FINAL

Initial Study and Mitigated Negative Declaration for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

Lead Agency:

Calaveras County Water District
120 Toma Court
San Andreas, California 95249

February 2024

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

FINAL

Initial Study and Mitigated Negative Declaration

Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

Calaveras County, California

Lead Agency:

Calaveras County Water District
120 Toma Court, San Andreas CA, 95249

Prepared by:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, California 95677

February 2024

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NOTICE OF DETERMINATION

TO:	FROM:
Office of Planning and Research 1400 10th Street Sacramento, CA 95814	Calaveras County Water District 120 Toma Court San Andreas, California 95249

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 of the Public Resources Code

PROJECT TITLE: Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

State Clearinghouse Number	Contact Person	Telephone Number
2023090007	Mark Rincon-Ibarra, District Engineer	(209) 754-3175

Project Approval

Calaveras County Water District (CCWD) adopted the Initial Study/Mitigated Negative Declaration and approved the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project on February 28, 2024.

Project Location

The approximately 35.32-acre Study Area is located within the Calaveras County Right-of-Way (ROW) in Rancho Calaveras, Calaveras County, California. The project begins at Tank A on Hart Vickson Lane heading south, turns south on Baldwin Street, heads southeast on Usher Drive, turns east up Wind River Drive, continues east on Wind River Drive, and ends at Tank B.

Project Description

The Project involves construction of a new, dedicated transmission main from the existing Tank A booster pump station to the existing Tank B. The Project is designed to remove the hydraulic bottleneck and improve conveyance to Tank B. The replacement transmission main is sized at 14-inch diameter for the first 13,600 linear feet from the Tank A pump station and 12-inch diameter for the last 6,500 linear feet before Tank B. The pipe material for the entire transmission main will be ductile iron.

From Tank A the transmission line follows Hart Vickson Lane to its intersection with Baldwin Street, then along Baldwin Street, Usher Drive, and Wind River Road to the existing Tank B site. The new transmission pipeline will be in a separate open-cut trench parallel to the existing distribution system lines. The trench and new transmission pipeline will be located within the existing road ROW and established utility easements. All construction work will be conducted within the travel lanes or within the adjacent ROW (where feasible). Partial lane closure will take place during construction activities.

The new transmission pipeline will be isolated from the existing water distribution mains and only connected at five locations along its alignment with tie-in connections being made via Pressure Reducing Valve (PRV) stations at five locations along the pipeline. The transmission main will allow flow in both directions including forward pumping from Tank A to fill Tank B and, when the pump station is idle,

gravity flow in the reverse direction allowing Tank B to supply water system demands when peak flow exceeds the pumping capacity.

While the new transmission pipeline is under construction, the existing distribution system will continue to operate in its current configuration and will continue to transfer water from Tank A pump station to fill Tank B. The existing distribution system will also continue to supply customer water demands along the existing route. However, upon completion of the new transmission pipeline, the existing distribution system will no longer be necessary for Tank A to B transmission and will be isolated and divided into smaller service zones. Each service zone will be supplied via dedicated PRV stations, Each pressure zone will be served by at least two PRV stations or each zone will be served by looping from multiple directions. A dead-end run, e.g. residential cul-de-sac, will be served by a single dedicated PRV station.

To facilitate construction of the new transmission pipeline, the existing pavement within one traffic lane will be saw-cut along the trench line. Pavement will be replaced upon completion of the underground utility construction in accordance with the County Public Works Requirements. Substantial traffic control signage and flaggers will be deployed for the duration of the project. Additionally, while existing pavement is being saw-cut, removed, and replaced with new pavement for the transmission main, the District will replace old water service laterals (service saddles, corp. stops, service lines, and meter valves) from the distribution main to the service box, adding guard valves to or replacing fire hydrants, and making other repairs to the existing water distribution system.

The existing Tank B inlet and outlet pipes are small and will be upsized, replaced and reconfigured to comply with California waterworks standards. The new transmission main will discharge directly into Tank B, removing the inlet hydraulic constraint. The existing outlet will be retained with valve additions and modifications to allow for flow into the distribution system when the Tank A booster pump station is both operating and not operating (reverse gravity flow).

The CCWD, as the Lead Agency, has approved the above-described Project and has made the following determinations:

- There is no substantial evidence that the Proposed Project will have a significant effect on the environment;
- In accordance with the California Environmental Quality Act (CEQA), a Mitigated Negative Declaration for the Proposed Project was prepared. The Mitigated Negative Declaration has been adopted by the CCWD, which is the Lead Agency for the Proposed Project. The Mitigated Negative Declaration and record of project approval may be examined at Calaveras County Water District, 120 Toma Court, San Andreas, California 95249. The Mitigated Negative Declaration reflects the independent judgment and analysis of the CCWD;
- Mitigation measures were required to be made a condition of approval of the Proposed Project;
- A Statement of Overriding Considerations was not required to be adopted for the Proposed Project; and
- A Mitigation Monitoring and Reporting Plan was adopted for the Proposed Project.

This is to certify that the Final Initial Study/Mitigated Negative Declaration including comments and responses, the mitigation monitoring and reporting plan, and record of Project approval is available to the general public at: Calaveras County Water District, 120 Toma Court, San Andreas, California 95249.

Michael J. Minkler, General Manager
Calaveras County Water District

March 14,02024
March 14, 2024

Date Received for Filing at OPR: March 14, 2024

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Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

Final
Initial Study/Mitigated Negative Declaration

State Clearinghouse Number 2023090007

Calaveras County, California

Lead Agency:

Calaveras County Water District
120 Toma Court, San Andreas CA, 95249

Prepared by:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, California 95677

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LIST OF APPENDICES

Appendix A – Notice of Intent

Appendix B – Draft Initial Study and Mitigated Negative Declaration for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

Term	Definition
AB	Assembly Bill
CAL FIRE	California Department of Forestry and Fire Protection
CCWD	Calaveras County Water District
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CVRWQCB	Central Valley Regional Water Quality Control Board
GAC	Granular Activated Carbon
IS	Initial Study
MLD	Most Likely Descendant
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration

Term	Definition
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
OPR	Office of Planning and Research
PRC	Public Resources Code
PRV	Pressure Reducing Valve
PVC	Polyvinyl Chloride
RCRA	Resource Conservation and Recovery Act
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
TCP	Trichloropropane
USFWS	U.S. Fish and Wildlife Service
VELB	Valley Elderberry Longhorn Beetle

