Best Management Practices to be Implemented for the Proposed Project

Number	Title	BMP Description
BMP-1	Best Management Practices for Construction Air Quality	The contractor would use construction equipment that minimizes air emissions as required by law. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
BMP-2	Best Management Practices for Construction Emissions, Including Fugitive Dust Emissions	Implementation of construction BMPs to limit construction emissions, particularly fugitive dust emissions, as follows: As required under APCD Regulation VIII - Rule 8021, a construction-phase Dust Control Plan (DCP) shall be submitted to the APCD prior to the start of any project construction activity, which shall not commence until approval of the DCP. After receiving such approval, the Project contractor shall provide written notification to the APCD within ten days prior to the commencement of Project earthmoving activities. The DCP shall include all required emission control measures (listed below) and any additional measures applicable to the Project and necessary to reduce off-site migration of fugitive dust: Basic Control Measures (Required) • All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover. • All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. • All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.

Number	Title	BMP Description
		• When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. • All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions; use of blower devices is expressly forbidden.) • Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. • Within urban areas, track-out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday. • Enhanced Control Measures (as necessary and appropriate) • Limit traffic speeds on unpaved roads to 15 mph. • Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. • Additional Control Measures (as necessary and appropriate) • Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site. • Install wind breaks at windward side(s) of construction areas. • Suspend excavation and grading activity when winds exceed 20 mph, or when fugitive dust exiting the site exceeds the 20 percent opacity limit set by Rule 8021, regardless of wind speed. • Limit area subject to excavation, grading, and other construction activity at any one time. The Proposed Project would implement these measures as required.
BMP-3	Best Management Practices for Sediment Control	Site specific BMPs to control sediments during construction activities may be required. These may include but not be limited to: • Install, implement, and maintain BMPs consistent with the California Storm Water Quality Association Stormwater Best Management Practice Handbook (California Storm Water Quality

Number	Title	BMP Description
		Association [CASQA] 2019) or equivalent to minimize the discharge of pollutants. • Prepare a Stormwater Pollution Protection Plan. • Implement practices to reduce erosion of exposed soil, including stabilization of soil stockpiles, watering for dust control, establishment of perimeter silt fences, and/or placement of fiber rolls. • Minimize soil disturbance area. • Implement other practices to maintain water quality, including use of silt fences, stabilized construction entrances, and storm-drain inlet protection. • Where feasible, limit construction to dry periods. • Revegetate disturbed areas. BMPs would be regularly monitored for effectiveness using appropriate methods (visual observation, sampling) at appropriate intervals (e.g., daily or weekly) and corrected immediately if determined to not be effective.
BMP-4	Best Management Practices for Hazardous Materials	Site-specific hazardous materials BMPs during construction activities, which may include but not be limited to: • Develop (before initiation of construction activities) and implement (during construction and operational activities) a spill prevention and emergency response plan to handle potential spills of fuel or other pollutants. • Install, implement, and maintain BMPs consistent with the California Storm Water Quality Association Stormwater Best Management Practice Handbook (CASQA 2019) or equivalent to minimize the discharge of pollutants to the MS4s, consistent with the requirements of the construction site stormwater and hazardous materials control requirements of the County of Tulare, in compliance with applicable RWQCB Orders. • Implement practices to minimize the contact of construction materials, equipment, and maintenance supplies with stormwater. • Limit fueling and other activities involving hazardous materials to designated areas only; provide drip pans under equipment and conduct daily checks of vehicle condition.

Number	Title	BMP Description
		• Require the proper disposal of trash and any other construction-related waste. • Ensure, through the enforcement of contractual obligations, that all contractors transport, store, handle, and dispose of construction-related hazardous materials consistent with relevant regulations and guidelines, including those recommended and enforced by Caltrans; the RWQCB; the County; and the applicable fire department. Recommendations may include minimizing the amount of hazardous materials/waste stored on-site at any one time, transporting and storing materials in appropriate and approved containers, maintaining required clearances, and handling materials with applicable federal, state, and/or local regulatory agency protocols. In addition, all precautions required by the County of Tulare, would be taken to ensure that no hazardous materials enter any storm drainages. BMPs would be regularly monitored for effectiveness using appropriate methods (visual observation, sampling) at appropriate intervals (e.g., daily or weekly) and corrected immediately if determined to not be effective.
BMP-5	Best Management Practices for Cultural Resources	Site-specific cultural resources BMPs during construction activities, which may include but not be limited to: • In the event that presently undocumented buried archaeological deposits are encountered during any Project-associated construction activity, work shall cease within a 50-feet radius of the discovery. A qualified archaeologist shall be retained to document the discovery, assess its significance, and recommend treatment. • If human remains or any associated funerary artifacts are discovered during construction, all work shall cease within the immediate vicinity of the discovery. In accordance with the California Health and Safety Code (Section 7050.5), the Tulare County Sheriff/Coroner shall be contacted immediately. If the Coroner determines the remains to be Native American, the Coroner will notify the Native American Heritage Commission, which will in turn appoint a Most Likely Descendent (MLD) to act as a tribal representative. The MLD will work with the Applicant and a qualified archaeologist to determine the proper treatment of the human remains and any associated funerary objects. Construction activities shall not resume until either the human

Number	Title	BMP Description
		remains are exhumed, or the remains are avoided via Project construction design change. The Proposed Project would implement these measures as required.
BMP-6	Best Management Practices for Noise	Site-specific noise BMPs during construction activities, which may include but not be limited to: • Provide enclosures and noise mufflers for stationary equipment, shrouding or shielding for impact tools, and barriers around particularly noisy activity areas on the site. • Use quietest type of construction equipment whenever possible, particularly air compressors. • Provide sound-control devices on equipment no less effective than those provided by the manufacturer. • Locate stationary equipment, material stockpiles, and vehicle staging areas as far as practicable from sensitive receptors. • Prohibit unnecessary idling of internal combustion engines. • Require applicable construction-related vehicles and equipment to use designated truck routes when entering/leaving the site. • Designate a noise (and vibration) disturbance coordinator at the Lead Agency who shall be responsible for responding to complaints about noise (and vibration) during construction. The telephone number of the noise disturbance coordinator shall be conspicuously posted at the construction site. Copies of the Project purpose, description and construction schedule shall also be distributed to the residences near the Project well site and along the distribution pipeline route. • Limit Project construction activity to weekday hours between 7 a.m. and 6 p.m. and prohibit construction during weekends and County-observed holidays. The Proposed Project would implement these measures as required.

3.0 ENVIRONMENTAL CHECKLIST

3.1 Summary of Project Information

1. Project Title: Well No. 9 and Conveyance Pipeline Project
2. Lead Agency Name and Address:

   Ivanhoe Public Utility District

   15859 Azalea Avenue

   Ivanhoe, CA 93235
3. Contact Person, Email, and Phone Number:

   Dennis R. Keller, Consulting Civil Engineer

   (559) 732-7938

   kelweg1@aol.com
4. Project Location: The Proposed Project is located in the unincorporated community of Ivanhoe, in northwestern Tulare County, about 1.8 miles northeast of Visalia (see Figure 1).
5. Property Owner(s):

   Well No. 9 Site: Ivanhoe Public Utility District; Conveyance Pipeline alignment: Tulare County
6. General Plan Designation:

   Well No. 9 Site: Public/Quasi-Public; Conveyance Pipeline alignment: Urban Reserve-Mixed Use, Mixed Use, Low-Medium Density Residential.
7. Zoning: Well No. 9: Exclusive Agricultural Zone 20-Acre Minimum (AE-20); Conveyance Pipeline route: Exclusive Agricultural Zone 10-Acre Minimum (AE-10), One Family (R-1), Rural Residential (R-A).
8. Project Description: See Chapter 2, Project Description.
9. Surrounding Land Uses and Setting: Land uses in the area are a mix of public, mixed use, residential, and commercial. The conveyance pipeline portion of the Project area borders about 30 houses along the roadways, in a rural residential setting.

10. Other Public Agencies Whose Approval or Input may be Needed:

    - California Regional Water Quality Control Board, Region 5 (NPDES Permit for water discharge; SWPPP)
    - Tulare County Environmental Health Division (Well Drilling)
    - Tulare County Resources Management Agency (Road Encroachment Permit, Building Permit (electrical only))
    - State Water Resources Control Board – Division of Drinking Water (Review and comment on Proposed Project and permit to operate)

11. Have California Native American tribes, that are traditionally and culturally affiliated with the Proposed Project area, requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

    No tribes traditionally and culturally affiliated with the Proposed Project area requested consultation.

3.2 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Proposed Project as indicated by the checklists and responses contained on the following pages:

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

3.3 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 would be prepared.

☒ I find that although the Proposed Project could have a significant effect on the environment, there would not be a significant effect because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION would 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.

Signature
Printed Name: Gerardo Sanchez, President, Board of Directors

Date

3.4 Evaluation of Environmental Impacts

The following checklist is formatted consistent with CEQA Guidelines, Appendix G. A "***no impact"*** response indicates that the project would not result in an environmental impact in a particular area of interest, either because the resource is not present, or the project does not have the potential to cause an effect on the resource.

A "***less than significant***" response indicates that, while there may be potential for an environmental impact, the significance of the impact would not exceed established thresholds and/or that there are standard procedures or regulations in place that would apply to the project and hence no mitigation is required.

Responses that indicated that the impact of the project would be "***less than significant with mitigation***" mean that, although there is the potential for a significant impact, feasible mitigation measures would become conditions of approval for the project if it receives approval by the City Planning Commission.

A "***potentially significant impact***" response indicates that the impact would exceed established thresholds and that the impact could not be avoided by utilizing standard operating procedures and regulations, program requirements, or design features incorporated into the project or that additional analysis is required in an EIR.

Public comments on this Initial Study should focus on the accuracy and completeness of the analysis contained herein.

3.4.1 Aesthetics

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

Background

The Proposed Project area's visual character is characterized by a mix of flat, low-lying agricultural and suburban residential land (see Figures 5 through 9). The overall area includes views of orchards, grazed fields, and single-family residences surrounded by yards.

The proposed Well No. 9 site, which is adjacent to Avenue 324, is visible from Avenue 324 as part of a disturbed, grazed, fenced field composed of grasses, weeds, and earthen mounds. The central portion of the Well No. 9 site currently contains an irrigation well, pump,

electrical pole, and recently completed test well. The conveyance pipeline alignment is the barren shoulder of Avenue 324 and paved roadways of Road 156 and Aspen Avenue.

No officially designated State Scenic Highways are located in Tulare County. The nearest highway mapped as eligible for designation as a State Scenic Highway, SR 198, is located approximately 3.5 miles to the south of the Project area[1].

Figure 5: View of Well No. 9 Site Looking Southwest from Avenue 324

[1] *https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways* Accessed December 30, 2021.

Figure 6: View of Well No. 9 Site Looking South

Figure 7: View along Western Edge of the Well No. 9 Site, Looking Northwest, Showing the Existing Irrigation Well, Pump, and Electrical Pole in Foreground and Oak Tree and Walnut Orchard in Background

Figure 8: View of the Proposed Pipeline Route along Avenue 324, Looking West, with Immature Citrus Orchard to the South and Mature Walnut Orchard to the North

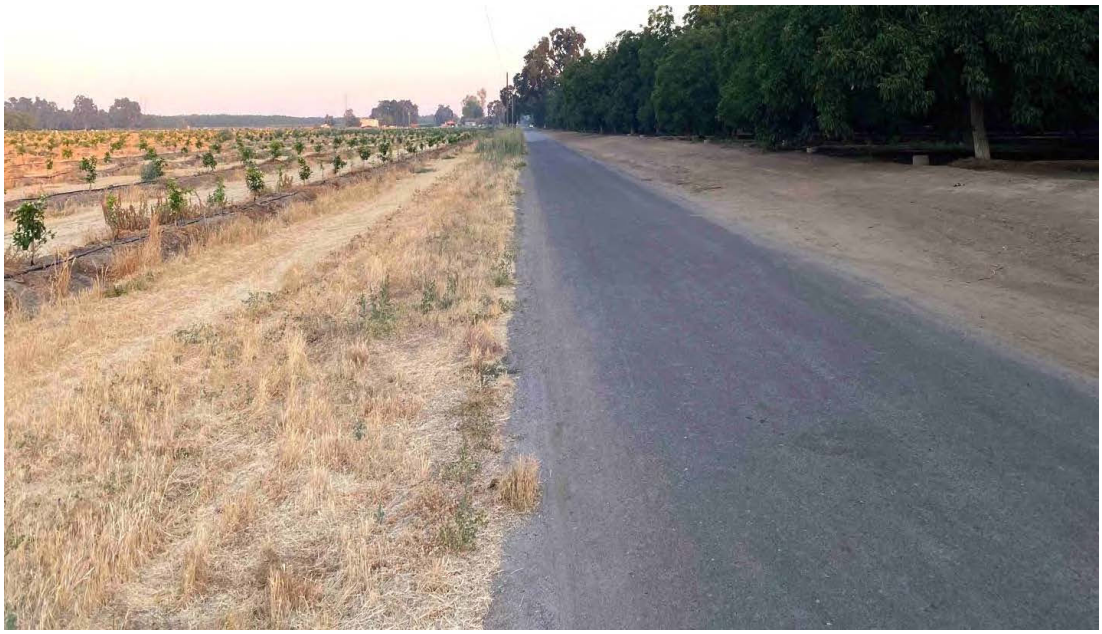
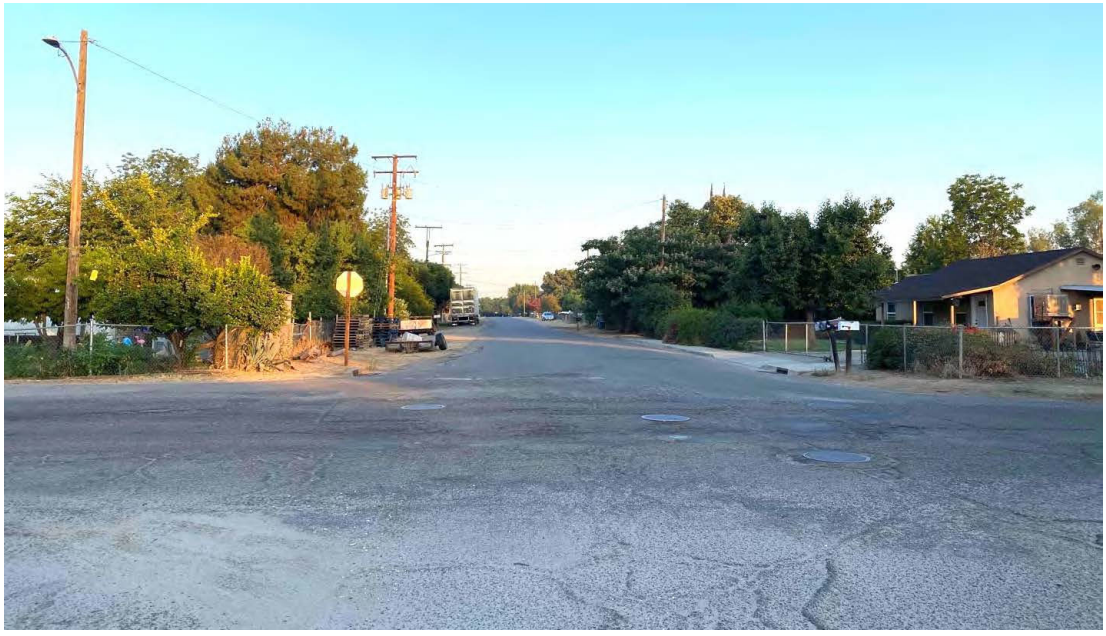


Figure 9: View of Proposed Pipeline Route along Aspen Avenue, Looking West, with Suburban Development, Paved Sidewalk, and Barren Road Shoulders



Discussion

a. Scenic Vista

There are no scenic vistas in the Proposed Project area. Viewers of the well site and pipeline alignment would be mainly vehicles along adjacent roadways and residents along the pipeline route. The approximately 6,300 square-foot controlled area within the Well No. 9 site would be visible from the roadway as a well with piping and a small building within and fenced off area. These small-scale facilities would not substantially alter the overall appearance or visual quality of the area. The subsurface conveyance pipeline would not be visible in any local views. During construction, there would be temporary and short-term views of soil stockpiles, construction equipment, and construction fencing. Therefore, the Proposed Project's impact on scenic vistas and views would be ***less than significant***.

b. Scenic Highway

As discussed above, no highways in Tulare County are designated as State Scenic Highways. Because none of the roadways in the Project vicinity are designated State Scenic Highways, the Proposed Project would have ***no impact*** on scenic highways and associated visual resources.

c. Visual Quality

As described in Item (a), above, impact of the Proposed Project on visual quality of the area would be ***less than significant***.

d. Light and Glare

Any security lighting at the Well No. 9 site would be located more than 500 feet from the nearest residence. Therefore, the Proposed Project would have *a* ***less-than-significant*** impact on light and glare.

3.4.2 Agriculture and Forest Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	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 on the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zone Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

Background

The Well No. 9 site is owned by the District and is currently used for grazing. It also serves as a buffer area associated with nearby irrigated pastures, where the District disposes treated wastewater. The Well No. 9 site is designated as "Farmland of Statewide Importance" in the

State of California's "Tulare County Important Farmland Map, 2018 (California Farmland Mapping Program, California Important Farmland Finder, accessed December 30, 2021). An approximately 16,800 square-foot (0.4-acre) portion of the 2.6-acre Well No. 9 site would be developed with the new water supply well and associated infrastructure. The conveyance pipeline alignment is along public roadways in a rural agricultural and residential community. No portion of the Project area is under a California Land Conservation (Williamson Act) contract. In addition, no forest resources exist in the Project area.

Discussion

a. Farmland

A portion of the Project area, the District-owned Well No. 9 site, is mapped as Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program. The Well No. 9 site is not currently in agricultural use; the District removed it from agricultural use to address domestic water well setback requirements from reclaimed water use areas. Occasionally, grazing occurs to provide weed and grass control. The Project, consequently, will not convert any farmland to a non-agricultural use. The conveyance pipeline route is along public roadways and would result in no changes to agricultural land use. Therefore, the Proposed Project would result in a ***less-than-significant impact*** on farmland.

b. Williamson Act

The Well No. 9 site is part of a parcel zoned as AE-20 (exclusive zone for intensive agricultural uses). Use of a 0.4-acre portion of this area as a water supply well facility would not conflict with the parcel's agricultural zoning[2]. No portions of the Project area are under a Williamson Act Contract. The conveyance pipeline route is along public roadways and would result in no conflicts with agricultural land use. Therefore, the Proposed Project would result in a ***no impact*** on land zoned for agricultural use and Williamson Act Contracts.

[2] Water infrastructure is exempted from local zoning ordinance requirements per California Government Code, Section 53091(e).

c, d. Forest Lands

The Project would not affect forest land or forest zoning because no such lands or zoning exist or are proposed in the Project area. There would be ***no impact***.

e. Conversion of Farmland.

The Proposed Project would involve no changes to the existing environment that would result in conversion of Farmland to a non-agricultural use. The Well No. 9 site is not currently in agricultural use. Therefore, the Proposed Project would result in ***no impact*** on conversion of Farmland to non-agricultural use.

3.4.3 Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Setting

The Project area is in/adjacent to the unincorporated community of Ivanhoe, which lies just northeast of the City of Visalia in northwestern Tulare County, one of the southernmost counties in California's San Joaquin Valley (Valley). The California Air Resources Board (CARB) has designated the Valley as a distinct air basin (i.e., an area experiencing similar air quality/problems because of shared meteorological and geographic conditions). Air pollution problems in the Valley are considerable because of its surrounding mountains, light winds in the winter, and high summer temperatures, all of which are ideal for trapping and concentrating locally and regionally emitted air pollutants and their precursors. Frequent high summer ozone levels result from the photochemical reaction of nitrogen oxides (NOx) and reactive organic gases (ROG) emitted largely from sources within the Valley. Winter-time

atmospheric temperature inversions (i.e., colder air nearer the ground rather than farther aloft, which is contrary to the usual pattern) often trap local emissions of PM10 (particulate matter less than ten microns in diameter) and PM2.5 (particulate matter less than 2.5 microns diameter), which are of particular concern because adverse health impacts strongly correlate with their frequent, high ambient concentrations.

The CARB and the San Joaquin Valley Air Pollution Control District (the APCD) maintain a number of air quality monitoring stations that continually measure the ambient concentrations of major air pollutants throughout the Valley. The closest monitoring station to the Project area (at North Church Street in Visalia, a few miles to the southeast) records frequent violations of the ambient ozone and inhalable/fine particulate standards, as shown in Table AQ-1.

In addition to the major air pollutants (as identified above), many other chemical compounds, generally termed "toxic air contaminants" (TACs), pose a present or potential hazard to human health through airborne exposure. A wide variety of sources, stationary (e.g., dry cleaning facilities, gasoline stations, and emergency diesel-powered generators, etc.) and mobile (e.g., motor vehicles, construction equipment, etc.), emit TACs. The health effects associated with TACs are quite diverse. TACs can cause adverse health effects from long-term exposure (e.g., cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage) and/or from short-term exposure (e.g., eye watering, respiratory irritation, running nose, throat pain, and headaches). Most of the estimated carcinogenic/chronic health risk in California can be attributed to relatively few airborne compounds, the most important being particulate matter from diesel-fueled engines (DPM). The CARB (CARB. *Summary: Diesel Particulate Matter Health Impacts*) has identified DPM as being responsible for about 70 percent of the cumulative cancer risk from all airborne TAC exposures in California.

The Valley contains many stationary industrial, commercial, and agricultural air pollution sources of diverse types and sizes. The Project area is located in the Valley's southern regions where agriculture is the major economic activity. On-road motor vehicles are the dominant personal and commercial transportation mode regionally, so collectively they are one of the largest of the Valley's air pollutant sources. Highway 99, one of the Valley's major north-south motor vehicle routes, passes more than 10 miles west of Ivanhoe, but Highway 216 passes through the town, about a quarter mile east of the Project well site.

Table AQ-1: Local Ambient Air Quality Monitoring Data Summary

Pollutant	Air Quality Standard	Maximum Concentrations and Number of Days Standards Exceeded		
		2018	2019	2020
Ozone				
Maximum 8-hour concentration (ppm)		94	82	102
# Days national 8-hour standard exceeded	70 ppb	53	22	36
Suspended Inhalable Particulates (PM_{10})				
Maximum 24-hour concentration ($\mu g/m^3$)		153.4	411.1	317.4
Measured # Days national 24-hour standard exceeded	150 $\mu g/m^3$	0	5	19
Suspended Fine Particulates ($PM_{2.5}$)				
Maximum 24-hour concentration ($\mu g/m^3$)		86.8	47.2	127.1
Measured # Days national 24-hour standard exceeded	35 $\mu g/m^3$	12	6	20

Notes:
As monitored at the CARB station at North Church Street in Visalia.
$\mu g/m^3$ = micrograms per cubic meter

ppb = parts per billion.

Source: CARB, iADAM: Air Quality Data Statistics https://www.arb.ca.gov/adam

The analytical methodologies as specified in the San Joaquin Valley Air Pollution Control District's (SJVAPCD) *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI; SJVAPCD, 2015) were used to assess the Project's emissions of air pollutants from construction operations and the potential for exposure of local sensitive receptors to DPM in the construction equipment exhaust. The significance criteria relevant to evaluating Project air quality impacts were also taken from the GAMAQI as listed below:

Ozone Precursor Emissions

- ROG: 10 tons/year.
- NOx: 10 tons/year.

Fine Particulate Emissions

- PM10: 15 tons/year.
- PM2.5: 15 tons/year.

Toxic Air Contaminants (TACs)

- Project has the potential to increase cancer risk for a maximally exposed individual by 20 chances in one million during the TAC exposure period.
- Project has the potential to increase the non-cancer Hazard Index for a maximally exposed individual above 1.0 during the TAC exposure period.
- TAC risk/hazard to be determined quantitatively by pollutant dispersion modeling in cases where Project pollutant emissions exceed 100 lbs./day.

In addition, the Project would need to show compliance with the federal Clean Air Act by demonstrating that it would not cause or substantially contribute to violations of federal ambient air quality standards in the Valley air basin (which is a federal nonattainment area for ozone and particulates). As indicators of compliance with these standards, the EPA's General Conformity Rule (EPA General Conformity) specifies *de minimis* emission thresholds (EPA, General Conformity *De Minimis* Tables) for ozone and its precursors and the other major pollutants.

Discussion

a. Air Quality Plan Conflicts/Obstructions

The Project would not impede the attainment of air quality goals set in the Valley's Ozone Plan (SJVAPCD, 2016), PM10 Plan (SJVAPCD, 2007) or PM2.5 Plan (SJVAPCD, 2016). Drilling a new well and upgrading the existing potable water supply system specifically serving about 5,000 residents of the unincorporated community of Ivanhoe in Tulare County would not affect Valley or County population, housing, employment, or transportation projections, which are the bases of the plan emission inventories and motivate the control strategies of the attainment plans, and this impact would be ***less than significant.***

As shown in Table AQ-2, Project construction and operational emissions would be far less than the *de minimis* thresholds for all major criteria pollutants. Thus, the Project would comply with the federal Clean Air Act by not causing or substantially contributing to violations of federal ambient air quality standards for ozone and its precursors and the other major criteria pollutants.

Table AQ-2: Project Emissions and Comparisons with EPA *De Minimis* Thresholds (tons/year)

Pollutant	Tulare County Federal Attainment Status [a]	Tulare County *De Minimis* Threshold [b]	Project Construction Emissions [c]	Net Project Operational Emissions
Ozone (O_3)[d]	Extreme Nonattainment	10	2.29	0
Oxides of Nitrogen (NO_x)	Attainment/ Unclassified	100	2.07	0
Reactive Organic Gases (ROG)	----	----	0.22	0
Volatile Organics (VOCs)[e]	----	----	0.22	0
Particulate Matter ($PM_{2.5}$)	Moderate Nonattainment	100	0.08	0
Particulate Matter (PM_{10})	Serious Maintenance	70	0.08	0
Carbon Monoxide (CO)	Attainment	100	2.09	0
Sulfur Dioxide (SO_2)	Attainment	100	0.005	0
Lead (Pb)	Attainment	25	0	0

Emission estimates assume Project construction equipment with California-average emitting engines during the Project construction phases.

[a] Source: EPA, Nonattainment Areas for Criteria Pollutants (Green Book) https://www.epa.gov/green-book

[b] Source: EPA, General Conformity De Minimis Tables https://www.epa.gov/general-conformity/de-minimis-tables

[c] Emissions from construction equipment were calculated using construction equipment emission rates from the CalEEMod Model, Version 2020.4.0.

[d] Ozone is not directly emitted but is formed from its precursors, NOx and ROG. Thus, ozone emissions were taken to be the sum of the two precursors.

[e] VOCs are similar to ROGs but are not directly calculated by CalEEMod. However, for their effect on ozone formation, VOC emissions were assumed to be equivalent to ROG emissions.

b. Cumulatively Considerable Net Increase of any Criteria Pollutant in Nonattainment Area

Project construction activities would produce air pollutant emissions from diesel-powered construction equipment, construction-material delivery/debris haul trucks, and construction worker commute vehicles. Table AQ-3 below presents a summary of the Project's total emission of nonattainment pollutants during construction. Construction pollutant emissions were estimated using the CalEEMod model. (Version 2020.4.0). None of the APCD annual emission thresholds would be exceeded. Thus, the Project would not make cumulatively considerable contributions to Valley ambient ozone or particulate matter levels.

After Project construction is complete, the operational air pollutant emissions associated with the new well and water distribution system improvements would be similar to those of the existing system. Therefore this impact would be ***less than significant***.

Table AQ-3: Project Construction Emissions and Comparisons with APCD Significance Thresholds (tons/year)

Project Construction Phase (Duration)	**ROG**	**NOx**	**PM_{10}**	**$PM_{2.5}$**
Project Total Emissions	0.22	2.07	0.08	0.08
SJVAPCD Significance Thresholds (tons)	10	10	15	15
Significant Impact?	No	No	No	No

c. Ambient Pollutants Sensitive Receptors

The greatest potential for adverse ambient pollutant impacts would be from the exposure of nearby residential receptors in Ivanhoe to the DPM emitted by the diesel-powered equipment during Project construction. The maximum daily nonattainment pollutant emissions from the construction equipment were estimated and compared with the APCD daily thresholds to determine if further analysis (i.e., pollutant dispersion modeling) is necessary to estimate health risk/hazard to the closest receptors. Construction pollutant emissions by phase/sub-phase were calculated using equipment emission rates from the CalEEMod model and on-road motor vehicle emission rates provided by the CARB's EMFAC model (EMFAC2017 Web Database). As shown in Table AQ-4 below, the emissions of DPM from the equipment

(in both PM10 and PM2.5 forms) and NOx would fall far short of the 100 lbs./day levels that would trigger a recommendation for dispersion modeling.

Additional factors weighing against the potential for significant health impacts from Project DPM and NOx emissions are: 1) the relatively short time during which the construction emissions would occur (i.e., about 2 months to drill the new well, about 5 months to install the pipeline, and about 5 months for the well site infrastructure); 2) the relatively large distance over which pipeline construction would occur (i.e., about 3,600 linear feet extending from the well site to the pipeline terminus at Aspen Avenue/Road 158 in central Ivanhoe); and 3) the relatively large separation (i.e., about 1,300 feet) of the well site from the main residential area of Ivanhoe to the east.

Table AQ-4: Project Construction Emissions and Comparisons with APCD Dispersion Modeling Thresholds (lbs./day)

Construction Phase/Sub-phase (Duration)	ROG	NOx	PM_{10}	$PM_{2.5}$
Phase 1 - Well Drilling				
Site Preparation (10 days)	0.3	3.4	0.1	0.1
Well Drilling & Completion (55 days)	1.5	14.4	0.5	0.5
Site Restoration (10 days)	0.3	3.4	0.1	0.1
Phase 2 - Conveyance Pipeline				
Pipeline (60 days)	1.5	13.7	0.6	0.5
Water Services (30 days)	0.7	6.1	0.2	0.2
Connections (5 days)	1.1	8.3	0.4	0.3
Paving/Surface Restoration (60 days)	0.7	6.7	0.3	0.2
Phase 3 - Site Elements				
Site Preparation (10 days)	0.7	8.3	0.3	0.3
Foundations (45 days)	0.9	9.5	0.3	0.3
Equipment & Electrical (60 days)	1.5	13.4	0.6	0.5
Pipeline (5 days)	0.7	7.0	0.3	0.3
Paving/Site Completion (30 days)	1.6	15.9	0.6	0.6
APCD Modeling Thresholds	**100**	**100**	**100**	**100**
Modeling Necessary?	**No**	**No**	**No**	**No**

Construction of the Project's new water supply and distribution system would generate temporary emissions of fugitive dust from equipment and material movement. The APCD's primary means of reducing ambient concentrations of PM10/PM2.5 is through its Regulation VIII (Fugitive PM10 Prohibitions), which requires actions on the construction contractor's part to prevent, reduce or mitigate fugitive dust emissions. In order to limit the temporary generation of fugitive dust, which together with particulate emissions from construction equipment exhaust can expose local sensitive receptors to elevated PM10 and PM2.5 levels during Project construction, construction best management practices will be implemented as specified in Table 1 in the Project Description, and reiterated below. With implementation of these BMPs, the Project would not violate any particulate air quality standards during construction activities and the impact would be ***less than significant***.

BMP-2: As required under APCD Regulation VIII - Rule 8021, a construction-phase Dust Control Plan (DCP) will be submitted to the APCD prior to the start of any Project construction activity, which will not commence until approval of the DCP. After receiving such approval, the Project contractor shall provide written notification to the APCD within ten days prior to the commencement of Project earthmoving activities.

The DCP shall include all required emission control measures (listed below) and any additional measures applicable to the Project and necessary to reduce off-site migration of fugitive dust:

Basic Control Measures (Required)

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.

- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions; use of blower devices is expressly forbidden.)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
- Within urban areas, track-out shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday.

Enhanced Control Measures (as necessary and appropriate)

- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.

Additional Control Measures (as necessary and appropriate)

- Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.
- Install wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds exceed 20 mph, or when fugitive dust exiting the site exceeds the 20 percent opacity limit set by Rule 8021, regardless of wind speed.
- Limit area subject to excavation, grading, and other construction activity at any one time.

d. Odors

The Project construction fleet would operate over a relatively large area in the Project area vicinity (i.e., estimated at about 14 acres, containing the new well site property, and the pipeline corridor extending along Avenue 234, Road 156, and Aspen Avenue to its junction with Road 158, a distance of about 0.75 miles) and would not be close to any particular residence in the central residential areas of Ivanhoe for extended periods. Thus, any perceptible odor impacts from construction equipment exhaust to the local residents would be transitory as the locus of construction activity moves around the Project area during construction, and this impact would be ***less than significant***.

3.4.4 Biological Resources

Would the Project	Potentially Significant Impact	Less Than Significant with Mitigation	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 Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐

e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
g)	Results in a conversion of Oak Woodlands that would have a significant effect on the environment	☐	☐	☐	☒

Background

Introduction

A Biological Resource Evaluation was prepared for the Project area by Colibri Ecological Consulting for Northgate Environmental Management (Colibri Ecological Consulting, LLC, 2021). This study included a summary of relevant regulations, literature/database review, and site reconnaissance survey (conducted on July 2, 2021) for the purpose of identifying sensitive plant and wildlife species, sensitive habitats, and biological constraints potentially occurring on the Project area. The Biological Resource Evaluation is provided in Appendix A, and is summarized below.

The literature/database review included the following databases:

- U.S. Fish and Wildlife Service (USFWS) species list for the Project area as a framework for the evaluation and reconnaissance survey (USFWS, 2021a);
- California Natural Diversity Database (CDFW, 2021) – specifically, GIS layers representing known occurrences of special status plant and wildlife species across the state of California;
- California Native Plant Society (CNPS) – the CNPS Inventory of Rare and Endangered Plants, available on the CNPS website (CNPS, 2021);
- Aerial imagery from Google Earth (Google, 2021);

- U.S. Geological Survey (USGS) topographic maps;
- Web Soil Survey (NRCS, 2021);
- National Wetlands Inventory (USFWS, 2021b);
- National Wild and Scenic Rivers System (USFWS, 2021c);
- Federal Emergency Management Agency (FEMA, 2009) flood map; and
- Relevant literature.

Relevant Regulatory Framework

Federal Regulations

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC § 668-668d), originally the Bald Eagle Protection Act, was enacted in 1940 to protect bald eagle (*Haliaeetus leucocephalus*), the species selected as a national emblem of the United States. The act was amended in 1962 to include the golden eagle (*Aquila chrysaetos*). As amended, the Act prohibits take, possession, and commerce of bald and golden eagles and their parts, products, nests, or eggs, except by valid permit. Take is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb." Disturb means agitating or bothering to a degree that causes, or is likely to cause, injury, a decrease in productivity, or nest abandonment. This law also prohibits human-induced alterations near previously used nest sites when eagles are not present if upon the eagle's return it is disturbed as defined above. Take permits may be issued for conducting certain types of lawful activities such as scientific research, propagation, and Indian religious purposes. The USFWS is responsible for enforcing this act.

Executive Order 11988: Floodplain Management

Executive Order 11988 (42 Federal Register 26951, 3 CFR, 1977 Comp., p. 117) requires federal agencies to avoid to the extent possible the long-term and short-term adverse effects associated with occupying and modifying flood plains and to avoid direct and indirect support of developing floodplains wherever there is a practicable alternative.

Federal Endangered Species Act

The United States Fish and Wildlife Service (USFWS) and the National Oceanographic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) enforce the provisions stipulated in the Federal Endangered Species Act of 1973 (FESA, 16 United States Code [USC] § 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the Project area and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC § 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) (16 USC § 703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. "Take" is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC § 703 and § 715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an "active nest." However, the "Migratory Bird Permit Memorandum" issued by the USFWS in 2003 and updated in 2018 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction (USFWS, 2018).

State Regulations

California Department of Fish and Wildlife Jurisdiction

The CDFW has regulatory jurisdiction over lakes and streams in California. Activities that divert or obstruct the natural flow of a stream; substantially change its bed, channel, or bank; or use any materials (including vegetation) from the streambed, may require that the Project applicant enter into a Streambed Alteration Agreement with the CDFW in accordance with California Fish and Game Code Section 1602.

California Endangered Species Act

The California Endangered Species Act (CESA) of 1970 (Fish and Game Code § 2050 et seq., and California Code of Regulations [CCR] Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the CDFW when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on state-listed species. During consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project and conservation of special status species. CDFW can authorize take of state-listed species under Sections 2080.1 and 2081(b) of the California Fish and Game Code in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (Fish and Game Code § 2070). CDFW also maintains lists of Species of Special Concern, which serve as "watch lists." Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the Proposed Project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (California Fish and Game Code §§ 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting Birds

California Fish and Game Code Sections 3503, 3503.5, 3513, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 lists birds that are "Fully Protected" as those that may not be taken or possessed except under specific permit.

Special Status Species

The USFWS species list for the Project area included 13 species listed as threatened or endangered under the FESA (USFWS, 2021a; Appendix A, Table 1). None of those species could occur in or near the Project area due to either (1) the lack of habitat, (2) the Project area being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (Appendix A, Table 1). As identified in the species list, the Project area does not occur in USFWS designated or proposed critical habitat for any species (USFWS, 2021a).

Searching the CNDDB for records of special-status species from the Ivanhoe 7.5-minute USGS topographic quadrangle and the eight surrounding quadrangles produced 223 records of 45 species (Appendix A, Table 1). Of those 45 species, eight were not considered further because federal or state regulatory agencies or public interest groups do not recognize them through special designation. Of the remaining 37 species, 11 are known from within 5 miles of the Project area (Appendix A, Table 1 and Figure 4). None of those 11 species are expected to occur in or near the Project area due to either (1) the lack of habitat, (2) the Project area being outside the current range of the species, (3) their absence during the reconnaissance survey, or (4) a combination thereof. However, one species, burrowing owl (*Athene cunicularia*), could occur in or near the Project area.