FINAL MITIGATED NEGATIVE DECLARATION
JENNY LIND WATER SYSTEM TANK A-B WATER TRANSMISSION PIPELINE PROJECT

Lead Agency:	Calaveras County Water District (CCWD)
Project Location:	The approximately 35.32-acre Study Area is located within the Calaveras County right-of-way (ROW) in Rancho Calaveras, Calaveras County, California. The project begins at Tank A on Hart Vickson Lane heading south, turns south on Baldwin Street, heads southeast on Usher Drive, turns east up Wind River Drive, continues east on Wind River Drive, and ends at Tank B.
Project Description:	The Project involves construction of a new, dedicated transmission main from the existing Tank A booster pump station to the existing Tank B. The Project is designed to remove the hydraulic bottleneck and improve conveyance to Tank B. The replacement transmission main is sized at 14-inch diameter for the first 13,600 linear feet from the Tank A pump station and 12-inch diameter for the last 6,500 linear feet before Tank B. The pipe material for the entire transmission main will be ductile iron. From Tank A the transmission line follows Hart Vickson Lane to its intersection with Baldwin Street, then along Baldwin Street, Usher Drive, and Wind River Road to the existing Tank B site. The new transmission pipeline will be in a separate open-cut trench parallel to the existing distribution system lines. The trench and new transmission pipeline will be located within the existing road ROW and established utility easements. All construction work will be conducted within the travel lanes or within the adjacent ROW (where feasible). Partial lane closure will take place during construction activities. The new transmission pipeline will be isolated from the existing water distribution mains and only connected at five locations along its alignment with tie-in connections being made via pressure reducing valve (PRV) stations at five locations along the pipeline. The transmission main will allow flow in both directions including forward pumping from Tank A to fill Tank B and, when the pump station is idle, gravity flow in the reverse direction allowing Tank B to supply water system demands when peak flow exceeds the pumping capacity. While the new transmission pipeline is under construction, the existing distribution system will continue to operate in its current configuration and will continue to transfer water from Tank A pump station to fill Tank B. The existing distribution system will also continue to supply customer water demands along the existing route. However, upon completion of the new transmission pipeline, the existing distribution system will no longer be necessary for Tank A to B transmission and will be isolated and divided into smaller service zones. Each service zone will be supplied via dedicated PRV stations, Each pressure zone will be served by at least two PRV stations or each zone will be served by

looping from multiple directions. A dead-end run, e.g. residential cul-de-sac, will be served by a single dedicated PRV station.
To facilitate construction of the new transmission pipeline, the existing pavement within one traffic lane will be saw-cut along the trench line. Pavement will be replaced upon completion of the underground utility construction in accordance with the County Public Works Requirements. Substantial traffic control signage and flaggers will be deployed for the duration of the project. Additionally, while existing pavement is being saw-cut, removed, and replaced with new pavement for the transmission main, the District will replace old water service laterals (service saddles, corp. stops, service line, and meter valve) from the distribution main to the service box, adding guard valves to or replacing fire hydrants, and making other repairs to the existing water distribution system.
The existing Tank B inlet and outlet pipes are small and will be upsized, replaced and reconfigured to comply with California waterworks standards. The new transmission main will discharge directly into Tank B, removing the inlet hydraulic constraint. The existing outlet will be retained with valve additions and modifications to allow for flow into the distribution system when the Tank A booster pump station is both operating and not operating (reverse gravity flow).

Finding: Based on the information contained in the attached Initial Study, The CCWD finds that there would not be a significant effect to the environment because the mitigation measures described herein would be incorporated as part of the Proposed Project.

Public Review Period: September 1, 2023 through October 2, 2023

Mitigation Measures Incorporated into the Project to Avoid Significant Effects

BIOLOGICAL RESOURCES

Mitigation Measure

BIO-1: **Special-Status Plant Habitat Avoidance.** Potential habitat for special-status plant species occurs in the blue oak woodland and chamise chaparral vegetation communities within the Project Area. Therefore, to avoid impacts during construction of the Proposed Project, all Project personnel will be provided the Vegetation Communities and Land Cover Types Map (Appendix C) and will not access or conduct any construction activity outside of the existing roadway within the blue oak woodland and chamise chaparral vegetation communities (along the pipeline alignment).

BIO-2: **Valley Elderberry Longhorn Beetle.** If the proposed pipeline alignment trench is within 30 feet of the dripline of an observed elderberry shrub, trenching and paving may damage an elderberry shrub. Therefore, any ground-disturbing activities within 30 feet of the dripline of the elderberry shrub shall conform to the following avoidance measures.

The design and construction of the new trench and pipeline has been moved an additional 3 feet left of the alignment for a 60-foot stretch (30 feet on either side of the elderberry shrub center point). This 30ft on either side of the centerline of the shrub will provide a minimum clearance of 11 feet from the dripline. The project will Initiate informal consultation with the USFWS for guidance regarding measures to avoid and minimize potential impacts to VELB and VELB habitat. These measures could include exclusionary fencing and buffers.

BIO-3: **Nesting Bird and Raptors.** Retain a qualified biologist to conduct a preconstruction nesting raptor and bird survey of all suitable habitat in the Study Area within 14 days of the commencement of construction during the nesting season (February 1 through September 30). Surveys shall be conducted in accessible areas within 500 feet of the Study Area for nesting raptors and 100 feet of the Study Area for nesting birds. Preconstruction nesting surveys are not required for construction activity outside the nesting season.

If active nests are not found during the preconstruction survey, the biologist shall document the findings in a letter report for the lead agency, and no further mitigation shall be required. Upon request by CDFW, the letter report will be made available to CDFW.

If active nests are found, a no-disturbance buffer shall be established around the nest. The buffer distances shall be established by a qualified biologist in consultation with CDFW and are generally recommended to be 250 to 500 feet for raptors and 50 to 100 feet for non-raptor birds. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.

BIO-4: **Staging Area Preconstruction Clearance Survey.** Within 14 days prior to construction a qualified biologist will conduct a preconstruction survey of identified staging areas for (1)

potential jurisdictional aquatic features, (2) special-status plant potential habitat, and (3) special-status wildlife. If any of these conditions are observed then species-specific avoidance zones will be established in coordination with the qualified biologist. The qualified biologist will provide a memo letter with avoidance and minimization measure recommendations. Avoidance zones will be established with temporary high-visibility fencing.

CULTURAL RESOURCES

Mitigation Measure

CUL-1: **Unknown Resources.** If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the Calaveras County Coroner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the Project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains.

If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

TRANSPORTATION

Mitigation Measure

TRANS-1: Construction Traffic Management Plan. Prior to commencing construction of the Proposed Project, a construction traffic management plan (Traffic Plan) shall be prepared by the Contractor, in coordination with the CCWD, California Department of Transportation (if necessary), and Calaveras County. The management plan shall be detailed and comprehensive to adequately mitigate potential conflicts between baseline and construction-related traffic. The Traffic Plan will include, at a minimum, the following measures:

A. Adequate off-street worker parking shall be provided along the pipeline route.

B. A flagman or signal-controlled one-way traffic-control operation shall be provided where two-way traffic operation is impractical or unsafe.

C. Roadway disturbances shall be minimized during non-working hours; open trenches shall be covered with steel plates or by the use of temporary backfill during non-working hours.

D. Temporary steel plate trench crossings shall be provided as needed to maintain access to homes, farms, and businesses.

E. Construction sites shall be posted with appropriate warning signage at least one week prior to construction to allow local residents to select an alternative travel route.

F. Construction staging areas shall be provided to minimize storage of equipment and materials in the traffic lanes.

G. All paved surfaces disturbed during construction shall be repaved when work is complete.

H. The Contractor shall provide traffic control and diversion plans for review and approval by each appropriate jurisdiction.

I. To minimize delays in emergency response during project construction, emergency providers shall be notified in advance. Police, fire protection, and ambulance services shall be notified in advance of the times, duration, and location of construction activities throughout the project's construction process.