Searching the CNPS Inventory of Rare and Endangered Plants of California yielded 19 taxa (CNPS, 2021), one of which has a California Rare Plant Rank (CRPR) of 2B, and 18 of which have a CRPR of 1B (Appendix A, Table 1). None of those species are expected to occur in or near the Project area due to the lack of habitat (Appendix A, Table 1).

Reconnaissance Survey

Land Use and Habitats

The Project area includes the well installation site and a pipeline pathway. The well installation site supported a grazed field, earthen mounds in the center, and the remnants of a previous well and pump at the western end. One large valley oak (*Quercus lobata*) was just northwest of the Project site. The well installation site was dominated by ripgut brome (*Bromus diandrus*) and silverleaf nightshade (*Solanum elaeagnifolium*), with approximately 30 California ground squirrel (*Otospermophilus beecheyi*) burrows, concentrated primarily on two large earthen mounds. The well installation site was bordered to the north by Avenue 324 and a mature walnut orchard, to the south by grazed pasture, to the east by an immature citrus orchard, and to the west by a grazed field and a rural residence. The new pipeline pathway will border the same mature walnut orchard on the north side of Avenue 324 and the west side of Road 156 and run along the northern edge of the immature citrus orchard south of Avenue 324. Suburban development is present near the new pipeline pathway along the east side of Road 156 and both sides of Aspen Avenue. The pipeline pathway within the roadways of Road 156 and Aspen Avenue will generally be bordered by unpaved road shoulders, with an additional short, paved sidewalk segment along Aspen Avenue.

Plant and Animal Species Observed

A total of six plant species (two native and four nonnative), seven bird species, and one mammal species were observed during the survey (Table BIO-1).

Table BIO-1: Plant and animal species observed during the reconnaissance survey

Common Name	Scientific Name	Status
Plants		
Family Asteraceae		
Prickly lettuce	*Lactuca serriola*	Nonnative

Common Name	Scientific Name	Status
Spiny cocklebur	*Xanthium spinosum*	Nonnative
Family Curcurbitaceae		
Buffalo gourd	*Curcurbita foetidissima*	Native
Family Fagaceae		
Valley oak	*Quercus lobata*	Native
Poaceae		
Ripgut brome	*Bromus diandrus*	Nonnative
Family Solanaceae		
Silverleaf nightshade	*Solanum elaeagnifolium*	Nonnative
Birds		
Family Charadriidae		
Killdeer	*Charadrius vociferus*	MBTA, CFGC
Family Columbidae		
Mourning dove	*Zenaida macroura*	MBTA, CFGC
Eurasian collared-dove	*Streptopelia docaocto*	-
Family Corvidae		
American crow	*Corvus brachyrhynchos*	MBTA, CFGC
Family Passeridae		
House sparrow	*Passer domesticus*	-
Family Sturnidae		
European starling	*Sturnus vulgaris*	-
Family Tyrannidae		
Western kingbird	*Tyrannus verticalis*	MBTA, CFGC
Mammals		
Family Sciuridae		
California ground squirrel	*Otospermophilus beecheyi*	Native

MBTA = Protected under the Migratory Bird Treaty Act (16 USC § 703 et seq.)
CFGC = Protected under the California Fish and Game Code (FGC §§ 3503 and 3513).

Bald Eagle and Golden Eagle

The Project site and surrounding 0.5-mile buffer lacked foraging and nesting habitat for bald eagle and golden eagle.

Nesting Birds and the Migratory Bird Treaty Act

Migratory birds could nest in or near the Project area. Bird species that may nest in or near the Project area include, but are not limited to, mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), and American crow (*Corvus brachyrhynchos*). Numerous large trees within 0.5 miles of the Project area could provide suitable nesting substrates for raptors.

Regulated Habitats

No potentially jurisdictional water or wetland features were present within the Project area.

Discussion

a. Special-Status Species

The Project could adversely affect, either directly or through habitat modifications, one special-status animal that may occur at or near the Well No. 9 site, the burrowing owl, which is listed as a Species of Special Concern by the CDFW (CDFW, 2021). The burrowing owl depends on burrow systems excavated by other species such as the California ground squirrel (*Otospermophilus beecheyi*) and American badger (*Taxidea taxus*) (Poulin et al., 2020). The burrowing owl uses burrows for protection from predators, weather, as roosting sites, and dwellings to raise young (Poulin et al., 2020). It commonly perches outside burrows on mounds of soil or nearby fence posts. Prey types include insects, especially grasshoppers and crickets, small mammals, frogs, toads, and lizards (Poulin et al. 2020). The nesting season begins in March, and incubation lasts 28–30 days. The female incubates the eggs while the male forages and delivers food items to the burrow-nest; young then fledge between 44 and 53 days after hatching (Poulin et al., 2020). Adults can live up to 8 years in the wild.

Several California ground squirrel burrows that could support this species were prevalent on the earthen mounds within the Well No. 9 site. The grazed and fallowed land cover of the site and additional grazed land to the south could provide foraging habitat. Therefore, the Well No. 9 site could support the burrowing owl.

Construction activities such as excavating, trenching, or using other heavy equipment could disturb or harm this species or substantially modify its habitat on-site, and therefore could constitute a significant impact. Mitigation Measure BIO-1 (see below) would reduce this potentially significant impact to a ***less-than-significant*** level. The Project is not expected to affect any other special-status species due to the lack of habitat or known occurrence records for those species near the Project area.

b. Riparian Habitat or Other Sensitive Natural Community

The Project would have ***no impact*** on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS, as no riparian habitat or other sensitive natural community was present in the survey area.

c. Wetlands

The Project would have ***no impact*** on any state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No federally protected wetlands are present in the Project area.

d. Native Wildlife Movements, Corridors, or Nursery Sites

The Project construction has the potential to impede the use of nursery sites for native birds protected under the Migratory Bird Treaty Act (MBTA). Migratory birds are expected to nest in and near the Project area. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Mitigation Measure BIO-2 (see below) would reduce this potentially significant impact to a ***less-than-significant*** level.

e. Local Policies/Ordinances

The Proposed Project would not conflict with a local policy or ordinance protecting biological resources, such as a tree preservation policy or ordinance, as no trees or biologically sensitive areas will be impacted. Therefore it would have ***no impact*** with respect to plan/policy compliance.

f. Habitat Conservation Plan/Natural Communities Conservation Plan

The Project area is not part of or near an existing Habitat Conservation Plan, Natural Communities Conservation Plan, or any other local, regional, or state habitat conservation plan. Therefore, the Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, ***no impact*** would occur.

g. Oak Woodlands

No significant Oak Woodlands are present in the Project area. One large valley oak is present just northwest of the Well No. 9 site. This oak would not be disturbed by Project construction activities. Therefore, the Proposed Project would not result in conversion of Oak Woodlands causing a significant effect on the environment. Therefore, ***no impact*** would occur.

Mitigation Measures

Mitigation BIO-1: Conduct focused burrowing owl surveys to assess the presence/absence of the burrowing owl in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG, 2012) and Burrowing Owl Survey Protocol and Mitigation Guidelines (CBOC, 1997). These involve conducting four pre-construction survey visits. If a burrowing owl or sign of burrowing owl use (e.g., feathers, guano, pellets) is detected on or within 500 feet of the Project area, and the qualified biologist determines that Project activities would disrupt the owl(s), a construction-free buffer, limited operating period, or passive relocation shall be implemented as determined in consultation with the CDFW.

Mitigation BIO-2: To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August. If it is not possible to schedule construction between September and January, preconstruction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

3.4.5 Cultural Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Background

Solano Archaeological Services, LLC (SAS) conducted a Cultural Resources Study of the Project area, including a California Historical Resources Information System (CHRIS) records search, Native American consultation, and an archaeological survey of the Proposed Project area (SAS, 2021). The results of this study are summarized herein and detailed in a confidential report (on file at the Ivanhoe Public Utility District and State Water Resources Control Board's offices).

Regulatory Environment

Because federal funds may be involved, compliance with cultural resources requirements of Section 106 of the National Historic Preservation Act of 1966 (Section 106) is required in addition to the requirements of CEQA. Section 106 requires the identification of "historic properties," those cultural resources that are eligible for the National Register of Historic Places (NRHP), and to assess any potential adverse effects to such properties. Similarly, under CEQA, cultural resources that are eligible for the California Register of Historic Resources ("historical resources") must be given consideration in the CEQA process. Both Section 106 and CEQA have somewhat different requirements for consultation with Native Americans.

Project Area

The Project area/area of potential effects (APE), comprising approximately 2.9 acres, was defined based on maps provided in the Engineering Report: Water Supply Alternatives (Ivanhoe PUD, 2021) showing the proposed water system upgrades. The horizontal extent of the APE encompasses the approximate 2.6-acre Well No. 9 site located just south of Avenue 324 and the approximate 0.26-acre (3,678 linear feet) conveyance pipeline route along existing roadways (i.e., Avenue 324, Road 156, and Aspen Avenue). The open trenching for the new conveyance pipeline is estimated at 20 to 28 inches wide by 3 feet deep.

Native American Consultation

On November 12, 2021, SAS emailed a letter and a map depicting the Project area to the Native American Heritage Commission (NAHC). The letter requested a Sacred Lands File search for the Project area, and a list of Native American community representatives who might have knowledge of cultural resources in the Project area or that might have an interest in or concerns with the Proposed Project. At the time of the SAS report, the NAHC had yet to respond to the request. When the NAHC does respond and if any of the contacted tribal representatives or organizations provide input to express concerns regarding the Proposed Project, this information will be provided as an addendum to the report.

Records Search

The Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University provided the results of a record search to SAS on November 19, 2021 (CHRIS File No. 21-450). The SSJVIC reviewed the CHRIS archives for records of previously known and recorded cultural resources, studies, and isolates in and within 0.5 mile of the Project area. The record search included, but was not necessarily restricted to, a review of the following additional sources:

- National Register of Historic Places (Historic Properties Directory, California Office of Historic Preservation),
- California Register of Historic Places (Historic Properties Directory, California Office of Historic Preservation),
- California Historical Landmarks (California Office of Historic Preservation),
- California Points of Historical Interest (California Office of Historic Preservation), and

- California Inventory of Historic Resources (California Department of Parks and Recreation).

The record search results indicated that no cultural resources have been previously documented within the Project area, but one site (P-54-004626, a segment of the Southern Pacific Railroad alignment) was noted within the 0.5-mile search radius. No previous cultural resources investigations included the Project area, although a total of eight studies were conducted within the search area.

Additional Archival Research

To ascertain patterns of land ownership and use within the Project area and identify potential undocumented subsurface cultural deposits and sensitive landforms, SAS conducted additional archival research focused on historical mapping and land transfer records. This research consisted of reviews of the Bureau of Land Management's General Land Office (GLO) archives including patent records and plat maps, historical USGS topographic quadrangle maps, and other archival sources.

Field Investigation

On November 29, 2021, SAS archaeologists Karena Skinner, M.A., and Mark Pense conducted an intensive pedestrian survey of the Project area. Due to the narrow character of most of the Project area, a single pedestrian transect was used and exposed ground surfaces and erosional areas were carefully examined for evidence of prehistoric and early historic period activities. The Project area was documented with digital photographs and video recordings and a Trimble Geo 7X GPS unit was utilized to verify the Project area alignment and boundaries.

Most of the Project area is situated in paved and/or heavily graded road margins with little or no ground surface visibility. In certain areas along unpaved access roads or adjacent to or within tilled fields, mineral soil visibility was up to 100%. No prehistoric or historic-era sites, features, or artifacts were noted during the survey and no archaeologically sensitive landforms or soils (i.e., midden) were recorded.

Discussion

a. Historical Resources.

The SSJVIC record search indicated that no historical resources had been recorded within or immediately adjacent to the Project area but that one resource, an SPRR rail alignment, has been documented within 0.5 mile of the Project area. An intensive field survey conducted by SAS did not identify any historic-era sites, features, or artifacts within the Project area. The Proposed Project would have ***no impact*** on historical resources.

b, c. Archaeological Resources and Human Remains.

No response was received to the request for a Sacred Lands File search and Native American community outreach for the Project area. The SSJVIC record search indicated that no prehistoric resources had been documented within or immediately adjacent to the Project area. The field survey did not identify any prehistoric sites, features, or artifacts and no archaeologically sensitive landforms or soils within the Project area. Therefore, the Project would have no impact on any known archaeological resources or human remains. BMP-5 in the Project Description, which is incorporated into the Project, includes measures to minimize the likelihood of impacts to any unanticipated archaeological resources or human remains encountered during construction. This BMP would ensure that the potential impact of construction activities on any archaeological resource or human remain would be ***less than significant***.

3.4.6. Energy

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

Discussion

a. Wasteful or unnecessary consumption of energy

The Project includes drilling a new drinking water supply well, and installing a new water distribution pipeline connecting that well to Ivanhoe's water system. The new well and pipeline will replace an existing well and pipeline. Energy use during Project construction would be limited by the relatively small construction equipment sets specified for each construction phase and by the relatively short activity times for each construction phase (i.e., about 2 months to drill the new well, about 5 months to install the pipeline, and about 5 months to complete the remainder of the well site infrastructure). After installation, the new water supply and distribution system would require about the same energy for operation as the old system. Therefore the impact on energy use would be ***less than significant.***

b. Conflict with a plan for renewable energy or energy efficiency

The Project would not obstruct attainment of any statewide or county energy efficiency/conservation goals because the energy required to operate the new water supply/distribution system would be essentially equivalent to that of the system it would replace. The new system would serve an existing community of about 5,000 people with no substantial local population growth expected. ***No impact*** would occur.

3.4.7 Geology and Soils

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Expose people or structures to 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 California Geologic Survey Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐

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

Background

Geology and Soils

The Proposed Project area lies in the Great Valley geomorphic province, which is characterized by a relatively flat alluvial plain made up of deep sediment deposits. The Project area is underlain by Exeter loam, 0 to 2% percent slopes (85%) and Hanford loam, 0 to 2 percent slopes (4%; NRCS, 2021). Portions of the Project area along roadways also may be underlain by human-deposited fill materials.

Seismicity

The Project area is not located within an Alquist-Priolo Earthquake Fault Zone and there are no known faults running through or near (within 10 miles of) the Project area. The Proposed Project area is subject to seismic shaking from the San Andreas Fault, Owens Valley Fault Group, Clovis Fault, and other smaller active or potentially active faults in the region. The Tulare County General Plan (Tulare County, 2012) states there are no known active faults in Tulare County, with the San Andreas Fault being the nearest major fault line. Tulare County rarely feels the effects of earthquakes along this fault line.

Tulare County is characterized as Severity Zone "Nil" and "Low" groundshaking with zero (no) declared landslides according to the report "State of California Multi-Hazard Mitigation Plan Chapter 6 – Other Hazards: Risks and Strategies" (published in October 2010) by the California Geological Survey, Department of California. The Project area is mapped in a low to medium groundshaking zone in the Tulare County General Plan (Tulare County, 2012, Figure 10-4). In most earthquakes, only weaker, masonry buildings would be damaged.

No specific countywide assessments to identify liquefaction hazards have been performed in Tulare County. Areas where groundwater is less than 30 feet below the surface occur primarily in the valley. However, soil types in the area are not conducive to liquefaction because they are either too coarse or too high in clay content (Tulare County, 2012).

Paleontology

The Project area is located in Holocene-aged sediments. Holocene sediments are recent, less than 11,000 years old, and are not considered to contain important paleontological resources.

Discussion

a. i, iv. Fault Rupture, Landslides

The Project area is not within an Alquist-Priolo Earthquake Fault Zone and no fault traces cross the Project area. The Proposed Project site is located on nearly level topography in a flat valley plain. No landslides are possible in this area. Therefore, the Project would have ***no impact***.

a. ii, iii. Ground Shaking, Ground Failure

The Project area is subject to low to medium ground shaking and soil types in the area are generally not conducive to liquefaction. Any seismically induced damage to the proposed water well or pipeline due to seismic shaking and localized liquefaction would be repaired as needed. These impacts would be ***less than significant***.

b. Soil Erosion

Soil erosion hazards could occur during construction, especially during trenching and prior to replacement of soils into the trench and revegetation. Soil exposed by grading and trenching activities could be subject to erosion if exposed to heavy rain. The Project applicant would be required to create and implement an erosion control plan prior to the start of grading activities, as described in BMP-3 in the Project Description. Soil erosion and/or loss of topsoil during construction and grading activities would be avoided using this BMP and therefore be ***less than significant***.

c. Unstable Soil

The Project area is not known to be underlain by unstable soils. The new water well and pipeline would not result in, or be subject to, differential settlement or other soil instabilities. Therefore, this impact would be ***less than significant***.

d. Expansive Soil

No survey of soils in the Project area has been conducted. However, Project area soils would be tested for expansion potential before replacement as trench backfill. Any unsuitable soils would, as part of the Proposed Project, either be treated to limit expansion potential or not be used, and would be replaced by suitable imported fills. Therefore, this impact would be ***less than significant***.

e. Inadequate Soils for Disposal

The Proposed Project would not include the installation of septic tanks or alternative wastewater disposal systems, and would therefore have ***no impact*** on soils related to septic tanks or alternative wastewater disposal systems.

f. Destroy a Unique Paleontological Feature

Proposed Project activities would not extend beyond the Holocene geologic units and into older sediments. Thus, there is no possibility of the presence of paleontological resources. The Project would have ***no impact***.

3.4.8 Greenhouse Gas Emissions

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Background

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as the driving force for global climate change. The primary GHGs are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), ozone, and water vapor.

While the presence of the primary GHGs in the atmosphere are naturally occurring, CO_2, CH_4, and N_2O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. Greenhouse gases are typically reported in units of "carbon dioxide-equivalents" (CO_2e).

There is international scientific consensus that human-caused increases in GHGs have and would continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.

Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Assembly Bill 32, the California Global Warming Solutions Act of 2006, required the CARB to lower GHG emissions to 1990 levels by 2020 - a 25 percent reduction statewide, with mandatory caps for significant emissions sources. AB 32 directed CARB to develop discrete early actions to reduce GHG while also preparing a scoping plan (Climate Change Scoping Plan; CARB, 2017) in order to identify how best to reach the 2020 limit.

Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard (LCFS), the California Appliance Energy Efficiency regulations, the California Renewable Energy Portfolio standard, changes in the motor vehicle corporate average fuel economy (CAFE) standards, and other early-action measures that would ensure the state is on target to achieve the GHG emissions reduction goals of AB 32.

The annual statewide GHG emission inventory is an important tool in tracking progress of California's climate programs towards achieving the statewide GHG goals. The 2021 edition of the inventory includes GHG emissions released during 2000-2019 calendar years. In 2019, emissions from GHG emitting activities statewide were 418.2 million metric tons (MMT) of CO2e, about 13 MMT below the 2020 GHG limit set by AB32.