1.0 INTRODUCTION

This document is the Final Initial Study and Mitigated Negative Declaration including the Responses to Comments and the Mitigation Monitoring and Reporting Plan (Final Initial Study/Mitigated Negative Declaration [IS/MND]) for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project. It has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resource Code Section 21000 et. seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.) as amended. This Final IS/MND and Responses to Comments document supplements and updates the Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) released for public review on September 1, 2023.

The CCWD is the Lead Agency for the Proposed Project. On September 1, 2023, CCWD distributed the Draft IS/MND for the Proposed Project to public agencies and the general public for review and comment. In accordance with the State CEQA Guidelines, a 30-day review period, which ended on October 2, 2023, was completed. During the public review period, two comment letters and/or emails on the Draft IS/MND were received from interested parties.

This Final IS/MND and Responses to Comments document is organized as follows:

- **Section 1.0** provides a discussion of the purpose of the document and discusses the structure of the document;
- **Section 2.0** contains a summary of the Project Description, a description of minor changes to the Project Description and a discussion regarding why these changes do not require recirculation of the Draft IS/MND;
- **Section 3.0** includes the comment letters received and responses to these comments;
- **Section 4.0** includes revisions to the Draft IS/MND.
- **Section 5.0** includes the Proposed Project's Mitigation Monitoring and Reporting Program (MMRP), prepared pursuant to Public Resources Code Section 21081.6; and
- **Section 6.0** includes the Notice of Intent, Proof of Publication, Environmental Filing Receipt, and the Draft IS/MND.

This Final MND document and the Draft IS/MND together constitute the environmental document for the proposed Project. Based on the comments received, no substantial revisions to the text were required and therefore, the document does not need to be recirculated. A substantial revision according to Section 15073.5 of the *2021 CEQA Statute Guidelines* shall mean:

"(1) A new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or

(2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required."

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2.0 PROJECT OVERVIEW

2.1 Project Location

The approximately 35.32-acre Study Area is located within the Calaveras County right-of-way (ROW) in Rancho Calaveras, Calaveras County, California. The project begins at Tank A on Hart Vickson Lane heading south, turns south on Baldwin Street, heads southeast on Usher Drive, turns east up Wind River Drive, continues east on Wind River Drive, and ends at Tank B.

2.2 Project Description

The Project involves construction of a new, dedicated transmission main from the existing Tank A booster pump station to the existing Tank B. The Project is designed to remove the hydraulic bottleneck and improve conveyance to Tank B. The replacement transmission main is sized at 14-inch diameter for the first 13,600 linear feet from the Tank A pump station and 12-inch diameter for the last 6,500 linear feet before Tank B. The pipe material for the entire transmission main ductile iron.

From Tank A the transmission line follows Hart Vickson Lane to its intersection with Baldwin Street, then along Baldwin Street, Usher Drive, and Wind River Road to the existing Tank B site. The new transmission pipeline will be in a separate open-cut trench parallel to the existing distribution system lines. The trench and new transmission pipeline will be located within the existing road ROW and established utility easements. All construction work will be conducted within the travel lanes or within the adjacent ROW (where feasible). Partial lane closure will take place during construction activities.

The new transmission pipeline will be isolated from the existing water distribution mains and only connected at five locations along its alignment with tie-in connections being made via pressure reducing valve (PRV) stations at five locations along the pipeline. The transmission main will allow flow in both directions including forward pumping from Tank A to fill Tank B and, when the pump station is idle, gravity flow in the reverse direction allowing Tank B to supply water system demands when peak flow exceeds the pumping capacity.

While the new transmission pipeline is under construction, the existing distribution system will continue to operate in its current configuration and will continue to transfer water from Tank A pump station to fill Tank B. The existing distribution system will also continue to supply customer water demands along the existing route. However, upon completion of the new transmission pipeline, the existing distribution system will no longer be necessary for Tank A to B transmission and will be isolated and divided into smaller service zones. Each service zone will be supplied via dedicated PRV stations, Each pressure zone will be served by at least two PRV stations or each zone will be served by looping from multiple directions. A dead-end run, e.g. residential cul-de-sac, will be served by a single dedicated PRV station.

To facilitate construction of the new transmission pipeline, the existing pavement within one traffic lane will be saw-cut along the trench line. Pavement will be replaced upon completion of the underground utility construction in accordance with the County Public Works Requirements. Substantial traffic control signage and flaggers will be deployed for the duration of the project. Additionally, while existing pavement is being saw-cut, removed, and replaced with new pavement for the transmission main, the

District will replace old water service laterals (service saddles, corp. stops, service lines, and meter valves) from the distribution main to the service box, adding guard valves to or replacing fire hydrants, and making other repairs to the existing water distribution system.

The existing Tank B inlet and outlet pipes are small and will be upsized, replaced and reconfigured to comply with California waterworks standards. The new transmission main will discharge directly into Tank B, removing the inlet hydraulic constraint. The existing outlet will be retained with valve additions and modifications to allow for flow into the distribution system when the Tank A booster pump station is both operating and not operating (reverse gravity flow).

2.3 Decision Not to Recirculate Draft MND

After the completion of the public/agency comment period for the Draft IS/MND, one minor revision was made to the IS/MND. Therefore, criteria for recirculation of the MND prior to adoption as outlined in Section 15073.5 of the State CEQA Guidelines were not met and the document does not need to be recirculated.

3.0 COMMENTS AND RESPONSES

This section of the document contains copies of the comment letters received during the 30-day public review period, which began on September 1, 2023, and ended on October 2, 2023. In conformance with Section 15088(a) of the State CEQA Guidelines, CCWD has considered comments on environmental issues from reviewers of the Draft IS/MND and has prepared written responses. Two letters were received via email, commenting on the Draft IS/MND. These letters, and the responses to the comments contained in the letters are provided in this section.

A list of public agencies, organizations, and individuals that provided comments on the Draft IS/MND is presented below. The letters and the responses to the comments follow this page.

3.1 List of Comment Letters

Letter Number	Sender	Date of Letter
1	California Department of Transportation	September 21, 2023
2	Central Valley Regional Water Quality Control Board	October 2, 2023

Letter 1: (California Department of Transportation) -Gregoria Poncé, Office of Rural Planning, September 21, 2023

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

OFFICE OF THE DISTRICT 10 Planning
P.O. BOX 2048 | STOCKTON, CA 95201
(209) 948-7325 | FAX (209) 948-7164 TTY 711
www.dot.ca.gov

September 21, 2023

Mr. Charles Palmer
District Engineer
Calaveras County Water District
120 Toma Court
San Andreas, CA 95249

CAL-26-PM 5.946
Initial Study Jenny Lind Water Transmission Pipeline Project SCH 2023090007

Mr. Palmer,

The California Department of Transportation (Caltrans) appreciates the opportunity to review and comment on the Water Transmission pipeline Initial Study that proposes to install 20,000 feet of potable water transmission pipeline to remove an existing hydraulic transmission bottleneck and improve conveyance to Tank B and install connections for new or replaced laterals. The project area covers approximately 35.32-acre. The pipeline will be placed in trenches within existing paved roads of the community of Rancho Calaveras. The new pipeline will be installed parallel to the existing transmission system lines from Tank A on Hart Vickson Lane to Tank B on Wind River Drive.

The project area extends from Tank A on Hart Vickson Lane heading south, turns south on Baldwin Street, heads southeast on Usher Drive, turns east up Wind River Drive, continues east on Wind River Drive, and ends at Tank B.