In January 2015, an additional goal (i.e., reducing GHG emissions to 40% below 1990 levels by 2030) was adopted to be attained by implementing several key climate change strategy "pillars:" (1) reducing present petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent the share of California's electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived GHGs; (5) managing farm and rangelands, forests and wetlands to more efficiently store carbon; and (6) periodically updating the State's climate adaptation strategy.

In August 2008, the SJVAPCD adopted a Climate Change Action Plan (CCAP), which included guidance to assess and reduce the impacts of project specific operational GHG emissions. In December 2009, the SJVAPCD adopted *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* (SJVAPCD, 2009) which relies on implementation of Best Performance Standards (BPS) during the CEQA environmental review process. Projects implementing BPS would have a less than significant operational cumulative GHG impact. Otherwise, a demonstration

of at least 29 percent reduction in GHG emissions would be required to mitigate a significant cumulative impact.

Discussion

a. Generate greenhouse gas emissions

The CalEEMod (California Emissions Estimator Model, Version 2020.4.0) model was used to quantify GHG emissions associated with Project construction activities – 420 metric tons of CO2e. The Project will replace an existing drinking water source and distribution system pipeline with another equivalent source and distribution system pipeline serving the same population; there would be no net new operational GHG emissions. Thus, the Project would not require BPS to further reduce GHG emissions, and the impact would be ***less than significant***.

b. Conflict with an applicable plan

By providing a replacement water source and distribution system pipeline for the existing residents of Ivanhoe, the Project would not conflict with the goals of AB 32, nor with any applicable State or County plans, policies, and regulations adopted for the purpose of reducing GHG emissions, and ***no impact*** would occur.

3.4.9 Hazards and Hazardous Materials

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) For a project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

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

Background

The Project area is primarily in agricultural and rural residential land uses. No industrial or commercial land uses that could have resulted in soil contamination are known to have existing in the Project area.

Discussion

a. Hazardous Materials Transport

The Proposed Project includes a potable water supply well and distribution system pipeline that would not involve the routine transport of substantial quantities of hazardous materials. Small quantities (up to 50-gallon drums) of sodium hypochlorite would be transported to the Well No. 9 site by truck, typically less than once a month. Minor amounts of hazardous materials (i.e., solvents and pipe welding supplies) would be transported to the conveyance pipeline route for use in construction (see Item (b), below). Those materials would be transported in appropriate containers (typically original packaging). Neither of these routine activities would create a substantial hazard to the public. Therefore, this impact would be ***less than significant***.

b. Hazardous Materials Accidental Release

The Project construction may involve the use of equipment, fuels, solvents, welding equipment, and other sources of potentially hazardous materials. BMP-4 in the Project Description, which is incorporated into the Project, includes measures to minimize the risk of release of hazardous materials, and contamination of soil or groundwater by any such releases. This BMP would ensure that the potential impact of release of construction-related hazardous materials would be ***less than significant***.

The liquid sodium hypochlorite, if accidentally released from the 50-gallon drums, could cause eye and throat burning sensations to on-site workers. Because the drums would be handled only by trained personnel, quantities involved would be small, and any spills would be contained in the storage building, this impact would be ***less than significant***.

c. Hazardous Materials Emissions

Please see discussion of hazardous materials proposed for use on the site under Item (b), above. The nearest public school to the Project site is Ivanhoe Elementary School, a K-5 school of the Visalia Unified School District, about 0.85 mile north-northeast of the conveyance pipeline route. At this distance, the Project would have no potential to pose a hazard to this school, and ***no impact*** would result.

d. Hazardous Site List

The Project area is not on or near a hazardous materials site listed pursuant to Government Code Section 65962.5, commonly called the "Cortese List"[3]. Therefore, there would be ***no impact***.

e. Airport Hazards

The closest public use airport to the Project area is Sequoia Field Airport, located approximately 6.5 miles northwest of the Project area. The Project is a water supply well and small water line, and will be mostly subsurface. Therefore, the Project would not affect or be affected by public airport uses and ***no impact*** would result.

f. Emergency Response Plan

The Project is a small water system improvement that would not interfere with any roadways or other emergency access-ways. As described in the Project Description, the new water supply well and conveyance pipeline will be located so as not to affect any roadways. Therefore, ***no impact*** would result.

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[3] *https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=ivanhoe%2C+ca,* accessed December 22, 2021

g. Wildland Fires

The Project area is located in an agricultural and suburban area and is not intermixed or located adjacent to substantial areas of wildlands. The Project area is mapped as a Non-Very High Fire Severity Zone (Tulare County Draft Fire Hazard Severity Zones in LRA Map, October 5, 2007). The Proposed Project itself is a water supply well and conveyance pipeline, which would have no potential adverse effect on wildfires. Therefore, the Proposed Project would not expose people or structures to significant risks associated with wildland fires, and ***no impact*** would result.

3.4.10 Hydrology and Water Quality

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would: • result in substantial erosion or siltation on- or off-site? • substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site; • 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 • impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒

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

Background

Flood Hazards

The Project area is mapped by FEMA as within a FEMA-designated flood zone classified as Zone X, described as areas outside the 100-year and 500-year flood zones (areas of minimal flood hazard) (FEMA, 2009).

Drainage

The Project area is located on nearly level land. The Well No. 9 site is a field bordered by grazing fields, orchards, and Avenue 324 and drains via infiltration or surface drainage. Storm drain facilities are located along the conveyance pipeline route along Road 156 and Aspen Avenue.

Discussion

a and e. Water Quality Standards

Construction of the Proposed Project, as well as grading and excavation activities, may result in temporary impacts to surface water quality. Project grading and construction activities could affect the water quality of storm water surface runoff. After construction, unpaved portions of the Well No. 9 site and conveyance pipeline road shoulders would revegetate naturally and erosion potential would be similar to at present.

To address the issue of changes in surface water quality as a result of development and construction activities, the federal government implemented the National Pollution Discharge Elimination System (NPDES). NPDES is an amendment of the federal Clean Water Act from 1987 that mandates that each population center obtain a permit to discharge stormwater. Storm water that would be discharged from the site during construction activity would be subject to regulation under the NPDES program. The California State Water Resources Board is responsible for establishing water quality standards statewide, and designates the Central

Valley Regional Water Quality Control Board (CVRWQCB - Region 5), for regulation of discharges of wastes and runoff in this area.

The Proposed Project would not disturb more than one acre of land and therefore would not be subject to the statewide Construction General Permit. The District would be required to comply with the RWQCB, Central Valley Region's NPDES Permit (CVRWQCB Order No. R5-2016-0076-01; NPDES Oder No. CAG 995002) associated with construction-related discharges. The selected construction contractor would prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) for Project construction. The BMPs described in Chapter 2, Project Description, requiring implementation of adequate erosion control, spill prevention, and other construction BMPs to protect groundwater and surface water quality, would ensure that this impact would be ***less than significant***.

b, e. Groundwater Supplies and Management

The Project will add one new water supply well (Well No. 9), supplementing the District's water supply that has been impacted by the placement of three existing wells in standby mode and two existing wells into inactive status due to contamination issues. Therefore the Project would not alter the overall draft of local and regional groundwater, and would have a ***less-than-significant*** impac**t** to local groundwater supplies and groundwater management.

c. Drainage

The new Project facilities will be out of the flood plain and would not affect any drainages. Runoff would be minimally increased from the minor increase in impervious surfaces due to the new well facility. Therefore, the Project's impacts on flooding, polluted runoff, and capacity of existing and planned drainage from drainage alterations would be ***less than significant***.

d. Release of Pollutants in Flood Hazard, Tsunami, or Seiche Zones

As described in the Background section above, the Project site is not within a mapped 100-year flood hazard zone. The Project would not alter flood waters, impede flows, or create any other potential any flood hazards, including those resulting in pollutants. The Project area is well inland from coastal areas subject to tsunamis and is not subject to that hazard. It is not adjacent to a large, enclosed body of water subject to seiche hazards. There are no slopes with

deep soils or geologic conditions near the site that would be potential sources of mudflow hazards. Therefore ***no impacts*** would occur.

3.4.11 Land Use and Planning

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Background

The Project is located in the unincorporated community of Ivanhoe, a rural agricultural and residential community northeast of Visalia in Tulare County. The Well No. 9 site is located in a District-owned field adjacent to Avenue 324 that is zoned as AE-20 (Exclusive Agriculture, minimum parcel size 20 acres). The land use is designated as Valley Agricultural in the Tulare County General Plan 2030 Update (Tulare County, 2012). The conveyance pipeline route is restricted to the paved roadways and shoulders of County-owned roads.

Discussion

a. Division of Community

The Well No. 9 site will be located on the southwest edge of the served Ivanhoe community on an existing open field. The well facility would not divide the community. The conveyance pipeline will be subsurface along existing roadways, and also would have no potential to alter

or divide any community. The provision of a safer water source would benefit the existing community. There would be ***no impact.***

b. Plan Conflict

Water infrastructure is exempted from local zoning ordinance requirements per California Government Code, Section 53091(e). In addition, the Project would be consistent with local zoning and planning regulations, as they allow for water supply infrastructure. Therefore, the Proposed Project would have ***no impact*** with respect to consistency with plans and policies.

c. Habitat Plan Conflict.

The Proposed Project area does not fall within a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There would be ***no impact*** on such plans.

3.4.12 Mineral Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Background

There are no known mineral resources in the Project area. The Environmental Resources Management element of the Tulare County General Plan does not identify any mineral resources in the vicinity of the Project (Tulare County, 2012).

Discussion

a. and b. Mineral Resources

The Project area contains no known mineral resources. Therefore, there would be ***no impact*** from the Project**.**

3.4.13 Noise

Would the Project result in:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of substantial temporary or permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive ground-born vibration or ground-born noise levels?	☐	☐	☒	☐
c) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Background

Environmental Setting

Noise is defined as unwanted sound. Sound is created when vibrating objects produce pressure variations that move rapidly outward into the surrounding air. The more powerful the pressure variations, the louder the sound perceived by a listener. The decibel (dB) is the standard measure of loudness relative to the human threshold of perception. Noise is a sound or series of sounds that are intrusive, objectionable, or disruptive to daily life. Many factors influence how a sound is perceived and whether it is considered disturbing to a listener; these include the physical characteristics of sound (e.g., loudness, pitch, duration, etc.) and other factors relating to the situation of the listener (e.g., the time of day when it occurs, the acuity of a listener's hearing, the activity of the listener during exposure, etc.). Environmental noise has many documented undesirable effects on human health and welfare, either psychological (e.g., annoyance and speech interference) or physiological (e.g., hearing impairment and sleep disturbance).

Major noise sources in Tulare County include on-road motor vehicles, trains, aircraft, and industrial/commercial/agricultural activities. In the Project area vicinity, Avenue 328 and State Route 216 are the highest traffic volume local roadways (and so the most intense local sources of traffic noise), but their closest approach to the well site and pipeline route is a quarter mile or more. The Project water distribution pipeline will follow Avenue 324, Road 156, and Aspen Avenue from the new well site to the connection point with Ivanhoe's water distribution system, so traffic noise from these roadways would be more influential at the residential uses in/near Ivanhoe most likely to be affected by Project construction noise. Noise from commercial and agricultural sources within and around Ivanhoe also contribute to the local noise background in parts of Ivanhoe near them.

The Health and Safety Element of the Tulare County General Plan adopted two Countywide goals regarding noise: 1) Protect the citizens of Tulare County from the harmful effects of exposure to excessive noise; and 2) Protect the economic base of Tulare County by preventing the encroachment of incompatible land uses near known noise -producing industries, railroads, airports, and other sources.

State of California General Plan Guidelines (California Governor's Office of Planning and Research; OPR, 2003) identifies guidelines for the Noise Elements of city and county General Plans, including a sound level/land-use compatibility chart that categorized, by land use, outdoor day-night average sound level (Ldn) ranges in up to four categories (i.e., "Normally Acceptable," "Conditionally Acceptable," "Normally Unacceptable," and "Clearly Unacceptable"). These guidelines provide the State's recommendations for city and county General Plan Noise Elements.

The following Plan standards are applicable to the low-density single-family residential units in and adjacent to the Project area:

- Normally Acceptable – Ldn[4] < 60 dBA
- Conditionally Acceptable – Ldn < 70 dBA
- Normally/Clearly Unacceptable – Ldn > 70 dBA

[4] Ldn, is a 24–hour average sound level with a 10–decibel penalty added to sound levels occurring at night between 10:00 p.m. and 7:00 a.m.

Discussion

a. Exposure to Substantial Noise Increases

The residential uses fronting the roadways along which the pipeline will be laid are the prime noise-sensitive receptors that could be affected by Project construction. Existing residential parcels front Road 156 and Aspen Avenue along the pipeline route. For these parcels, existing noise levels at residential buildings close to Road 156 could exceed the County's Normally Acceptable levels due to the relatively high motor vehicle traffic on that roadway. Existing daily average noise levels at all other on-site residential receptors on roadways internal to the residential areas of Ivanhoe are very likely in the Normally Acceptable range because of the lower traffic volumes characteristic of neighborhood streets.

Construction equipment/activity is widely recognized as a major noise source and for its potential to cause substantial disturbance when a construction site is located near noise-sensitive receptors (e.g., residential areas, schools, hospitals/nursing homes, public parks, etc.). During the Project's pipeline installation construction equipment may sometimes be operating close to (i.e., within 50-100 feet) of each existing home fronting Road 156 and Aspen Avenue, resulting in a potentially significant impact. But considering that this period is likely to be short (i.e., a few days to a week) compared to the total Project construction period, temporary voluntary shifts by residents from outdoor areas facing the construction activity, to less-affected outdoor spaces (e.g., backyards shielded by house/other structures), or to indoor rooms not facing the construction activity could be accommodated without substantial inconvenience until Project construction is complete. BMP-6 in the Project Description, which is incorporated into the Project, includes measures to restrict hours of construction and other measures to reduce Project construction noise. This BMP would ensure that Project construction noise impacts would be ***less than significant***.

There would be no Project-related operational motor vehicle traffic increases and consequently no traffic noise increase. The new water distribution pipelines will be buried below ground level and so will have no operational noise emissions. Thus, post-construction noise levels in the residential areas of central Ivanhoe would remain within Normally Acceptable limits.

b. Excessive Vibration Noise Levels

The Tulare County Noise Element does not include any recommended vibration assessment methodologies, impact standards or reduction strategies. Standards developed by the Federal Transit Administration (FTA) (2006) are most commonly applied to this sort of project and were used in assessing vibration impacts. According to the FTA, limiting vibration levels to 94 vibration decibels (VdB - the common measure of vibration magnitude - similar to dB for noise) or less would avoid structural damage to wood and masonry buildings (which are typical of residential structures), while limiting vibration levels to 80 VdB or less at residential locations would avoid significant annoyance to the occupants.

All construction equipment has the potential for causing structural damage and/or annoyance if the construction activity too often comes too close to vibration-sensitive receptors. Heavily loaded trucks or tracked earth-moving equipment, which would be a part of the Proposed Project construction fleet, could pose a damage/annoyance threat if they would regularly and often come within 25 feet of a vibration-sensitive receptor during construction. But all of the existing homes in the pipeline corridor set back by more than this distance from the pipeline route centerlines. The potential for damage/annoyance would be further lessened by the relatively short duration of the Project pipeline construction activity near any particular home along the distribution pipeline routes, a few days to a week at most in the vicinity of any particular residence over the Project construction period. Therefore, this impact would be ***less than significant***.

c. Private Airport Noise

The Project area is about 10 miles northeast of Visalia Municipal Airport, and within 10 miles of two smaller private airfields (i.e., Sequoia Field and Woodlake Airport). The Visalia Airport's 65 dBA contour (the common federal measure of significant impact from aircraft noise) closely follows (and is just outside) the Airport property. Similar conditions almost certainly apply to the smaller private airfields. The Project would be distant from all airfields, not include any noise-sensitive land uses, and not affect air transportation; therefore, ***no impact*** would occur.

3.4.14 Population and Housing

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

The Proposed Project will construct a new water supply well to meet current and projected future water supply needs and address nitrate, DBCP, and/or 1,2,3-TCP groundwater contamination affecting existing wells, and construct a new conveyance pipeline to eliminate the existing substandard pipeline. No residences will be constructed as part of this Proposed Project.

a. Population Growth

The Proposed Project will replace existing water supply wells that have been placed on inactive or standby status due to groundwater contamination. The Project will serve the existing population and accommodate the existing planned growth. Therefore, the Project's effect on growth inducement would be ***less than significant***.

b. Displace Housing

The Project area contains no housing, and the Proposed Project will not displace any housing or people. There would be ***no impact.***

3.4.15 Public Services

	Potentially Significant Impact	Less Than Significant with Mitigation	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? The construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Background

Fire Protection: Fire protection services for the Proposed Project area are provided by the Tulare County Fire Department, with Station #8 located at 32868 Hawthorne Road in Ivanhoe, about 0.4 mile northeast of the Project area.

Police Protection: Police services for the Proposed Project area are provided by the Tulare County Sherriff's Department. The main Sheriff's Office is located at 2404 W. Burrel Avenue, in Visalia, about 6 miles southwest of the Proposed Project area.

Schools: The public school closest to the Proposed Project area is Ivanhoe Elementary School, located about 0.85 mile north-northeast of the Project area.

Parks: The "Sports Field" located at the Boys and Girls Clubs of the Sequoias is located at 15892 Azalea Avenue in Ivanhoe, about 0.6 mile north-northeast of the Project area. The

nearest park (County-operated) is Cutler Park, located southwest of Ivanhoe at 15520 Ivanhoe Drive in Visalia, about 1.8 miles north-northwest of the Project area.

Discussion

i) Fire Protection

No new fire protection services would be required as a result of the Proposed Project. Operation of power tools and equipment during Project construction could provide an ignition source and increase fire risk at the grass and weed-covered Well No. 9 site. However, that area will be cleared of vegetation in the first development phase. Storage of flammable materials (e.g., fuel) during Proposed Project construction could also increase fire risk. However, Project construction activities will follow the requirements for fire safety during construction contained in the California Fire Code that are applicable to outdoor areas. In addition, the Project would improve fire flow capacity in the area, and install a new hydrant. Adherence to the applicable requirements of the California Fire Code would ensure that potential fire risk during Project construction would be ***less than significant***.

ii) Police Protection

The Proposed Project would have no potential to increase demand on police protection services because it would not result in any new development and its construction would not bring substantial numbers of people to the area. There would be ***no impact***.

iii) Schools

The Proposed Project would have no potential to increase demand on school services because it would not result in any new development and its construction would not bring substantial numbers of people to the area. There would be ***no impact***.

iv) Parks

The Proposed Project construction would have no potential to impact parks because it would not affect the "Sports Field" located at the Boys and Girls Clubs of the Sequoias or the County-operated Cutler Park, located at a distance from the Project area. There would be ***no impact***.

v) Other Public Facilities

The Proposed Project would not affect other public facilities by increasing demand beyond anticipated levels. It would improve water supplies available for domestic use. There would be ***no impact***.

3.4.16 Recreation

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

Background

The "Sports Field" located at the Boys and Girls Clubs of the Sequoias is located at 15892 Azalea Avenue in Ivanhoe, about 0.6 mile north-northeast of the Project area. The nearest park (County-operated) is Cutler Park, located southwest of Ivanhoe at 15520 Ivanhoe Drive in Visalia, about 1.8 miles north-northwest of the Project area.