Caltrans has the following comments:
Caltrans suggests that the County of Calaveras continue to coordinate with Caltrans in identifying and addressing potential pedestrian safety and cumulative transportation impacts from this project and other developments near this location. This will assist Caltrans in ensuring that pedestrian, traffic safety, and quality standards are maintained for the traveling public on existing and future state transportation facilities in Calaveras County.

Caltrans-1

Traffic Operations

1. The Temporary Lane Closures and staging will need to be reviewed by Caltrans Traffic Management prior to construction. Please provide those plans.
2. Any work done within state Right of Way (ROW) will have to be reviewed by Caltrans Encroachment permits.

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Mr. Charles Palmer
September 21, 2023
Page 2

Encroachment Permits

If any project activities encroach into Caltrans ROW, the project proponent must submit an application for an Encroachment Permit to the Caltrans District 10 Encroachment Permit Office. Appropriate environmental studies must be submitted with this application. For more information, please visit the Caltrans Website at: https://dot.ca.gov/programs/traffic-operations/ep/applications

If you have any questions or concerns, please contact Shiferaw Jemberie (209) 986-9635 (email: Shiferaw.jemberie@dot.ca.gov) or me at (209) 483-7234 (email: Gregoria.Ponce@dot.ca.gov).

Caltrans-1

Continued

Sincerely,

Gregoria Ponce'

Gregoria Ponce', Chief
Office of Rural Planning

cc: Gabriel Elliott, Director of Planning Department, Calaveras County

"Provide a safe and reliable transportation network that serves all people and respects the environment"

3.1.1 Letter 1 Responses to Comments

3.1.1.1 Response to California Department of Transportation (Caltrans)-1:

Comment noted. The nature of the Proposed Project would not induce population growth or result in the development of new housing or employment-generating uses. Therefore, the Proposed Project would not result in a cumulative traffic effect regarding expansion for services or utilities. Furthermore, there are no approved or planned projects within proximity to the Proposed Project that would contribute to cumulative effects.

Additionally, the project will not directly impact Caltrans facilities. The project could have temporary indirect traffic impacts as a result of road closures on Hartvickson and traffic detour using Hwy 26; however, traffic volumes along the roadways within the project area are not anticipated to cause additional congestion on the highway. The Proposed Project involves the installation of a new water pipeline to increase flow and improve the distribution system reliability. The Project Area would be returned to pre-project conditions after completion of construction. Since the project does not include construction activities within a Caltrans facility or within the state right of way, an encroachment permit will not be required.

Letter 2 (Central Valley Regional Water Quality Control Board) – Peter Minkel, Engineering Geologist, October 2, 2023

CALIFORNIA Water Boards

GAVIN NEWSOM GOVERNOR
YANA GARCIA SECRETARY FOR ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

2 October 2023

Charles Palmer
Calaveras County Water District
120 Toma Court
San Andreas, CA 95249
charlesp@ccwd.org

COMMENTS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE DECLARATION, JENNY LIND WATER SYSTEM TANK A-B WATER TRANSMISSION PIPELINE PROJECT, SCH#2023090007, CALAVERAS COUNTY

Pursuant to the State Clearinghouse's 1 September 2023 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Mitigated Negative Declaration* for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project, located in Calaveras County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of

Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

RWQCB-1

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

RWQCB-2

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

RWQCB-2

(Continued)

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:

https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

RWQCB-2

(Continued)

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter Minkel

Peter Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

3.1.2 Letter 2 Responses to Comments

3.1.2.1 Response to Comment Regional Water Quality Control Board (RWQCB)-1:

The environmental document addresses potential impacts the Project may have on groundwater, water quality, and waters on site in Chapter 4-10 Hydrology and Water Quality and Chapter 4-4 Biological Resources in the Draft IS/MND. The Project will comply with all applicable regulations and obtain all necessary permits. Applicable permits from the Central Valley Regional Water Quality Control Board that will be obtained as a part of the Proposed Project include a Storm Water Pollution Prevention Plan.

Additionally, A preliminary aquatic resources assessment was conducted within the Study Area concurrent with the reconnaissance-level field survey. As discussed in Section 4.4.2.1 of the draft IS/MND, one ephemeral drainage aquatic resource was identified during the reconnaissance-level field survey at the northeast corner of Hart Vickson Lane and Baldwin Street. This feature is mapped in the National Wetlands Inventory data. The ephemeral drainage has not been verified by the U.S. Army Corps of Engineers or the Central Valley RWQCB and jurisdictional status of waters (Waters of the U.S./State) has not been determined. The Project has been designed to avoid all drainage features and therefore will not have an impact on state or federally protected wetlands.

3.1.2.2 Response to Comment RWQCB-2:

See response to comment CVRWQCB-1.

4.0 REVISIONS TO THE DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

As a result of minor Project changes and comments received on the Draft IS/MND, revisions have been made to the Draft IS/MND text. These revisions include minor changes to mitigation measures, and do not constitute substantial revisions that would require recirculation of the document. According to Section 15073.5 of the CEQA Guidelines, a substantial revision shall mean:

(1) A new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or

(2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required."

The revisions are provided below. Changes in text are identified by ~~strikeout~~ where text is removed and by underline where text is added.

4.1 Mitigation Measure CUL-1

The following text was added/revised based on new information. Within the Draft IS/MND, Mitigation Measure BIO-1 and BIO-3 appears on page 1-1 and 1-2 as well as 4-31 and 4-32 of the Draft Mitigated Negative Declaration/Initial Study.

BIO-2: **Valley Elderberry Longhorn Beetle.** If the proposed pipeline alignment trench is within 30 feet of the dripline of an observed elderberry shrub, trenching and paving may damage an elderberry shrub. Therefore, any ground-disturbing activities within 30 feet of the dripline of the elderberry shrub shall conform to the following avoidance measures.

The design and construction of the new trench and pipeline has been moved an additional 3 feet left of the alignment for a 60-foot stretch ~~clearance~~ (30 feet on either side of the elderberry shrub center point). ~~However~~ This 30ft on either side of the centerline of the shrub will provide a minimum clearance of 11 feet from the dripline. The project will Initiate informal consultation with the USFWS for guidance regarding measures to avoid and minimize potential impacts to VELB and VELB habitat. These measures could include exclusionary fencing and buffers.

BIO-3: **Nesting Bird and Raptors.** Retain a qualified biologist to conduct a preconstruction nesting raptor and bird survey of all suitable habitat in the Study Area within 14 days of the commencement of construction during the nesting season (February 1 through September 30~~August 31~~). Surveys shall be conducted in accessible areas within 500 feet of the Study Area for nesting raptors and 100 feet of the Study Area for nesting birds. Preconstruction nesting surveys are not required for construction activity outside the nesting season.

If active nests are not found during the preconstruction survey, the biologist shall document the findings in a letter report for the lead agency, and no further mitigation shall be required. Upon request by CDFW, the letter report will be made available to CDFW.

If active nests are found, a no-disturbance buffer shall be established around the nest. The buffer distances shall be established by a qualified biologist in consultation with CDFW and are generally recommended to be 250 to 500 feet for raptors and 50 to 100 feet for non-raptor birds. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.

5.0 MITIGATION MONITORING AND REPORTING PLAN

5.1 Introduction

In accordance with CEQA, an MND that identifies adverse impacts related to the construction activity for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project was prepared. The MND identifies mitigation measures that would reduce or eliminate these impacts.