Discussion

a. Increase Park Usage

The Proposed Project would not affect use of the Boys and Girls Clubs of the Sequoias "Sports Field", Cutler Park, or other regional recreational facilities because it would not bring substantial numbers of new residents to the Project area and is not located on or adjacent to any recreational facilities. There would be ***no impact***.

b. Impact of New or Expanded Recreational Facilities

The Proposed Project would not include the construction, expansion, or other changes to any recreational facilities. There would be ***no impact***.

3.4.17 Transportation and Traffic

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

Background

The Well No. 9 site is accessed via Avenue 324. The conveyance pipeline route is accessed via the minor paved roads Avenue 324, Road 156, and Aspen Avenue.

Discussion

a. Conflict with an Applicable Plan Regarding Effectiveness of Circulation System

During construction, the Project will generate fewer than 20 daily vehicular trips, generated by Project construction workers and materials and equipment delivery trucks. The Project would not generate any additional traffic after construction. This level of additional trips would not materially affect traffic on the local streets. The Project would neither generate demand nor alter any existing or proposed alternative transportation (bus, bike, or pedestrian) routes. Therefore, the impact would be ***less than significant***.

b. CEQA Guidelines Section 15064.3, subdivision (b), Vehicle Miles Traveled

The Project would have no effect on motor vehicle use or vehicle miles traveled (VMT), other than a minimal, temporary increase in VMT during construction, which is exempt from VMT reduction requirements. Therefore it would have ***no impact.***

c. Design Hazards

The Project would not create any hazards due to design features on the adjacent street system. As noted in Item (a), above, a small number of additional truck trips would occur during construction, with no new trips after construction. There would be ***no impact***.

d. Emergency Access

The Project construction may require temporary closure of portions of the minor streets when pipes are being installed. Pipeline construction will be coordinated with the County to minimize any lane closures or traffic hazards. The Project also would include a traffic control plan for work along these roadways. However, the Proposed Project construction would be designed and staged so as to assure that emergency access would still be available to the service area. Any partial road closures would be augmented by traffic control (i.e., flag people) to permit continued access. The traffic control plan would be subject to Tulare County Public Works Department approval prior to pipeline construction. The Project's impacts to emergency access would therefore be ***less than significant***.

3.4.18 Tribal Cultural Resources

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

Background

A Sacred Lands File and Native American Contact list request was submitted to the Native American Heritage Commission on November 12, 2021. At the time of this report, the NAHC had yet to respond to the request. When the NAHC does respond and if any of the contacted tribal representatives or organizations provide input to express concerns regarding the Proposed Project, this information will be incorporated into the report.

Discussion

a. i, ii. Tribal Cultural Resources

No response was received to the request for a Sacred Lands File search and Native American community outreach for the Project area. The Cultural Resources record search and field survey indicated that no prehistoric resources had been documented or identified within or immediately adjacent to the Project area. Therefore, the Project would have no impact on any known tribal cultural resources. BMP-5 in the Project Description, which is incorporated into the Project, includes measures to minimize the likelihood of impacts to any unanticipated tribal cultural resources encountered during construction. This BMP would ensure that the potential impact of construction activities on any tribal cultural resource would be ***less than significant***.

3.4.19 Utilities and Service Systems

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Background

There are no utilities currently existing at the proposed Well No. 9 site, other than an electrical pole associated with an irrigation well in the central portion of the area. An electrical power line exists along Avenue 324. The Well No. 9 facility will require installation of an electrical conduit from a power pole to the new facility. The conveyance pipeline route is served by existing public services including water, sanitary sewers, and electrical.

Discussion

a. Required New, Expanded, or Relocated Public Utilities and Service Facility

The District operates a Wastewater Treatment Facility southwest of Ivanhoe that provides secondary treatment of wastewater. The Proposed Project would reduce the amount of pollutants in the water supply system, thereby reducing impacts on any potential future wastewater treatment. Portable toilets will be used to provide restroom facilities for Project workers during the construction period. Proposed Project construction would not affect any existing septic systems, and would comply with California Department of Public Health regulations for separation of water and sewer lines. The Project itself would expand the water supply system, but would not entail any other water supply system expansions. The Project would have no or minimal effect on storm water drainage, electric power, natural gas, or telecommunications facilities. Therefore, the Project would have ***no impact*** on this utility infrastructure.

b. Water Supplies

The Proposed Project will consume small amounts of water for dust control during construction. After construction, the Project would supplement the existing well water domestic supply with a new water supply well and conveyance pipeline. Therefore, the Project would have a ***less-than-significant*** impact on water supplies.

c. Wastewater Service

Please see response to Item (a), above. The Project will not generate any wastewater, other than water filtration backwash water and chlorination waste. The Project would not affect any wastewater treatment facility. Therefore, the Project would have a ***less-than-significant*** impact on wastewater service.

d. Solid Waste Generation

The Project would generate small amounts of construction wastes that would be removed from the Project area by the Project contractor. This would not substantially affect landfill capacity in the area. Excavated clean on-site soils would also be considered suitable for reuse in structural fills or as on-site backfill. Therefore, this impact would be ***less than significant***.

e. Solid Waste Statutes and Regulations

As described in Item (d), above, the Proposed Project would generate relatively small quantities of solid waste during construction and no additional wastes after construction is completed. Excavated soils would be suitable for reuse as fill off-site or as backfill on-site. Therefore, the Proposed Project would comply with federal, state, and local statutes and regulations related to solid waste and have ***no impact*** with respect to those regulations.

3.4.20 Wildfire Hazards

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

Discussion

a, b, c, d) Impair emergency response; expose occupants to wildfire spread or pollutants; require structures that exacerbate fire risks; expose people to flooding and landslide risks

The Project area is located in an agricultural and suburban area and is not intermixed or located adjacent to substantial areas of wildlands. The Project area is mapped as a Non-Very High Fire Severity Zone (Tulare County Draft Fire Hazard Severity Zones in LRA Map, October 5, 2007). The Proposed Project itself is a water supply well and conveyance pipeline, which would have no potential adverse effect on wildfire risk. Emergency response and evacuation routes would be required to remain open, and no additional infrastructure would be required for wildfire control. Therefore, the Project would not expose people or structures to significant risks associated with wildland fires, and ***no impact*** would result.

3.4.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation	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, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) 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)?	☐	☐	☒	☐
c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion

a) ***Less than Significant with Mitigation.*** As discussed in the Biology Section of this document, with the incorporation of mitigation measures, the Proposed Project would not

have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. Mitigation measures have been included to reduce the impacts to biological resources to a ***less-than-significant level with mitigation***.

b) ***Less Than Significant Impact.*** Cumulative impacts of the Project and other planned, approved, or reasonably foreseeable projects have been assessed in this Initial Study. The Tulare County Resource Management Agency Public Works Branch plans to complete a Road 160 Sidewalk Improvements Project. This project will consist of pedestrian improvements along Road 160 between Avenue 328 and Avenue 332, including the installation of curbs, gutters and sidewalks, wheelchair curb ramps, and drainage improvements. This project will be located approximately 0.4-mile northeast of the conveyance pipeline terminus, and construction is anticipated to begin in Spring 2023. Although the Road 160 Sidewalk Improvements Project will likely overlap the construction period of the Proposed Project, the relatively limited development associated with both projects and the distance between them would result in a less than significant cumulative impact. No other planned, approved, or reasonably foreseeable projects were identified in the vicinity of the Proposed Project. Therefore the Project's contribution to cumulative impacts to the environment would be ***less than significant***.

c) ***Less than Significant Impact.*** As discussed in Section VIII. Hazards and Hazardous Materials, the Project would follow all laws and regulations involving the use and transport of hazardous materials and would not cause potential health risks to the public. In addition, the Project would not emit substantial quantities of TACs. The Project's reduction in nitrates in the drinking water and improvement in fire suppression flows would reduce existing health risks to the served population. It would have a ***less-than-significant*** cumulative impact on human health.

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APPENDIX A

BIOLOGICAL RESOURCE EVALUATION

BIOLOGICAL RESOURCE EVALUATION

JULY 2021

IVANHOE WELL 9 PROJECT
IVANHOE, TULARE COUNTY, CALIFORNIA

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Executive Summary

The Ivanhoe Public Utility District proposes to install a new groundwater well in Ivanhoe, Tulare County, California. The proposed project (Project) will involve (1) constructing a new groundwater well (Well 9) on an approximately 2-acre parcel, (2) installing about 0.75 miles of pipeline to connect the new well to the current water system, (3) abandoning the existing water system pipeline, and (4) installing new service connections to replace those lost with the abandonment of the old water system.

This Project will be funded by the Drinking Water State Revolving Fund (DWSRF). Because the DWSRF is partially funded by the Environmental Protection Agency (EPA), the Project will constitute a federal action. As such, the environmental review for the Project must meet not only state requirements under the California Environmental Quality Act (CEQA) but some federal requirements as well. To comply with applicable federal statutes and authorities, the EPA established specific "CEQA-Plus" requirements in its operating agreement with the State Water Resources Control Board, which administers the DWSRF program.

To evaluate whether the Project may affect biological resources under CEQA-Plus purview, we (1) obtained official lists from the United States Fish and Wildlife Service, the California Department of Fish and Wildlife, and the California Native Plant Society of special-status species and designated and proposed critical habitat; (2) reviewed other relevant background information such as aerial images and topographic maps; and (3) conducted a field reconnaissance survey of the Project site.

This biological resource evaluation summarizes (1) existing biological conditions on the Project site, (2) the potential for special-status species and regulated habitats to occur on or near the Project site, (3) the potential impacts of the proposed Project on biological resources and regulated habitats, and (4) measures to reduce those potential impacts to less-than-significant levels.

We concluded that the Project could impact one special-status species: the state species of special concern burrowing owl (*Athene cunicularia*). Nesting migratory birds could also be impacted. Impacts to all species can be reduced to less-than-significant levels with mitigation.

Abbreviations

Abbreviation	Definition
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
DWSRF	Drinking Water State Revolving Fund
EFH	Essential Fish Habitat
FE	Federally listed as Endangered
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FP	State Fully Protected
FT	Federally listed as Threatened
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Association
NRCS	Natural Resources Conservation Science
SE	State listed as Endangered
SSSC	State Species of Special Concern
ST	State listed as Threatened
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

1.1 Background

The Ivanhoe Public Utility District proposes to install a new groundwater well approximately 0.25 miles west of the intersection of Avenue 324 and Road 156 and 0.75 miles of pipeline along Avenue 324, Road 156, and Aspen Avenue (the Project) southwest of the community of Ivanhoe, in Tulare County, California. Because the Project is partially funded by the Drinking Water State Revolving Fund (DWSRF), the Project will constitute a federal action. Consequently, the environmental review for the Project must meet state requirements under the California Environmental Quality Act (CEQA) as well as certain federal requirements. To comply with the applicable federal statues and authorities, the EPA established specific "CEQA-Plus" requirements in its operating agreement with the State Water Resources Control Board, which administers the DWSRF program.

The purpose of this biological resource evaluation is to assess whether the Project will affect state- or federally protected resources pursuant to CEQA-Plus guidelines. Such resources include species of plants or animals listed or proposed for listing under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA), as well as those covered under the Migratory Bird Treaty Act (MBTA), the California Native Plant Protection Act, and various other sections of California Fish and Game Code. Biological resources considered here also include designated or proposed critical habitat recognized under the FESA. This biological resource evaluation also addresses Project-related impacts to regulated habitats, which are those under the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board, or California Department of Fish and Wildlife (CDFW), as well as those addressed under the Wild and Scenic Rivers Act, Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), and Executive Order 11988 pertaining to floodplain management.

1.2 Project Description

This Project will involve (1) constructing a new groundwater well (Well 9) on an approximately 2-acre parcel, (2) installing about 0.75 miles of pipe to connect the new well to the current water system, (3) abandoning the existing water system pipe, and (4) installing new service connections to replace those lost with the abandonment of the old water system. The Project site supported a grazed field, paved roadways, and unpaved road shoulders and was surrounded by irrigated pasture, maintained orchards, and low-density residential housing.

1.3 Project Location

The Project site is about 1 mile southwest of Ivanhoe in Tulare County (Figure 1). The approximately 2-acre well site is 0.25 miles west of Road 156 and bordered to the north by

Avenue 324 (Figure 2). The pipeline pathway extends from the well site east approximately 1460 feet along Road 3240, north approximately 975 feet along Road 156, and east approximately 1525 feet along Aspen Avenue (Figure 2).

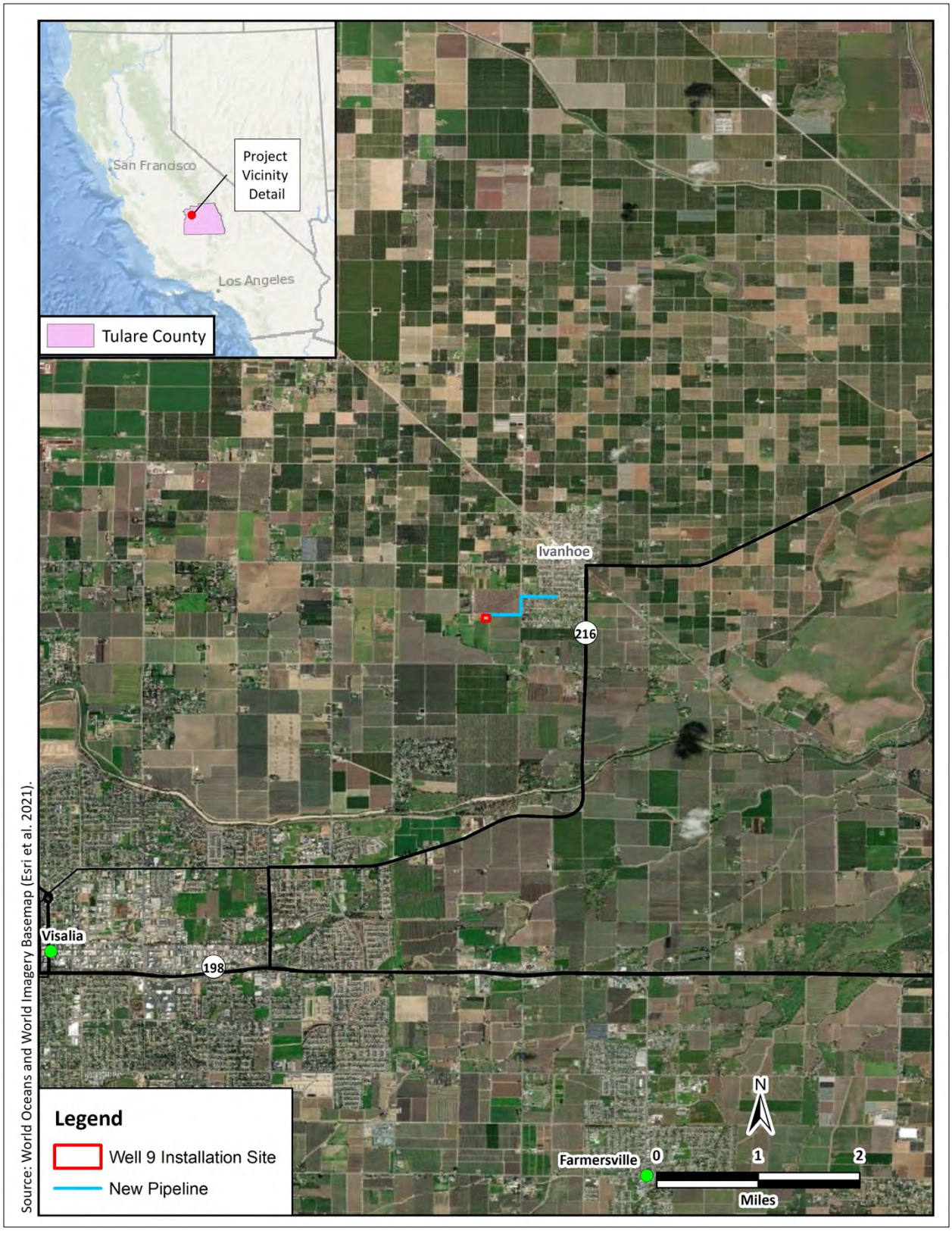

Figure 1. Project site vicinity map.

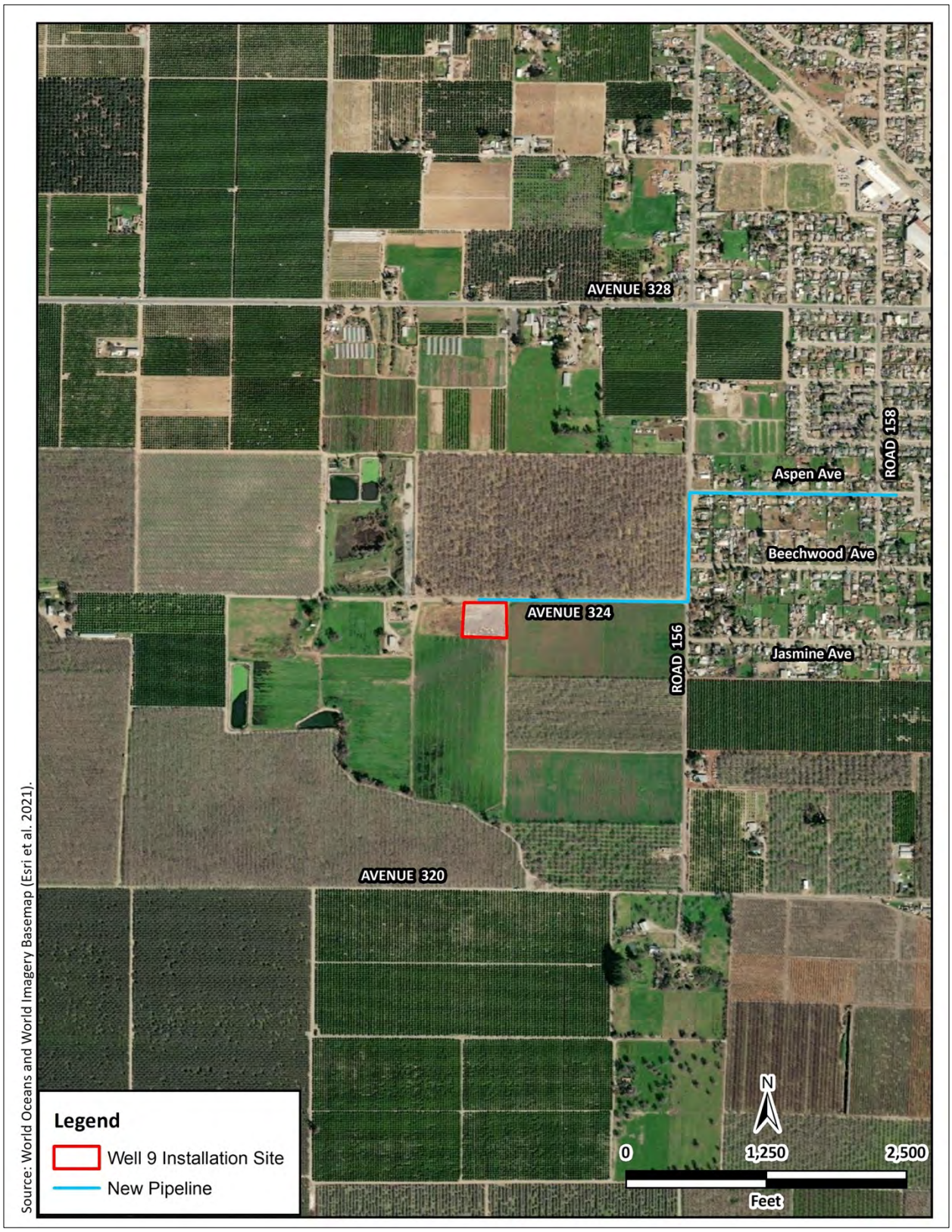

Figure 2. Project site map.