Section 21081.6 of the Public Resources Code and Sections 15091(d) and 15097 of the State CEQA Guidelines require public agencies to adopt a reporting and monitoring program for changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. An MMRP is required for the Proposed Project because the IS/MND identified potentially significant adverse impacts related to construction and operation of the Proposed Project, and mitigation measures have been identified to mitigate these impacts. Adoption of the MMRP will occur along with approval of the Proposed Project.

5.2 Purpose of the Mitigation Monitoring and Reporting Plan

This MMRP has been prepared to ensure that all required mitigation measures are implemented and completed according to schedule and maintained in a satisfactory manner during the construction and operation of the Proposed Project, as required. The MMRP may be modified by the CCWD during Project implementation, as necessary, in response to changing conditions or other Project refinements. Table 4-1 has been prepared to assist the responsible parties in implementing the MMRP. This table identifies the category of significant environmental impact(s), individual mitigation measures, monitoring and mitigation timing, responsible person/agency for implementing the measure, monitoring and reporting procedure, and notation space to confirm implementation of the mitigation measures. The numbering of the mitigation measures follows the numbering sequence in the IS/MND.

5.3 Roles and Responsibilities

The Calaveras County Water District is responsible for oversight of compliance of the mitigation measures in the MMRP.

5.4 Mitigation Monitoring and Reporting Plan

The column categories identified in Table 4-1 are described below.

- **Mitigation Measure** – This column lists the mitigation measures by number.
- **Monitoring Activity/Timing/Frequency/Schedule** – This column lists the activity to be monitored for each mitigation measure, the timing of each activity, and the frequency/schedule of monitoring for each activity.
- **Implementation Responsibility/Verification** – This column identifies the entity responsible for complying with the requirements of the mitigation measure, and provides space for verification initials and date.

- **Responsibility for Oversight of Compliance/Verification** – This column provides the agency responsible for oversight of the mitigation implementation and is to be dated and initialed by the agency representative based on the documentation provided by the construction contractor or through personal verification by agency staff.
- **Outside Agency Coordination** – this column lists any agencies with which CCWD may coordinate for implementation of the mitigation measure.
- **Comments** – this column provides space for written comments, if necessary.

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
BIO-1: Special-Status Plant Habitat Avoidance. Potential habitat for special-status plant species occurs in the blue oak woodland and chamise chaparral vegetation communities within the Project Area. Therefore, to avoid impacts during construction of the Proposed Project, all Project personnel will be provided the Vegetation Communities and Land Cover Types Map (Appendix C) and will not access or conduct any construction activity outside of the existing roadway within the blue oak woodland and chamise chaparral vegetation communities (along the pipeline alignment).	**Action:** Special-Status Plant Habitat Avoidance **Timing:** During Construction	Project Biologist Initials Date	CCWD Initials Date	CDFW	–
BIO-2: Valley Elderberry Longhorn Beetle. If the proposed pipeline alignment trench is within 30 feet of the dripline of an observed elderberry shrub, trenching and paving may damage an elderberry shrub. Therefore, any ground-disturbing activities within 30 feet of the dripline of the elderberry shrub shall conform to the following avoidance measures. The design and construction of the new trench and pipeline has been moved an additional 3 feet left of the alignment for a 60-foot stretch (30 feet on either side of the elderberry shrub center point). This 30ft on either side of the centerline of the shrub will provide a minimum clearance of 11 feet from the dripline. The project will Initiate informal consultation with the USFWS for guidance regarding measures to avoid and minimize potential impacts to VELB and VELB habitat. These measures could include exclusionary fencing and buffers.	**Action:** Avoidance Measures within 30 feet of the elderberry dripline **Timing:** During construction within 30 feet of the elderberry dripline	Project Biologist Initials Date	CCWD Initials Date	USFWS	–
BIO-3: Nesting Bird and Raptors. Retain a qualified biologist to conduct a preconstruction nesting raptor and bird survey of all suitable habitat in the Study Area within 14 days of the commencement of construction during the nesting season (February 1 through September 30). Surveys shall be conducted in accessible areas within 500 feet of the Study Area	**Action:** Nesting Bird and Raptor Surveys **Timing:**	Project Biologist Initials	CCWD Initials	CDFW	Only if construction is to occur during the nesting season. If construction

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
for nesting raptors and 100 feet of the Study Area for nesting birds. Preconstruction nesting surveys are not required for construction activity outside the nesting season. If active nests are not found during the preconstruction survey, the biologist shall document the findings in a letter report for the lead agency, and no further mitigation shall be required. Upon request by CDFW, the letter report will be made available to CDFW. If active nests are found, a no-disturbance buffer shall be established around the nest. The buffer distances shall be established by a qualified biologist in consultation with CDFW and are generally recommended to be 250 to 500 feet for raptors and 50 to 100 feet for non-raptor birds. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.	If construction is to occur during the nesting season (generally February 1 through September 30). If construction takes place outside of the nesting bird season, BIO-3 is not necessary	Date	Date		takes place outside of the nesting bird season, BIO-3 is not necessary
BIO-4: Staging Area Preconstruction Clearance Survey. Within 14 days prior to construction a qualified biologist will conduct a preconstruction survey of identified staging areas for (1) potential jurisdictional aquatic features, (2) special-status plant potential habitat, and (3) special-status wildlife. If any of these conditions are observed then species-specific avoidance zones will be established in coordination with the qualified biologist. The qualified biologist will provide a memo letter with avoidance and minimization measure recommendations. Avoidance zones will be established with temporary high-visibility fencing.	**Action:** Clearance survey of staging areas **Timing:** Within 14 days prior to the start of construction activities	Project Biologist Initials Date	CCWD Initials Date	CDFW	–
CUL-1: Unknown Resources. If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the	**Action:** Activity suspension if unknown resources are found.	Project Archaeologist, Construction Manager	CCWD		–

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find: • If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required. • If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction. • If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the Calaveras County Coroner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the	**Timing:** During construction	Initials Date	Initials Date		

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the Project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.					
TRANS-1: Construction Traffic Management Plan. Prior to commencing construction of the Proposed Project, a construction traffic management plan (Traffic Plan) shall be prepared by the Contractor, in coordination with the CCWD, California Department of Transportation (if necessary), and Calaveras County. The management plan shall be detailed and comprehensive to adequately mitigate potential conflicts between baseline and construction-related traffic. The Traffic Plan will include, at a minimum, the following measures: 1. Adequate off-street worker parking shall be provided along the pipeline route.	**Action:** Construction Traffic Control/Management Plan **Timing:** Prior to and during construction	Construction Manager Initials Date	CCWD Initials Date	–	–

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Measure	Implementation Actions and Timing	Implementation Responsibility	Responsibility for Oversight of Compliance/ Verification	Agency Coordination	Comments
2. A flagman or signal-controlled one-way traffic-control operation shall be provided where two-way traffic operation is impractical or unsafe. 3. Roadway disturbances shall be minimized during non-working hours; open trenches shall be covered with steel plates or by the use of temporary backfill during non-working hours. 4. Temporary steel plate trench crossings shall be provided as needed to maintain access to homes, farms, and businesses. 5. Construction sites shall be posted with appropriate warning signage at least one week prior to construction to allow local residents to select an alternative travel route. 6. Construction staging areas shall be provided to minimize storage of equipment and materials in the traffic lanes. 7. All paved surfaces disturbed during construction shall be repaved when work is complete. 8. The Contractor shall provide traffic control and diversion plans for review and approval by each appropriate jurisdiction. 9. To minimize delays in emergency response during project construction, emergency providers shall be notified in advance. Police, fire protection, and ambulance services shall be notified in advance of the times, duration, and location of construction activities throughout the project's construction process.					