1.4 Purpose and Need of Proposed Project

The purpose of the Project is to replace an outdated well and pipe system to meet increasing drinking water demands in the area.

1.5 Consultation History

Lists of all species listed or proposed for listing as threatened or endangered and all designated or proposed critical habitat under the FESA that could occur near the Project site were obtained by Colibri Senior Scientist Joshua Reece from the United States Fish and Wildlife Service (USFWS) website (https://ecos.fws.gov/ipac/) on 28 June 2021 (Appendix A).

1.6 Regulatory Framework

The relevant regulatory requirements and policies that guide the impact analysis of the Project are summarized below.

1.6.1 Federal Requirements

Bald and Golden Eagle Protection Act. The Bald and Golden Eagle Protection Act (16 USC § 668-668d), originally the Bald Eagle Protection Act, was enacted in 1940 to protect bald eagle (*Haliaeetus leucocephalus*), the species selected as a national emblem of the United States. The act was amended in 1962 to include the golden eagle (*Aquila chrysaetos*). As amended, the Act prohibits take, possession, and commerce of bald and golden eagles and their parts, products, nests, or eggs, except by valid permit. Take is defined as "*pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.*" Disturb means agitating or bothering to a degree that causes, or is likely to cause, injury, a decrease in productivity, or nest abandonment. This law also prohibits human-induced alterations near previously used nest sites when eagles are not present if upon the eagle's return it is disturbed as defined above. Take permits may be issued for conducting certain types of lawful activities such as scientific research, propagation, and Indian religious purposes. The USFWS is responsible for enforcing this act.

Executive Order 11988: Floodplain Management. Executive Order 11988 (42 Federal Register 26951, 3 CFR, 1977 Comp., p. 117) requires federal agencies to avoid to the extent possible the long-term and short-term adverse effects associated with occupying and modifying flood plains and to avoid direct and indirect support of developing floodplains wherever there is a practicable alternative.

Federal Endangered Species Act. The United States Fish and Wildlife Service (USFWS) and the National Oceanographic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) enforce the provisions stipulated in the Federal Endangered Species Act of 1973 (FESA, 16 United States Code [USC] § 1531 et seq.). Threatened and endangered species on the

federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the project site and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC § 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

Magnuson-Stevens Fishery Conservation and Management Act. The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (Public law 94-265; Statutes at Large 90 Stat. 331; 16 U.S.C. ch. 38 § 1801 et seq.) establishes a management system for national marine and estuarine fishery resources. This legislation requires that all federal agencies consult the NMFS regarding all actions or proposed actions permitted, funded, or undertaken that may adversely affect "essential fish habitat (EFH)." EFH is defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The Magnuson-Stevens Act states that migratory routes to and from anadromous fish spawning grounds are considered EFH. The phrase "adversely affect" refers to any effect that reduces the quality or quantity of EFH. Federal activities that occur outside of EFH, but which may affect EFH must also be considered. The Act applies to salmon species, groundfish species, highly migratory species such as tuna, and coastal pelagic species such as anchovies.

Migratory Bird Treaty Act. The federal Migratory Bird Treaty Act (MBTA) (16 USC § 703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. "Take" is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC § 703 and § 715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an "active nest." However, the "Migratory Bird Permit Memorandum" issued by the USFWS in 2003 and updated in 2018 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction (USFWS 2018).

National Environmental Policy Act. The purposes of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. §§ 4321–4347), including all relevant subsequent guidelines and regulations, include encouraging "harmony between [humans] and their environment and promoting efforts which will prevent or eliminate damage to the environment… and stimulate the health and welfare of [humanity]". The purposes of NEPA are accomplished

by evaluating the effects of federal actions. The results of these evaluations are presented to the public, federal agencies, and public officials in document format (e.g., Environmental Assessments and Environmental Impact Statements) for consideration prior to taking official action or making official decisions. Environmental documents prepared pursuant to NEPA must be completed before federal actions can be implemented. The NEPA process requires careful evaluation of the need for action, and that federal actions be considered alongside all reasonable alternatives, including the No Action alternative. NEPA also requires that the potential impacts on the human environment be considered for each alternative. Detailed implementing regulations for NEPA are contained in 40 C.F.R. 1500 et seq.

United States Army Corps of Engineers Jurisdiction. Areas meeting the regulatory definition of "waters of the United States" (jurisdictional waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands adjacent to waters of the United States (33 CFR part 328.3). Ditches and drainage canals where water flows intermittently or ephemerally are not regulated as waters of the United States. Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* and related Regional Supplement (USACE 1987 and 2008). Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Resources Control Board is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

Wild and Scenic Rivers Act. The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with significant natural, cultural, and recreational values in a free-flowing condition. The Act safeguards the special character of these rivers, while also recognizing the potential for their appropriate use and development.

1.6.2 State Requirements

California Department of Fish and Wildlife Jurisdiction. The CDFW has regulatory jurisdiction over lakes and streams in California. Activities that divert or obstruct the natural flow of a stream; substantially change its bed, channel, or bank; or use any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW in accordance with California Fish and Game Code Section 1602.

California Endangered Species Act. The California Endangered Species Act (CESA) of 1970 (Fish and Game Code § 2050 et seq., and California Code of Regulations [CCR] Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the CDFW when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on state-listed species. During consultation, CDFW determines whether take would occur and identifies "reasonable and prudent alternatives" for the project and conservation of special-status species. CDFW can authorize take of state-listed species under Sections 2080.1 and 2081(b) of the California Fish and Game Code in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (Fish and Game Code § 2070). CDFW also maintains lists of species of special concern, which serve as "watch lists." Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the proposed Project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances.

California Environmental Quality Act. The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are defined under CEQA Guidelines subsection 15380(b) and (d) as those listed under FESA and CESA and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under these criteria or by the scientific community. Therefore, species considered rare or endangered are addressed in this biological resource evaluation regardless of whether they are afforded protection through any other statute or regulation. The California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity (CNPS 2020). Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the FESA and the section of the California Fish and Game Code dealing with rare and endangered plants and animals. Section 15380(d) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

California Native Plant Protection Act. The California Native Plant Protection Act of 1977 (California Fish and Game Code §§ 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

Nesting birds. California Fish and Game Code Sections 3503, 3503.5, 3513, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Game Code Section 3511 lists birds that are "Fully Protected" as those that may not be taken or possessed except under specific permit.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act (CWC § 13000 et. sec.) was established in 1969 and entrusts the State Water Resources Control Board and nine Regional Water Quality Control Boards (collectively Water Boards) with the responsibility to preserve and enhance all beneficial uses of California's diverse waters. The Act grants the Water Boards authority to establish water quality objectives and regulate point- and nonpoint-source pollution discharge to the state's surface and ground waters. Under the auspices of the United States Environmental Protection Agency, the Water Boards are responsible for certifying, under Section 401 of the federal Clean Water Act, that activities affecting waters of the United States comply California water quality standards. The Porter-Cologne Water Quality Control Act addresses all "waters of the State," which are more broadly defined than waters of the Unites States. Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state. They include artificial as well as natural water bodies and federally jurisdictional and federally non-jurisdictional waters. The Water Boards may issue a Waste Discharge Requirement permit for projects that will affect only federally non-jurisdictional waters of the State.

2.0 Methods

2.1 Desktop Review

We obtained a USFWS species list for the Project site as a framework for the evaluation and reconnaissance survey (USFWS 2021a, Appendix A). In addition, we searched the California Natural Diversity Data Base (CDFW 2021, Appendix B) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2021, Appendix C) for records of special-status plant and animal species from the vicinity of the Project site. Regional lists of special-status species were compiled using USFWS, CNDDB, and CNPS database searches confined to the Ivanhoe 7.5-minute United States Geological Survey (USGS) topographic quadrangle, which encompasses the Project site, and the eight surrounding quadrangles (Orange Cove South, Stokes Mountain, Auckland, Monson, Woodlake, Visalia, Exeter, and Rocky Hill). A local list of special-status species was compiled using CNDDB records from within 5 miles of the Project site. Species that lack a special-status designation by federal or state regulatory agencies or public interest groups were omitted from the final list. Species for which the Project site does not provide habitat were eliminated from further consideration. We also reviewed aerial imagery from Google Earth (Google 2021) and other sources, USGS topographic maps, the Web Soil Survey (NRCS 2021), the National Wetlands Inventory (USFWS 2021b), the National Wild and Scenic Rivers System (USFWS 2021c), Federal Emergency Management Agency (FEMA 2021) flood maps, and relevant literature.

2.2 Reconnaissance Survey

Colibri Senior Scientist Joshua Reece conducted a field reconnaissance survey of the Project site on 2 July 2021. The Project site and a 50-foot buffer surrounding the Project site were walked and thoroughly inspected to evaluate and document the potential for the area to support federally protected resources. The survey area also included a 0.5-mile buffer around the Project site to evaluate the potential occurrence of nesting special-status raptors (Figure 3). The 0.5-mile buffer was surveyed by driving public roads and identifying the presence of large trees or other potentially suitable substrates for nesting raptors as well as open areas that could provide foraging habitat. The main survey area, including the Project site and surrounding 50-foot buffer, was evaluated for the presence of regulated habitats, including lakes, streams, and other waters using methods described in the *Wetlands Delineation Manual* and regional supplement (USACE 1987, 2008) and as defined by the CDFW (https://www.wildlife.ca.gov/conservation/lsa) and under the Porter-Cologne Water Quality Control Act. All plants except those planted for cultivation or landscaping and all animals (vertebrate wildlife species) observed in the survey area were identified and documented.

2.3 Effects Analysis and Significance Criteria

2.3.1 Effects Analysis

Factors considered in evaluating the effects of the Project on special-status species included the (1) presence of designated or proposed critical habitat in the survey area, (2) potential for the survey area to support special-status species, (3) dependence of any such species on specific habitat components that would be removed or modified, (4) the degree of effects to the habitat, (5) abundance and distribution of the habitat in the region, (6) distribution and population levels of the species, (7) cumulative effects of the Project and any future activities in the area, and (8) the potential to mitigate any adverse effects.

Factors considered in evaluating the effects of the Project on bald eagle, golden eagle, and migratory birds included the potential for the Project to result in (1) mortality of eagles or migratory birds or (2) loss of their nests containing viable eggs or nestlings.

Factors considered in evaluating the effects of the Project on regulated habitats included the (1) presence of features comprising or potentially comprising waters of the United States, Wild and Scenic Rivers, essential fish habitat (EFH), floodplains, and lakes or streams within the survey area, and (2) potential for the Project to affect such habitats.

2.3.2 Significance Criteria

CEQA defines "significant effect on the environment" as "a substantial, or potentially substantial, adverse change in the environment" (Pub. Res. Code § 21068). Under CEQA Guidelines Section 15065, a Project's effects on biological resources are deemed significant where the Project would do the following:

a) Substantially reduce the habitat of a fish or wildlife species,
b) Cause a fish or wildlife population to drop below self-sustaining levels,
c) Threaten to eliminate a plant or animal community, or
d) Substantially reduce the number or restrict the range of a rare or endangered plant or animal.

In addition to the Section 15065 criteria, Appendix G within the CEQA Guidelines includes six additional impacts to consider when analyzing the effects of a project. Under Appendix G, a project's effects on biological resources are deemed significant where the project would do any of the following:

e) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

f) 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 CDFW or USFWS;

g) 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;

h) 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;

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

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

These criteria were used to determine whether the potential effects of the Project on biological resources qualify as significant.

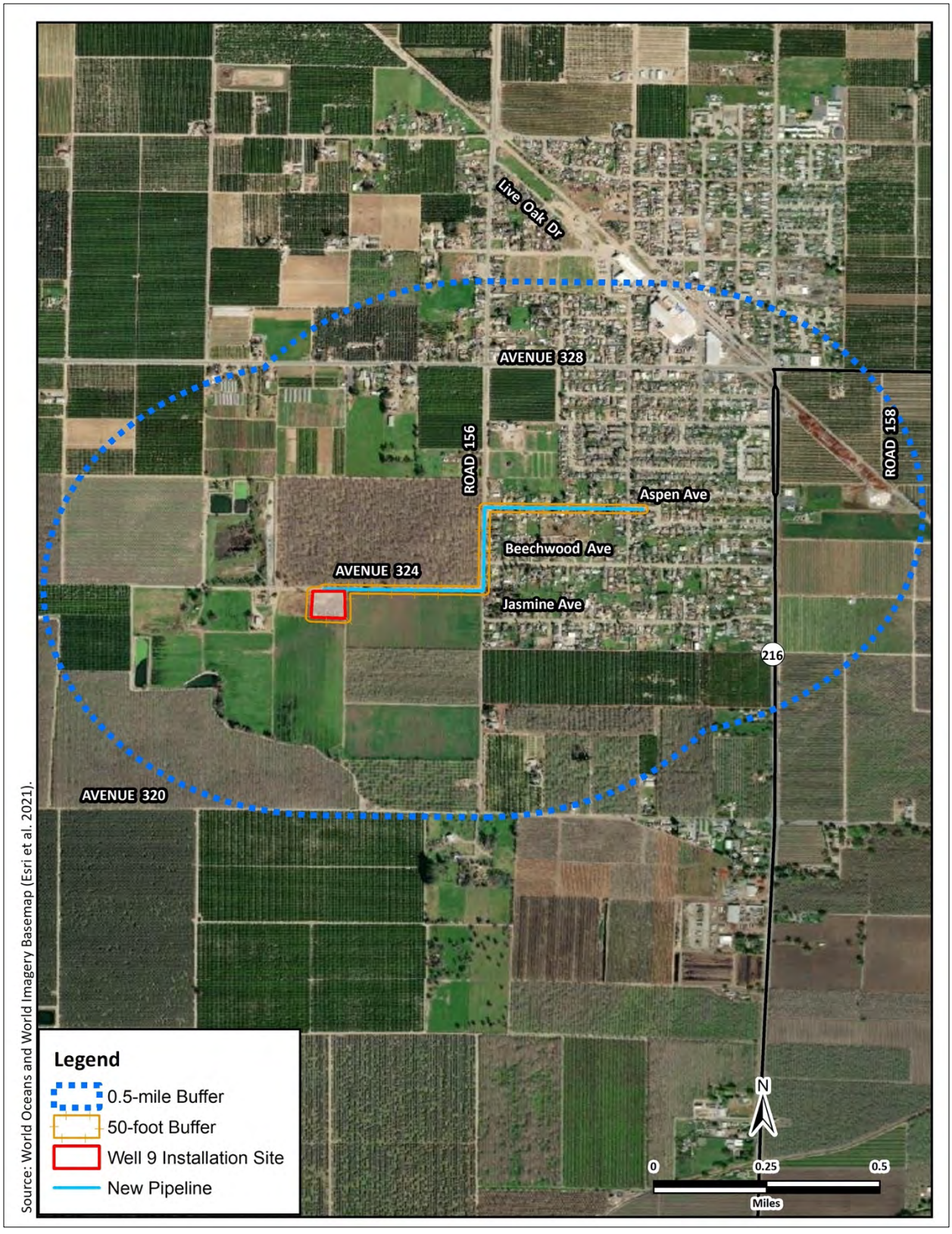

Figure 3. Reconnaissance survey area map.

3.0 Results

3.1 Desktop Review

The USFWS species list for the Project site included 13 species listed as threatened or endangered under the FESA (USFWS 2021a, Table 1, Appendix A). None of those species could occur on or near the Project site due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (Table 1). As identified in the species list, the Project site does not occur in USFWS-designated or proposed critical habitat for any species (USFWS 2021a, Appendix A).

Searching the CNDDB for records of special-status species from the Ivanhoe 7.5-minute USGS topographic quadrangle and the eight surrounding quadrangles produced 223 records of 45 species (Table 1, Appendix B). Of those 45 species, eight were not considered further because federal or state regulatory agencies or public interest groups do not recognize them through special designation (Appendix B). Of the remaining 37 species, 11 are known from within 5 miles of the Project site (Table 1, Figure 4). None of those 11 species are expected to occur on or near the Project site due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, (3) their absence during the reconnaissance survey, or (4) a combination thereof. However, one species, burrowing owl (*Athene cunicularia*), could occur on or near the Project site.

Searching the CNPS Inventory of Rare and Endangered Plants of California yielded 19 taxa (CNPS 2021, Appendix C), one of which has a CRPR of 2B, and 18 of which have a CRPR of 1B (Table 1). None of those species are expected to occur on or near the Project site due to the lack of habitat (Table 1).

The Project site is underlain by Exeter loam, 0 to 2% percent slopes (85%) and Hanford loam, 0 to 2 percent slopes (4%; NRCS 2021). The Project site is at an elevation of 354–356 feet above mean sea level (Google 2021).

Table 1. Special-status species, their listing status, habitats, and potential to occur on or near the Project site.

Species	Status[1]	Habitat	Potential to Occur[2]
Federally and State-Listed Endangered or Threatened Species			
Greene's tuctoria (*Tuctoria greenei*)	FT, 1B.1	Vernal pools below 3445 feet elevation	**None.** Habitat lacking; no vernal pools were found in the survey area.
Hoover's spurge (*Euphorbia hooveri*)	FT, 1B.2	Vernal pools below 820 feet elevation.	**None.** Habitat lacking; no vernal pools were found in the survey area.
Kaweah brodiaea (*Brodiaea insignis*)	SE, 1B.2	Granitic soil or clay in foothill woodland at 656–1640 feet elevation.	**None.** Habitat lacking; the Project site is below the elevational range of this species.
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, SE, 1B.1	Grassland with bare, dark clay soils at 328–2953 feet elevation.	**None.** Habitat lacking; the Project site lacked clay soils.
San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*)	FT, SE, 1B.1	Vernal pools at or below 2625 feet elevation.	**None.** Habitat lacking; no vernal pools were found in the survey area.
Striped adobe-lily (*Fritillaria striata*)	ST, 1B.1	Adobe clay soils in the southern Sierra Nevada foothills below 3280 feet elevation.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
Conservancy fairy shrimp (*Branchinecta conservatio*)	FE	Vernal pools with cool water and moderate turbidity.	**None.** Habitat lacking; no vernal pools were found in the survey area.
Crotch bumble bee[3] (*Bombus crotchii*)	SCE	Open grassland and scrub supporting open flowers with short petals.	**None.** Habitat lacking; the Project site consisted of agricultural land cover and lacked suitable flowering plants.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Elderberry (*Sambucus* spp.) plants having basal stem diameter greater than 1" at ground level.	**None.** Habitat lacking; the Project site is outside the current known range of this species; no elderberry plants found in the survey area.

Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Vernal pools; some artificial depressions, stock ponds, vernal swales, ephemeral drainages, and seasonal wetlands.	**None.** Habitat lacking; no vernal pools or other potentially suitable aquatic features were found in the survey area.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Vernal pools, clay flats, alkaline pools, and ephemeral stock tanks.	**None.** Habitat lacking; no vernal pools, alkaline pools, or ephemeral stock tanks were found in the survey area.
Delta smelt (*Hypomesus transpacificus*)	FT, SE	River channels and tidally influenced sloughs.	**None.** Habitat lacking; no connectivity to the aquatic habitat this species requires.
California red-legged frog (*Rana draytonii*)	FT, SSSC	Creeks, ponds, and marshes for breeding; burrows for upland refuge.	**None.** Habitat lacking; the Project site is outside the current known range of this species.
California tiger salamander (*Ambystoma californiense*)	FT, ST	Vernal pools or seasonal ponds for breeding; small mammal burrows for upland refugia in natural grasslands.	**None.** Habitat lacking; the Project site and surrounding lands consisted of agricultural land cover that has been intensively farmed at least since 1985 (Google 2021); no seasonal water bodies in the survey area.
Foothill yellow-legged frog (*Rana boylii*)	SE, SSSC	Perennial rocky streams and rivers with rocky substrates; open, sunny banks in forests, chaparral, and woodlands.	**None.** Habitat lacking; no suitable aquatic resources in the survey area.
Blunt-nosed leopard lizard (*Gambelia silus*)	FE, SE, FP	Upland scrub and sparsely vegetated grassland with small mammal burrows.	**None.** Habitat lacking; Project site consisted of agricultural land cover; the Project site is outside the current known range of this species.

Giant garter snake (*Thamnophis gigas*)	FT, ST	Marshes, sloughs, ponds, or other permanent sources of water with emergent vegetation, and grassy banks or open areas during active season; uplands with underground refuges or crevices during inactive season.	**None.** Habitat lacking; no suitable aquatic resources in the survey area; the Project site is outside the current known range of this species.
California condor (*Gymnogyps californianus*)	FE, SE, FP	Mountain and foothill rangeland with cliffs for nesting and grassland and open woodland for foraging.	**None.** Habitat lacking; the Project site consisted of agricultural land cover; the Project site is outside the current known range of this species.
Tricolored blackbird (*Agelaius tricolor*)	ST	Freshwater emergent wetlands, some agricultural fields, grassland, and silage fields near dairies.	**None.** Habitat lacking; no suitable aquatic resources or suitable agricultural land in the survey area.
Western yellow-billed cuckoo[3] (*Coccyzus americanus occidentalis*)	FT, SE	Open woodlands with dense, low vegetation along waterways.	**None.** Habitat lacking; the last record of this species in the vicinity was from 1919; all habitat within 5 miles was thought to have been destroyed by agricultural development.
Willow flycatcher (*Empidonax traillii*)	SE	Riparian forest and wet meadow habitats in the Sierra Nevada mountains at 2000–8000 feet elevation.	**None.** Habitat lacking; the survey area is below the elevational range of this species.
San Joaquin kit fox[3] (*Vulpes macrotis mutica*)	FE, ST	Grassland and upland scrub and fallowed agricultural lands adjacent to natural grasslands or upland scrub.	**None.** Habitat lacking; the survey area consisted of agricultural land cover, lacked adjacent natural lands, and the most recent records from within 5 miles were from 1988.

Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, SE	Grassland and upland scrub with sparse to moderate shrub cover and saline soils; also fallowed agricultural fields adjacent to natural grasslands or upland scrub.	**None.** Habitat lacking; the survey area consisted of agricultural land cover that lacked adjacency to natural land cover.
State Species of Special Concern			
Northern California legless lizard[3] (*Anniella pulchra*)	SSSC	Moist, warm loose sand with vegetative cover.	**None.** Habitat lacking; the Project site consisted of agricultural land cover that lacked sandy soils.
Northern leopard frog (*Lithobates pipiens*)	SSSC	Wet meadows, canals, bogs, marshes, and reservoirs in grassland, forest, and woodland.	**None.** Habitat lacking; the survey area is outside the current known range of this species.
Western spadefoot (*Spea hammondii*)	SSSC	Open areas with sandy or gravelly soil that allow rain pools to gather for breeding.	**None.** Habitat lacking; no rain pools or other ephemeral water bodies found in the survey area, and survey area lacked sandy soils.
Northwestern pond turtle[3] (*Actinemys marmorata*)	SSSC	Ponds, rivers, marshes, streams, and irrigation ditches, usually with aquatic vegetation. Need basking sites and suitable upland habitat for egg laying.	**None.** Habitat lacking; no permanent or intermittent water bodies found in the survey area that could support this species.
Burrowing owl (*Athene cunicularia*)	SSSC	Grassland and upland scrub with friable soil; some agricultural or other developed and disturbed areas with ground squirrel burrows.	**Moderate.** The well site consisted of a grazed field with ground squirrel burrows; no owls or sign of owls (e.g., guano, feathers, pellets, or prey remains) were observed during the reconnaissance survey. The pipeline pathway lacked habitat for this species.

American badger[3] (*Taxidea taxus*)	SSSC	Variable. Open, dry areas with friable soils and small mammal populations in grassland, conifer forest, and desert.	**None.** Habitat lacking; the Project site consisted of agricultural land cover.
Pallid bat[3] (*Antrozous pallidus*)	SSSC	Arid or semi-arid locations in rocky areas and sparsely vegetated grassland near water. Rock crevices, caves, mine shafts, bridges, buildings, and tree hollows for roosting.	**None.** Habitat lacking; no rocky areas or water bodies found in the survey area.
Western mastiff bat (*Eumops perotis californicus*)	SSSC	Rock crevices in cliff faces, large boulders, granite slabs, or columnar basalt.	**None.** Habitat lacking, no rocky areas were found in the survey area.
California Rare Plants			
Alkali-sink goldfields[3] (*Lasthenia chrysantha*)	1B.1	Vernal pools and wet saline flats below 320 feet elevation.	**None.** Habitat lacking; the survey area is above the elevational range of this species.
Brittlescale[3] (*Atriplex depressa*)	1B.2	Alkaline or clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools below 1000 feet elevation.	**None.** Habitat lacking; the survey area lacked clay soils and consisted of disturbed agricultural land cover.
California alkali grass (*Puccinellia simplex*)	1B.2	Scrub, meadows, seeps, grassland, vernal pools, saline flats, and mineral springs below 3000 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural land cover.
California satintail[3] (*Imperata brevifolia*)	2B.1	Moist to wet sites in arid desert canyons, or rocky slopes, near seeps, springs, and streams below 1700 feet elevation.	**None.** Habitat lacking; the survey area lacked clay soils and consisted of disturbed agricultural lands.

Calico monkeyflower (*Diplacus picta*)	1B.2	Bare, sunny, shrubby areas around granite outcrops in the southern Sierra Nevada at 442–4101 feet elevation.	**None.** Habitat lacking; the survey area is below the elevational range of this species.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	1B.1	Saline areas and vernal pools below 3280 feet elevation.	**None.** Habitat lacking; no saline areas or vernal pools were found in the survey area.
Earlimart orache (*Atriplex cordulata* var. *erecticaulis*)	1B.2	Saline or alkaline soils in the Central Valley below 230 feet elevation.	**None.** Habitat lacking; the survey area is above the elevational range of this species.
Lesser saltscale (*Atriplex minuscula*)	1B.2	Saline or alkaline soils in the San Joaquin Valley below 328 feet elevation.	**None.** Habitat lacking; the survey area is above the elevational range of this species.
Recurved larkspur (*Delphinium recurvatum*)	1B.2	Poorly drained, fine, alkaline soils in grassland and saltbush scrub at 98–1969 feet elevation.	**None.** Habitat lacking; the Project site consisted of agricultural land cover.
Sanford's arrowhead (*Sagittaria sanfordii*)	1B.2	Ponds and ditches at sea level to 650 feet elevation.	**None.** Habitat lacking; the survey area lacked suitable wetland habitat required for this species.
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	1B.2	Vernal pools, swales, and roadside ditches in valley and foothill grassland at 328–4166 feet elevation.	**None.** Habitat lacking; no vernal pools or suitable wetlands were found in the survey area.
Vernal pool smallscale (*Atriplex persistens*)	1B.2	Alkaline vernal pools in the Central Valley below 377 feet elevation.	**None.** Habitat lacking; no vernal pools were found in the survey area.
Winter's sunflower[3] (*Helianthus winteri*)	1B.2	Steep, south-facing grassy slopes, rock outcrops, and road cuts at 590–1509 feet elevation.	**None.** Habitat lacking; the survey area is below the elevational range of this species.

CDFW (2021), CNPS (2021), USFWS (2021a).

Status[1]	**Potential to Occur[2]**	
FE = Federally listed Endangered	None:	Species or sign not observed; conditions unsuitable for occurrence.
FT = Federally listed Threatened	Low:	Neither species nor sign observed; conditions marginal for occurrence.
FP = State Fully Protected	Moderate:	Neither species nor sign observed; conditions suitable for occurrence.
SE = State listed Endangered	High:	Neither species nor sign observed; conditions highly suitable for occurrence.
ST = State listed Threatened	Present:	Species or sign observed; conditions suitable for occurrence.
SSSC = State Species of Special Concern		

CNPS California Rare Plant Rank[1]:	**Threat Ranks[1]:**
1B – plants rare, threatened, or endangered in California and elsewhere.	0.1 – seriously threatened in California (> 80% of occurrences).
2B – plants rare, threatened, or endangered in California but more common elsewhere.	0.2 – moderately threatened in California (20-80% of occurrences).
3 – plants about which more information is needed.	0.3 – not very threatened in California (<20% of occurrences).
4 – plants have limited distribution in California.	

[3]Record from within 5 miles of the Project site.

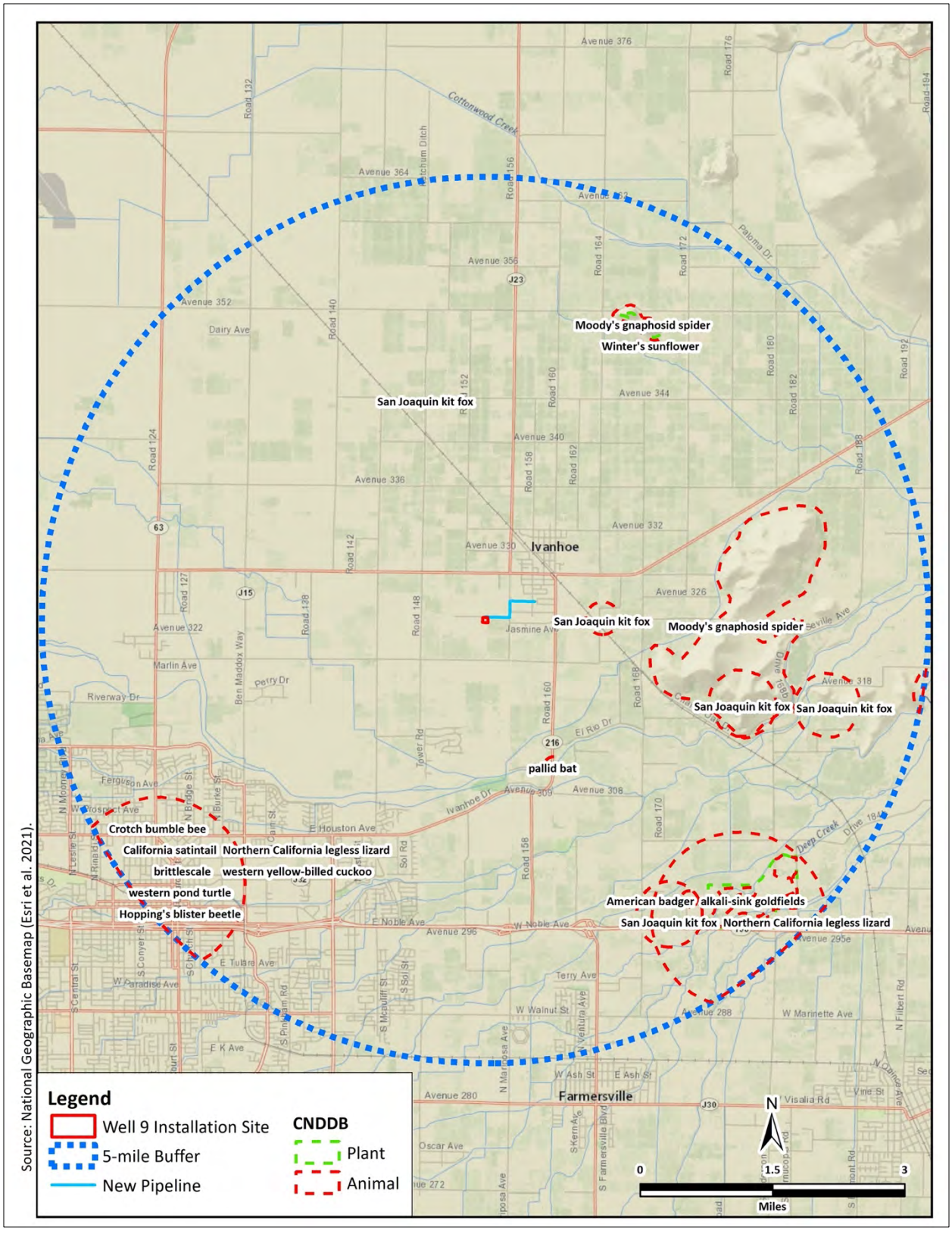

Figure 4. CNDDB occurrence map.

3.2 Reconnaissance Survey

3.2.1 Land Use and Habitats

The Project site includes the well installation site and the pipeline pathway. The well installation site supported a grazed field (Figure 5), earthen mounds in the center (Figure 6), and the remnants of a previous well and pump at the western end (Figure 7). One large valley oak (*Quercus lobata*) was just northwest of the Project site (Figure 7). The well installation site was dominated by ripgut brome (*Bromus diandrus*) and silverleaf nightshade (*Solanum elaeagnifolium*), with approximately 30 California ground squirrel (*Otospermophilus beecheyi*) burrows, concentrated primarily on two large earthen mounds. The well installation site was bordered to the north by Avenue 324 and a mature walnut orchard, to the south by grazed pasture, to the east by an immature citrus orchard, and to the west by a grazed field and a rural residence. The pipeline pathway consists of approximately 1460 feet of unpaved road shoulder along Avenue 324 (Figure 8) and approximately 2500 feet of paved roadway along Road 156 and Aspen Avenue, will border the same mature walnut orchard on the north side of Avenue 324 and the west side of Road 156 (Figure 8), and run along the northern edge of the immature citrus orchard south of Avenue 324. Suburban development is present along the east side of Road 156 and both sides of Aspen Avenue. The pipeline pathway included a short, paved sidewalk, but otherwise had unpaved roadsides along Aspen Avenue (Figure 9).

Figure 5. Photograph of the well installation site, looking southwest, showing the grazed field with raised earthen mounds in the center, irrigated pasture to the south, and a residential structure to the west.

Figure 6. Photograph of the well installation site, looking south, showing the raised earthen mounds that support California ground squirrel burrows.

Figure 7. Photograph of the western border of the well installation site, looking northwest, showing the previous well, pump, and electrical pole, and the valley oak and another earthen mound at the northwest corner of the well installation site.

Figure 8. Photograph of the pipeline pathway, looking west along Avenue 324, showing the unpaved road shoulders and adjacent immature citrus orchard to the south and mature walnut orchard to the north.

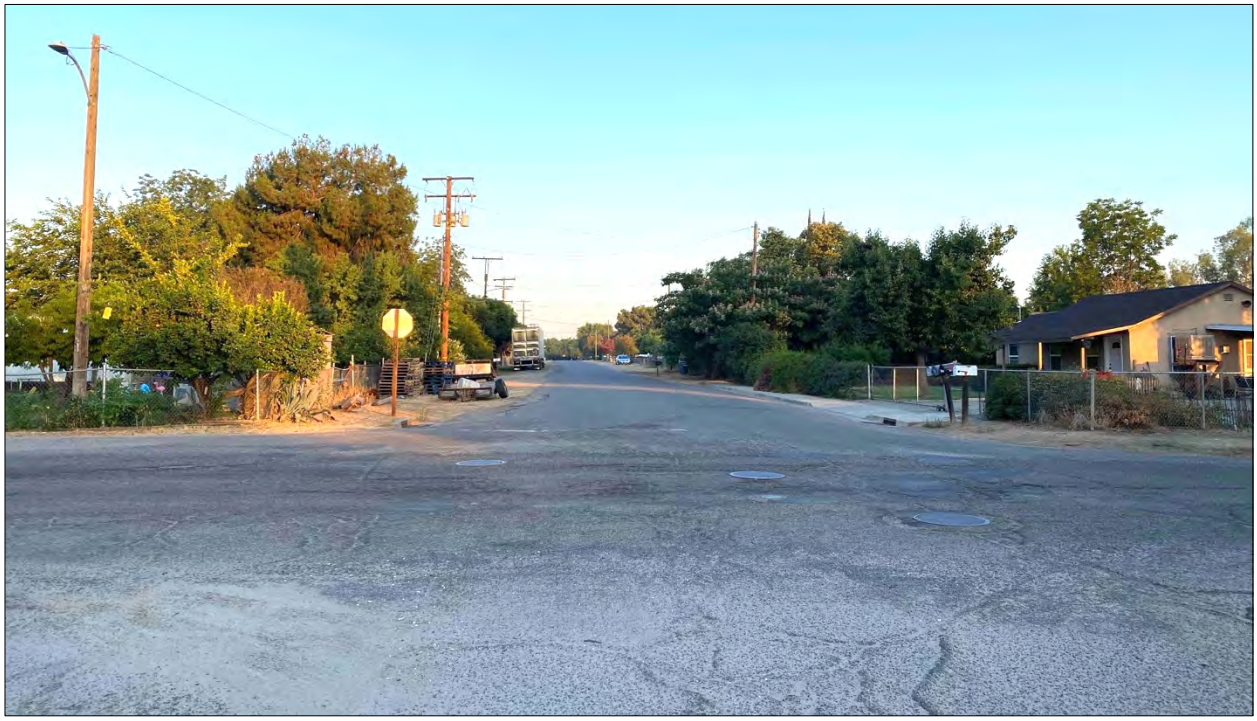

Figure 9. Photograph of the pipeline pathway, looking west along Aspen Avenue, showing the paved roadway, a short, paved sidewalk segment, and surrounding residential development.

3.2.2 Plant and Animal Species Observed

A total of six plant species (two native and four nonnative), seven bird species and one mammal species were observed during the survey (Table 2).

Table 2. Plant and animal species observed during the reconnaissance survey.