Note: AB = Assembly Bill; CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; CCWD = Calaveras County Water District; ft = feet/foot; MLD = Most Likely Descendant; NAHC = Native American Heritage Commission; NHPA = National Historic Preservation Act; PRC = Public Resources Code; USFWS = U.S. Fish and Wildlife Service; VELB = Valley Elderberry Longhorn Beetle

To be signed when all mitigation measures have been completed:

Calaveras County Water District

Signature

Printed Name

Date

6.0 LIST OF APPENDICES

Appendix A – Notice of Intent

Appendix B – Draft Initial Study and Mitigated Negative Declaration for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

APPENDIX A

Notice of Intent

CALAVERAS COUNTY WATER DISTRICT

120 Toma Court • San Andreas, CA 95249 • (209) 754-3543 • www.ccwd.org

September 1, 2023

TO: Responsible Agencies, Interested Parties, and Organizations

SUBJECT: **30-Day Document Review and Availability for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project—Calaveras County, California**

The Calaveras County Water District (CCWD) is the California Environmental Quality Act (CEQA) Lead Agency for the proposed Jenny Lind Water System Tank A-B Transmission Pipeline Project (Proposed Project). CCWD has directed the preparation of an Initial Study/Mitigated Negative Declaration (IS/MND) in compliance with CEQA.

Project Location: The approximately 35.32-acre Study Area is located within the Calaveras County right-of-way (ROW) in Rancho Calaveras, Calaveras County, California. The project begins at Tank A on Hart Vickson Lane heading south, turns south on Baldwin Street, heads southeast on Usher Drive, turns east up Wind River Drive, continues east on Wind River Drive, and ends at Tank B.

Project Description: The Project proposes to install 20,000 feet of potable water transmission main (between 12-14-inch diameter transmission lines) to remove an existing hydraulic transmission bottleneck and improve conveyance to Tank B and install connections for new or replaced laterals. The pipeline will be placed in trenches within existing paved roads of the community of Rancho Calaveras in Calaveras County, California. The new pipeline will be installed parallel to the existing transmission system lines from Tank A on Hart Vickson Lane, continuing down Baldwin Street, Usher Drive, Wind River Drive, and continuing to Tank B on Wind River Drive.

Findings/Determination: CCWD has reviewed and considered the proposed project and has determined that the project will not have a significant effect on the environment with the incorporation of mitigation measures, as supported by evidence provided in the Initial Study. The Calaveras County Water District hereby prepares and proposes to adopt a Mitigated Negative Declaration for this project.

IS/MND Document Review and Availability: The public review and comment period for the Draft IS/MND will extend for 30 days starting **September 1, 2023 and ending October 2, 2023.** Draft IS/MND can be viewed and/or downloaded at the following website:

https://ccwd.org/wp-content/uploads/2023/08/Jenny-Lind-ISMND_Draft_8_24_23.pdf

Comments/Questions: Comments and/or questions regarding the IS/MND may be directed to:

Calaveras County Water District
Attn: Charles Palmer, P.E. District Engineer
120 Toma Court
San Andreas, CA 95249
or
charlesp@ccwd.org

APPENDIX B

Draft Initial Study and Mitigated Negative Declaration for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

DRAFT

Initial Study and Mitigated Negative Declaration for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

Lead Agency:

Calaveras County Water District
120 Toma Court
San Andreas, California 95249

September 2023

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

DRAFT

Initial Study and Mitigated Negative Declaration

Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

Calaveras County, California

Lead Agency:

Calaveras County Water District
120 Toma Court, San Andreas CA, 95249

Prepared by:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, California 95677

September 2023

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DRAFT MITIGATED NEGATIVE DECLARATION

Lead Agency: Calaveras County Water District

Project Location: The approximately 35.32-acre Study Area is located within the Calaveras County right-of-way (ROW) in Rancho Calaveras, Calaveras County, California. The project begins at Tank A on Hart Vickson Lane heading south, turns south on Baldwin Street, heads southeast on Usher Drive, turns east up Wind River Drive, continues east on Wind River Drive, and ends at Tank B.

Project Description Summary: The Project proposes to install 20,000 feet of potable water transmission main (between 12-14-inch diameter transmission lines) to remove an existing hydraulic transmission bottleneck and improve conveyance to Tank B and install connections for new or replaced laterals. The pipeline will be placed in trenches within existing paved roads of the community of Rancho Calaveras in Calaveras County, California. The new pipeline will be installed parallel to the existing transmission system lines from Tank A on Hart Vickson Lane, continuing down Baldwin Street, Usher Drive, Wind River Drive, and continuing to Tank B on Wind River Drive.

Public Review Period: September 1, 2023 to October 2, 2023

Mitigation Measures Incorporated into the Project to Avoid Significant Effects:

Biological Resources

BIO-1: **Special-Status Plant Habitat Avoidance.** Potential habitat for special-status plant species occurs in the blue oak woodland and chamise chaparral vegetation communities within the Project Area. Therefore, to avoid impacts during construction of the Proposed Project, all Project personnel will be provided the Vegetation Communities and Land Cover Types Map (Appendix C) and will not access or conduct any construction activity outside of the existing roadway within the blue oak woodland and chamise chaparral vegetation communities (along the pipeline alignment).

BIO-2: **Valley Elderberry Longhorn Beetle.** If the proposed pipeline alignment trench is within 30 feet of the dripline of an observed elderberry shrub, trenching and paving may damage an elderberry shrub. Therefore, any ground-disturbing activities within 30 feet of the dripline of the elderberry shrub shall conform to the following avoidance measures.

The design and construction of the new trench and pipeline has been moved an additional 3 feet left of the alignment for a 60-foot clearance (30 feet on either side). However, the project will Initiate informal consultation with the USFWS for guidance regarding measures to avoid and minimize potential impacts to VELB and VELB habitat. These measures could include exclusionary fencing and buffers.

BIO-3: **Nesting Bird and Raptors.** Retain a qualified biologist to conduct a preconstruction nesting raptor and bird survey of all suitable habitat in the Study Area within 14 days of the commencement of construction during the nesting season (February 1 through August 31). Surveys shall be conducted in accessible areas within 500 feet of the Study Area for nesting raptors and 100 feet of the Study Area for nesting birds. Preconstruction nesting surveys are not required for construction activity outside the nesting season.

If active nests are not found during the preconstruction survey, the biologist shall document the findings in a letter report for the lead agency, and no further mitigation shall be required. Upon request by CDFW, the letter report will be made available to CDFW.

If active nests are found, a no-disturbance buffer shall be established around the nest. The buffer distances shall be established by a qualified biologist in consultation with CDFW and are generally recommended to be 250 to 500 feet for raptors and 50 to 100 feet for non-raptor birds. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.

BIO-4: **Staging Area Preconstruction Clearance Survey.** Within 14 days prior to construction a qualified biologist will conduct a preconstruction survey of identified staging areas for (1) potential jurisdictional aquatic features, (2) special-status plant potential habitat, and (3) special-status wildlife. If any of these conditions are observed then species-specific avoidance zones will be established in coordination with the qualified biologist. The qualified biologist will provide a memo letter with avoidance and minimization measure recommendations. Avoidance zones will be established with temporary high-visibility fencing.

Cultural Resources

CUL-1: **Unknown Resources.** If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the Calaveras County Coroner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the Project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Transportation

TRANS-1: Construction Traffic Management Plan. Prior to commencing construction of the Proposed Project, a construction traffic management plan (Traffic Plan) shall be prepared by the Contractor, in coordination with the CCWD, California Department of Transportation (if necessary), and Calaveras County. The management plan shall be detailed and comprehensive to adequately mitigate potential conflicts between baseline and

construction-related traffic. The Traffic Plan will include, at a minimum, the following measures:

A. Adequate off-street worker parking shall be provided along the pipeline route.

B. A flagman or signal-controlled one-way traffic-control operation shall be provided where two-way traffic operation is impractical or unsafe.

C. Roadway disturbances shall be minimized during non-working hours; open trenches shall be covered with steel plates or by the use of temporary backfill during non-working hours.

D. Temporary steel plate trench crossings shall be provided as needed to maintain access to homes, farms, and businesses.

E. Construction sites shall be posted with appropriate warning signage at least one week prior to construction to allow local residents to select an alternative travel route.

F. Construction staging areas shall be provided to minimize storage of equipment and materials in the traffic lanes.

G. All paved surfaces disturbed during construction shall be repaved when work is complete.

H. The Contractor shall provide traffic control and diversion plans for review and approval by each appropriate jurisdiction.

I. To minimize delays in emergency response during project construction, emergency providers shall be notified in advance. Police, fire protection, and ambulance services shall be notified in advance of the times, duration, and location of construction activities throughout the project's construction process.

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
˚F	Degrees Fahrenheit
AB	Assembly Bill
ACP	Asbestos Cement Pipe
ANSI	American National Standards Institute
BCC	Bird of Conservation Concern
BMPs	Best Management Practices
CAAQS	California Ambient Air Quality Standards
Cal-Co Fire	Calaveras Consolidated Fire Protection District
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAPCD	Calaveras County Air Pollution District
CCR	California Code of Regulations
CCWD	Calaveras County Water District
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	Methane
CHP	California Highway Patrol
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	Decibel
dBA	A-Weighted Decibel
DHS	Department of Health Services
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EO	Executive Order
EOP	Emergency Operation Plan
ESA	Endangered Species Acts
FHWA	Federal Highway Administration
fps	Feet per second
GHG	Greenhouse Gas
GIS	Geographical Information Systems
gpm	Gallons Per Minute
HP	Horsepower
IS	Initial Study

Term	Definition
MCAB	Mountain Counties Air Basin
MDD	Maximum Daily Demands
MLD	Most Likely Descendent
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NIOSH	Occupational Safety and Health
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
N_2O	Nitrous Oxide
NO_x	Oxides of Nitrogen
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PG&E	Pacific Gas and Electricity Company
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter with a Diameter of 2.5 Microns or Less
PM_{10}	Particulate Matter with a Diameter of 10 Microns or Less
PRC	Public Resources Code
RCEM	Roadway Construction Emissions Model
REHS	Registered Environmental Health Specialist
ROG	Reactive Organic Gases
PPV	Peak Particle Velocity
PRV	Pressure Reducing Valves
ROW	Right-of-way
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act of 1975
SR	State Route
SSC	Species of Special Concern
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TDH	Total Dynamic Head
USACE	U.S. Army Corps of Engineers
UCMP	University of California Museum of Paleontology
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	Valley Elderberry Longhorn Beetle
VMT	Vehicle Miles Traveled

1.0 BACKGROUND

1.1 Summary

Project Title:	Jenny Lind Water System – Tank A-B Water Transmission Pipeline Project
Lead Agency Name and Address:	Calaveras County Water District 120 Toma Court San Andreas, CA 95249
Contact Person and Phone Number:	Calaveras County Water District Charles Palmer | District Engineer (209) 754-3181
Project Location:	The Proposed Project is located in Calaveras County, California, just south of Valley Springs (2, T.03N, R.10E, Mount Diablo Base and Meridian, Latitude (NAD83): 38.1431693°, Longitude (NAD83): -120.8429471°) and approximately 25 miles northeast of the City of Stockton
General Plan Designation:	Rural Residential 1-5 acres
Zoning:	Rural Residential – 0.5

1.2 Introduction

The Calaveras County Water District (CCWD) is the Lead Agency for this California Environmental Quality Act (CEQA) Initial Study. This Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Jenny Lind Water System – Tank A-B Transmission Pipeline Project (Project) to satisfy CEQA (Public Resources Code [PRC], Section 21000 et seq.) and state CEQA Guidelines (Title 14, California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences before approving those projects. CCWD will use this CEQA Initial Study to determine which CEQA document is appropriate for the Project: Negative Declaration, Mitigated Negative Declaration (MND), or Environmental Impact Report (EIR).

In accordance with CEQA, this Initial Study/Mitigated Negative Declaration (IS/MND) will be circulated for a 30-day public review and comment period. Written comments on the Draft IS/MND should be submitted to:

Charles Palmer, P.E.
District Engineer
Calaveras County Water District
120 Toma Court
San Andreas, CA 95249
charlesp@ccwd.org

2.0 PROJECT DESCRIPTION

2.1 Project Background

The Jenny Lind Water System serves approximately 3,900 customers in the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County adjacent to State Highway 26. The system includes seven existing water storage tanks: of which two - Tanks A and B – are associated with the Proposed Project. Both were built in 1991, together with an existing 1.7 mgd pump station at the Tank A site that supplies Tank B. The tanks are connected by a 1970s era 8-inch diameter Asbestos Cement Pipe (ACP) transmission/distribution main routed along Hart Vickson Lane and Baldwin Street.

In the summer of 2006, the Tank A pump station was unable to meet Maximum Daily Demands (MDD) and consequently Tank B emptied and could not be re-filled for a significant period. This caused a prolonged service interruption for more than 900 homes within the Rancho Calaveras subdivision. The problem was caused by not only record water usage in an extended heat wave, but also by electrical surges that disabled control panels, and a hydraulic bottleneck in the 8-inch ACP main that limited flow to Tank B.

In response, the District previously implemented several improvements:

- 2,700-ft of new 12-inch diameter pipeline on Highway 26 and Jenny Lind Road to improve transmission from Tank A. Pressure zone boundaries were also adjusted such that some demands could be re-directed from the Tank B zone to the Tank A zone.
- Fourteen new Pressure Reducing Valves (PRV) and adjustments to existing PRV settings to support more efficient water distribution.
- Replacement of pumps, electrical upgrades and modified discharge manifolds at the Tank A pump station to reduce head loss and improve flow.