Common Name	Scientific Name	Status
Plants		
Family Asteraceae		
Prickly lettuce	*Lactuca serriola*	Nonnative
Spiny cocklebur	*Xanthium spinosum*	Nonnative
Family Curcurbitaceae		
Buffalo gourd	*Curcurbita foetidissima*	Native
Family Fagaceae		
Valley oak	*Quercus lobata*	Native
Poaceae		
Ripgut brome	*Bromus diandrus*	Nonnative
Family Solanaceae		
Silverleaf nightshade	*Solanum elaeagnifolium*	Nonnative
Birds		
Family Charadriidae		
Killdeer	*Charadrius vociferus*	MBTA, CFGC
Family Columbidae		
Mourning dove	*Zenaida macroura*	MBTA, CFGC
Eurasian collared-dove	*Streptopelia docaocto*	--
Family Corvidae		
American crow	*Corvus brachyrhynchos*	MBTA, CFGC
Family Passeridae		
House sparrow	*Passer domesticus*	--
Family Sturnidae		
European starling	*Sturnus vulgaris*	--
Family Tyrannidae		
Western kingbird	*Tyrannus verticalis*	MBTA, CFGC
Mammals		
Family Sciuridae		
California ground squirrel	*Otospermophilus beecheyi*	Native

MBTA = Protected under the Migratory Bird Treaty Act (16 USC § 703 et seq.); CFGC = Protected under the California Fish and Game Code (FGC §§ 3503 and 3513).

3.2.3 Bald Eagle and Golden Eagle

The Project site and surrounding 0.5-mile buffer (Figure 3) lacked foraging and nesting habitat for bald eagle and golden eagle.

3.2.4 Nesting Birds and the Migratory Bird Treaty Act

Migratory birds could nest on or near the Project site. Bird species that may nest on or near the property include, but are not limited to, mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), and American crow (*Corvus brachyrhynchos*). Numerous large trees within 0.5 miles of the Project site could provide suitable nesting substrates for raptors.

3.2.5 Regulated Habitats

No Wild and Scenic River is near the Project site; the nearest stretch is associated with the South Fork of the Kings River, approximately 35 miles north-northeast of the Project site (USFWS 2020b).

No potentially jurisdictional features were present within the Project site. No marine or estuarine fishery resources or migratory routes to and from anadromous fish spawning grounds were present in the survey area. In addition, no EFH, defined by the Magnuson-Stevens Act as those resources necessary for fish spawning, breeding, feeding, or growth to maturity, were present in the survey area.

The Project site is within a FEMA-designated flood zone classified as Zone X, otherwise described as "Other Flood Areas". Parcels within Zone X have either (1) a 0.2% annual chance of flood during a 100-year flood event, (2) a 1% annual chance of flood (during a 100-year flood event) with average depths of < 1 foot or with drainage areas less than 1 square mile, or (3) areas protected by levees from a 1% annual chance of flooding during a 100-year flood event (FEMA 2021). The nearest "Special Flood Hazard Areas" to the Project site is 1.7 miles south of the Project site along the Saint Johns River. Special Flood Hazard Areas are areas subject to inundation by the 1% annual chance of a 100-year flood. No connectivity exists between any Special Flood Hazard Area and the Project site (FEMA 2021).

3.3 Special-Status Species

3.3.1 Burrowing Owl

Burrowing owl is a member of the family Strigidae recognized as a species of special concern by the CDFW (CDFW 2021). Burrowing owl depends on burrow systems excavated by other species such as California ground squirrel (*Otospermophilus beecheyi*) and American badger (*Taxidea taxus*) (Poulin et al. 2020). Burrowing owl uses burrows for protection from predators, weather,

as roosting sites, and dwellings to raise young (Poulin et al. 2020). It commonly perches outside burrows on mounds of soil or nearby fence posts. Prey types include insects, especially grasshoppers and crickets, small mammals, frogs, toads, and lizards (Poulin et al. 2020). The nesting season begins in March, and incubation lasts 28–30 days. The female incubates the eggs while the male forages and delivers food items to the burrow-nest; young then fledge between 44 and 53 days after hatching (Poulin et al. 2020). Adults can live up to 8 years in the wild.

Several California ground squirrel burrows that could support this species were prevalent on the earthen mounds (Figures 6 and 7) within the well installation site. The pipeline pathway lacked habitat for burrowing owl, but the grazed and fallowed land cover of the well installation site and additional grazed land to the south could provide foraging habitat. Therefore, the Project site could support burrowing owl.

4.0 Environmental Effects

4.1 Effects Determinations

4.1.1 Critical Habitat

We conclude the Project will have **no effect** on critical habitat as no critical habitat has been designated or proposed in the survey area.

4.1.2 Special-Status Species

We conclude the Project **may affect but is not likely to adversely affect** the state species of special concern burrowing owl. The Project is not expected to affect any other special-status species due to the lack of habitat or known occurrence records for those species near the Project site.

4.1.3 Migratory Birds

We conclude the Project **may affect but is not likely to adversely affect** nesting migratory birds.

4.1.4 Regulated Habitats

We conclude the Project will have **no effect** on regulated habitats due the lack of such habitats in the survey area.

4.2 Significance Determinations

This Project, which will result in temporary impacts to urban and disturbed land, will not: (1) substantially reduce the habitat of a fish or wildlife species (criterion a) as no such habitat is present on the Project site; (2) cause a fish or wildlife population to drop below self-sustaining levels (criterion b) as no such potentially vulnerable population is known from the area; (3) threaten to eliminate a plant or animal community (criterion c) as no such potentially vulnerable communities are known from the area; (4) substantially reduce the number or restrict the range of a rare or endangered plant or animal (criterion d) as no such potentially vulnerable species are known from the area; (5) 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 CDFW or USFWS (criterion f) as no riparian habitat or other sensitive natural community was present in the survey area; (6) 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 (criterion g) as no impacts to wetlands will occur; (7) conflict with any local policies or ordinances protecting biological resources, such as a tree

preservation policy or ordinance (criterion i) as no trees or biologically sensitive areas will be impacted; or (8) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan (criterion j) as no such plan has been adopted. Thus, these significance criteria are not analyzed further.

The remaining statutorily defined criteria provided the framework for Criteria BIO1 and BIO2 below. These criteria were used to assess the impacts to biological resources stemming from the Project and provide the basis for determinations of significance:

- Criterion BIO1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (significance criterion e).

- Criterion BIO2: 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 (significance criterion h).

4.2.1 Direct and Indirect Effects

4.2.1.1 Potential Effect #1: Have a Substantial Effect on Any Special-Status Species (Criterion BIO1)

The Project could adversely affect, either directly or through habitat modifications, one special-status animal that occurs or may occur on or near the Project site (at the well installation site but not the pipeline pathway). Construction activities such as excavating, trenching, or using other heavy equipment that disturbs or harms a special-status species or substantially modifies its habitat could constitute a significant impact. We recommend that Mitigation Measure BIO1 (below) be included in the conditions of approval to reduce the potential impact to a less-than-significant level.

Mitigation Measure BIO1. Protect burrowing owls.

1. Conduct focused burrowing owl surveys to assess the presence/absence of burrowing owl at the well installation site in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) and *Burrowing Owl Survey Protocol and Mitigation Guidelines* (CBOC 1997). These involve conducting four pre-construction survey visits.
2. If a burrowing owl or sign of burrowing owl use (e.g., feathers, guano, pellets) is detected on or within 500 feet of the Project site, and the qualified biologist determines that Project activities would disrupt the owl(s), a construction-free buffer, limited operating period, or passive relocation shall be implemented in consultation with the CDFW.

4.2.1.2 Potential Effect #2: Interfere Substantially with Native Wildlife Movements, Corridors, or Nursery Sites (Criterion BIO2)

The Project has the potential to impede the use of nursery sites for native birds protected under the Migratory Bird Treaty Act (MBTA). Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Construction activities such as excavating, trenching, and grading that disturb a nesting bird in the Project site or immediately adjacent to the construction zone could constitute a significant effect. We recommend that the mitigation measure BIO2 (below) be included in the conditions of approval to reduce the potential effect to a less-than-significant level.

Mitigation Measure BIO2. Protect nesting birds.

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August.
2. If it is not possible to schedule construction between September and January, pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

4.2.2 Cumulative Effects

The Project will involve installing a new groundwater well on a 2-acre parcel and installing about 0.75 miles of pipe. Although all land adjacent to the Project site was disturbed by agricultural or residential development, the Project site provides potential foraging and nesting habitat for migratory birds including burrowing owl. However, implementing Mitigation Measures BIO1 and BIO2 would reduce any contribution to cumulative impacts on biological resources to a less-than-significant level.

4.2.3 Unavoidable Significant Adverse Effects

No unavoidable significant adverse effects on biological resources would occur from implementing the Project.

5.0 Literature Cited

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_____. 2021b. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/. Accessed 28 June 2021.

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Appendix A. USFWS list of threatened and endangered species.

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:
Consultation Code: 08ESMF00-2021-SLI-2201
Event Code: 08ESMF00-2021-E-06370
Project Name: Ivanhoe Well 9

June 28, 2021

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, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) 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 Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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 Tracking Number 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

Project Summary

Consultation Code: 08ESMF00-2021-SLI-2201
Event Code: 08ESMF00-2021-E-06370
Project Name: Ivanhoe Well 9
Project Type: WATER SUPPLY / DELIVERY
Project Description: Colibri Ecological proposes to assist Northgate Environmental Management, Inc. by conducting a biological resources study in support of the Ivanhoe Public Utility District project to install a new groundwater well approximately 0.25 miles west of the intersection of Avenue 324 and Road 156, southwest of the community of Ivanhoe, in Tulare County, California. The project will involve (1) constructing a new groundwater well (Well 9) on an approximately 2-acre parcel, (2) installing about 0.75 miles of pipe to connect the new well to the current water system, (3) abandoning the existing water system pipe, and (4) installing new service connections to replace those lost with the abandonment of the old water system.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.37746085,-119.2299094122044,14z

Counties: Tulare County, California

Endangered Species Act Species

There is a total of 13 threatened, endangered, or candidate species on this species list.

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

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

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

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

Mammals

NAME	STATUS
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247	Endangered

Birds

NAME	STATUS
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Hoover's Spurge *Chamaesyce hooveri*	Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3019	
San Joaquin Orcutt Grass *Orcuttia inaequalis*	Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5506	

Critical habitats

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

Appendix B. CNDDB occurrence records.

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Ivanhoe (3611942) OR Orange Cove South (3611953) OR Stokes Mtn. (3611952) OR Auckland (3611951) OR Monson (3611943) OR Woodlake (3611941) OR Visalia (3611933) OR Exeter (3611932) OR Rocky Hill (3611931))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Agelaius tricolor tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	505 540	955 S:2	0	0	0	0	0	2	1	1	2	0	0
Ambystoma californiense California tiger salamander	G2G3 S2S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	314 743	1340 S:15	1	7	2	0	1	4	5	10	14	1	0
Anniella pulchra Northern California legless lizard	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	325 377	375 S:2	1	0	0	0	0	1	1	1	2	0	0
Antrozous pallidus pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	368 368	420 S:1	1	0	0	0	0	0	0	1	1	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	500 500	156 S:1	0	0	0	0	0	1	1	0	1	0	0
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	300 475	2011 S:7	5	2	0	0	0	0	1	6	7	0	0
Atriplex cordulata var. erecticaulis Earlimart orache	G3T1 S1	None None	Rare Plant Rank - 1B.2	335 335	23 S:1	1	0	0	0	0	0	0	1	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Atriplex depressa brittlescale	G2 S2	None None	Rare Plant Rank - 1B.2		60 S:2	0	0	0	0	0	2	2	0	2	0	0
Atriplex minuscula lesser saltscale	G2 S2	None None	Rare Plant Rank - 1B.1	335 335	52 S:1	0	1	0	0	0	0	0	1	1	0	0
Atriplex persistens vernal pool smallscale	G2 S2	None None	Rare Plant Rank - 1B.2	345 355	41 S:2	2	0	0	0	0	0	0	2	2	0	0
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None Candidate Endangered		350 600	437 S:4	0	0	0	0	0	4	4	0	4	0	0
Bombus morrisoni Morrison bumble bee	G4G5 S1S2	None None	IUCN_VU-Vulnerable	350 350	86 S:1	0	0	0	0	0	1	1	0	1	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	305 650	791 S:24	3	3	1	0	0	17	9	15	24	0	0
Brodiaea insignis Kaweah brodiaea	G1 S1	None Endangered	Rare Plant Rank - 1B.2 USFS_S-Sensitive	560 560	27 S:1	1	0	0	0	0	0	1	0	1	0	0
Chrysis tularensis Tulare cuckoo wasp	G1G2 S1S2	None None		450 450	5 S:1	0	0	0	0	0	1	1	0	1	0	0
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	330 330	165 S:1	0	0	0	0	1	0	1	0	0	0	1
Delphinium recurvatum recurved larkspur	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden	320 440	119 S:5	0	0	0	0	1	4	3	2	4	0	1
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2 S3	Threatened None		405 405	271 S:1	0	0	1	0	0	0	1	0	1	0	0
Diplacus pictus calico monkeyflower	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	600 600	73 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Empidonax traillii willow flycatcher	G5 S1S2	None Endangered	IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	570 570	90 S:1	0	0	0	0	0	1	1	0	1	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	325 325	1398 S:1	0	0	0	0	0	1	1	0	1	0	0
Eryngium spinosepalum spiny-sepaled button-celery	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	320 800	108 S:17	4	8	1	0	1	3	10	7	16	1	0
Eumops perotis californicus western mastiff bat	G4G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	300 720	296 S:4	0	1	0	0	0	3	3	1	4	0	0
Euphorbia hooveri Hoover's spurge	G1 S1	Threatened None	Rare Plant Rank - 1B.2	315 345	29 S:5	0	1	3	0	1	0	1	4	4	0	1
Fritillaria striata striped adobe-lily	G1 S1	None Threatened	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture USFS_S-Sensitive		23 S:1	0	0	0	0	1	0	1	0	0	0	1
Helianthus winteri Winter's sunflower	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	460 2,500	55 S:32	6	20	4	1	0	1	0	32	32	0	0
Imperata brevifolia California satintail	G4 S3	None None	Rare Plant Rank - 2B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	300 300	32 S:1	0	0	0	0	0	1	1	0	1	0	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority		238 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Lasthenia chrysantha alkali-sink goldfields	G2 S2	None None	Rare Plant Rank - 1B.1	320 380	55 S:2	0	0	0	0	0	2	1	1	2	0	0
Lasthenia glabrata ssp. coulteri Coulter's goldfields	G4T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	350 350	111 S:1	0	0	0	0	0	1	0	1	1	0	0
Lepidurus packardi vernal pool tadpole shrimp	G4 S3S4	Endangered None	IUCN_EN-Endangered	330 420	324 S:4	1	1	1	0	0	1	1	3	4	0	0
Linderiella occidentalis California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	489 516	508 S:3	1	0	0	0	0	2	0	3	3	0	0
Lithobates pipiens northern leopard frog	G5 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	330 345	19 S:3	0	0	0	0	0	3	3	0	3	0	0
Lytta hoppingi Hopping's blister beetle	G1G2 S1S2	None None		325 325	5 S:1	0	0	0	0	0	1	1	0	1	0	0
Lytta molesta molestan blister beetle	G2 S2	None None		425 425	17 S:1	0	0	0	0	0	1	1	0	1	0	0
Orcuttia inaequalis San Joaquin Valley Orcutt grass	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1	315 515	47 S:2	0	0	1	0	1	0	1	1	1	0	1
Pseudobahia peirsonii San Joaquin adobe sunburst	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	485 1,420	51 S:4	0	0	0	1	0	3	4	0	4	0	0
Puccinellia simplex California alkali grass	G3 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	320 320	80 S:1	0	0	0	0	0	1	1	0	1	0	0
Rana boylii foothill yellow-legged frog	G3 S3	None Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	520 2,211	2468 S:5	0	0	0	0	5	0	5	0	0	0	5

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Sagittaria sanfordii Sanford's arrowhead	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	330 400	126 S:8	1	0	4	1	0	2	0	8	8	0	0
Spea hammondii western spadefoot	G2G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	0 743	1422 S:36	1	28	1	0	0	6	4	32	36	0	0
Talanites moodyae Moody's gnaphosid spider	G1G2 S1S2	None None		400 1,200	6 S:5	0	0	0	0	0	5	5	0	5	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	370 370	594 S:1	0	0	1	0	0	0	1	0	1	0	0
Tuctoria greenei Greene's tuctoria	G1 S1	Endangered Rare	Rare Plant Rank - 1B.1	450 450	50 S:1	0	0	0	0	1	0	1	0	0	0	1
Vulpes macrotis mutica San Joaquin kit fox	G4T2 S2	Endangered Threatened		320 720	1020 S:9	0	0	0	0	0	9	9	0	9	0	0

Appendix C. CNPS plant list.

Inventory of Rare and Endangered Plants of California

Search Results

Back Export Results

19 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [1B,2B], Quad is one of [3611942,3611953,3611952,3611951,3611943,3611941,3611933,3611932,3611931]

Scientific Name | Common Name | Family | Lifeform | Blooming Period | Fed List | State List | Global Rank | State Rank | CA Rare Plant Rank | General Habitats | Micro Habitats | Lowest Elevation | Highest Elevation | CA Endemic | Date Added | Photo

Search:

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Atriplex cordulata var. erecticaulis	Earlimart orache	Chenopodiaceae	annual herb	Aug-Sep(Nov)	None	None	G3T1	S1	1B.2	No Photo Available
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	No Photo Available
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	No Photo Available
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	Jun-Oct	None	None	G2	S2	1B.2	No Photo Available
Brodiaea insignis	Kaweah brodiaea	Themidaceae	perennial bulbiferous herb	Apr-Jun	None	CE	G1	S1	1B.2	No Photo Available
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	No Photo Available

Diplacus pictus	calico monkeyflower	Phrymaceae	annual herb	Mar-May	None	None	G2	S2	1B.2	No Photo Available
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual/perennial herb	Apr-Jun	None	None	G2	S2	1B.2	No Photo Available
Euphorbia hooveri	Hoover's spurge	Euphorbiaceae	annual herb	Jul-Sep(Oct)	FT	None	G1	S1	1B.2	No Photo Available
Fritillaria striata	striped adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	None	CT	G1	S1	1B.1	No Photo Available
Helianthus winteri	Winter's sunflower	Asteraceae	perennial shrub	Jan-Dec	None	None	G2?	S2?	1B.2	No Photo Available
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	G4	S3	2B.1	No Photo Available
Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	No Photo Available
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	G4T2	S2	1B.1	No Photo Available
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1	No Photo Available
Pseudobahia peirsonii	San Joaquin adobe sunburst	Asteraceae	annual herb	Feb-Apr	FT	CE	G1	S1	1B.1	No Photo Available
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G3	S2	1B.2	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	No Photo Available
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1	No Photo Available

Showing 1 to 19 of 19 entries

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APPENDIX B

MITIGATION MONITORING AND REPORTING PROGRAM

MMRP to be included in Final IS/MND