However, the 8-inch diameter ACP transmission/distribution pipeline between the two tanks was not replaced at that time due to cost and it remains a bottleneck during peak summer demand periods. The existing Tank A pump station has five pumps: two 75 Horsepower (HP) pumps (600 gallons per minute [gpm] at a total head [TDH] of 341 feet) are used to transfer water to Tank B and two 40 HP pumps (834 gpm at a TDH of 136 feet) to Tank F. The fifth pump (also 75 HP, 834 gpm at a TDH of 136 feet or 600 gpm at a TDH of 341) can be used to transfer to either tank. The District's most recent master plan defines a required firm pumping capacity of 1,410 gpm for the MDD at build-out: the existing baseline demand is about 950 gpm. The District has also found that the higher-capacity pumps at the Tank A pump station have proved to be just a temporary solution. Without fixing the hydraulic bottleneck in the 8-inch diameter main, applying more pump capacity at higher operating pressures has led to excessive service pressures and increases in costly system pipeline breaks and leaks.

During periods of low demand, velocities within the 8-inch diameter main are under an acceptable 4 feet per second (fps). However, at higher flow rates the velocities quickly rise to 8 to 9 fps. At these higher velocities, District operators have recorded transient pressure surges and spikes in the distribution system.

Hydraulic analyses have shown system pressures in the main to be up to 175 psi at a flow rate of 600 gpm: at 1,000 gpm the operating pressure increases to 205 psi in some locations. The existing water system was not designed for these severe operating conditions. District staff have also expressed concerns about the impact changes to the water transmission/distribution system could have on disinfection byproducts. There will potentially be altered flow patterns and circulation with increasing water age.

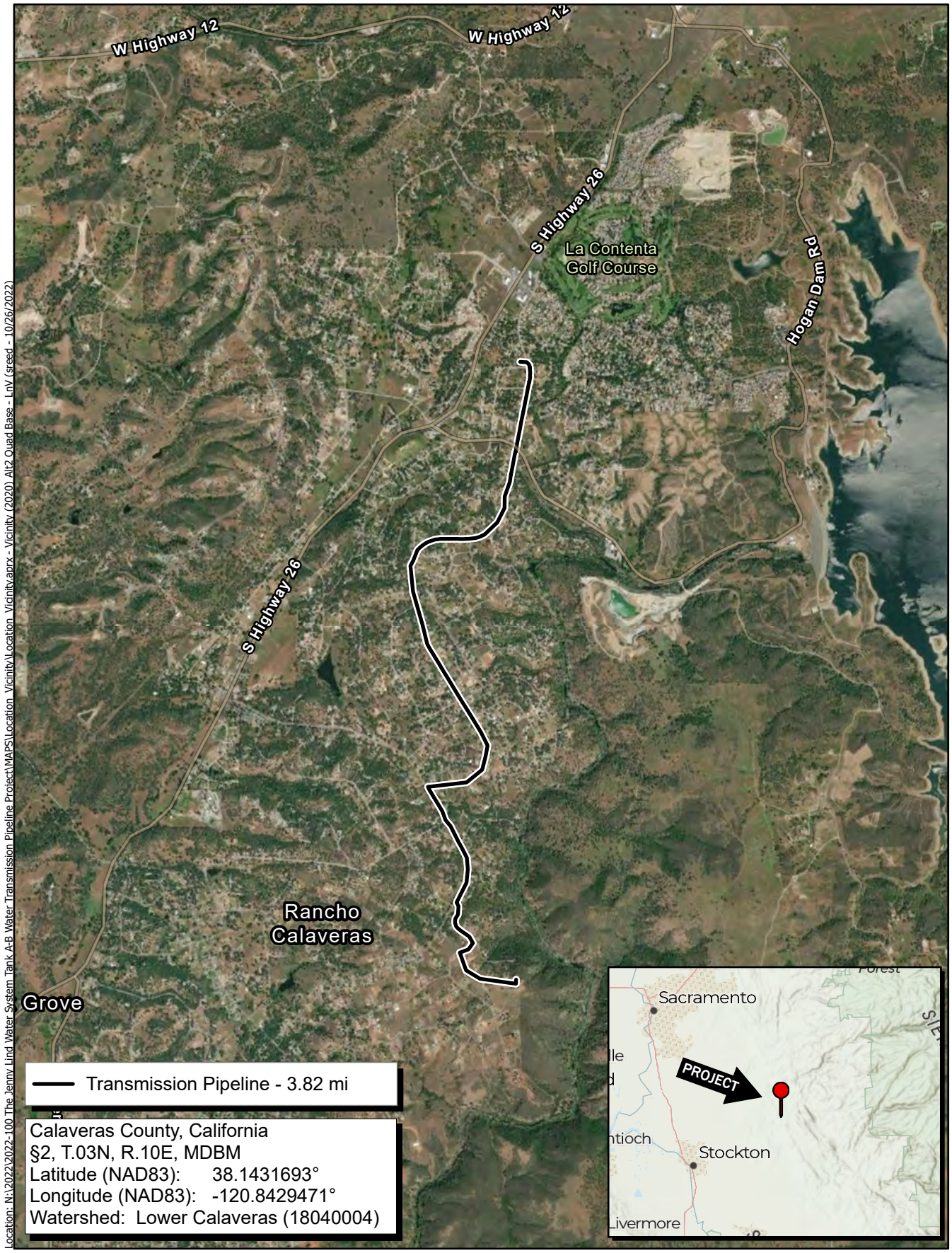
2.2 Project Objectives

To offset the functioning issues discussed above, the project proposes to construct a new transmission pipeline from the Tank A pump station to Tank B (approximately 20,000 feet in length) to resolve the hydraulic bottleneck and improve conveyance to Tank B. The transmission pipeline will be designed to have limited and controlled interconnection with the existing distribution system along its length to assist in stabilizing the hydraulic behavior of the water system. This transmission pipeline's primary role is to ensure Tank B provides the necessary storage for the distribution system at all times. Project objectives include the following:

- New transmission pipeline will be designed to allow flow in both directions including forward pumping from Tank A to fill Tank B and, when the pump station is idle, to allow gravity flow in the reverse direction in order for Tank B to supply water system demands when/if peak flow system demands exceed the pumping capacity.
- Re-definition of existing pressure zone boundaries in the distribution system to optimize service pressures, fire flow, reliability, and redundancy. Each zone will be supplied via at least two PRV stations connected to, but off the transmission pipeline.
- Replacement as found necessary during design of old water service laterals (service saddles, corporation stops, service lines, and meter valves), and the addition or replacement of main-line valves and fire hydrants.
- Modification of the inlet and outlet pipeline arrangements to Tank B. These modifications may be required to improve flow to the distribution system, improve mixing and turnover in the tank, and to avoid further increasing water age and potentially contributing to the formation of disinfection byproducts

2.3 Project Location

The Proposed Project is located in Calaveras County, within the Rancho Calaveras Community area. The general Project Area consists of approximately 3.8 miles, or 35.26 acres, of property located in Sections 2 and 11 of Township 3 North, Range 10 East, and Sections 26 and 35 of Township 4 North, Range 10 East, Mount Diablo Base and Meridian as depicted on the 1962 Jenny Lind and the 1962 Valley Springs, California, U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (USGS 1962a and b, respectively), Figure 2-1). The Project alignment is generally oriented in a north to south direction along approximately 3.8 miles of roadway within the semi-rural residential development of Rancho Calaveras..



Map Date: 10/24/2022
Sources: ESRI, USGS

Scale in Feet
0 1,000 2,000

Figure 2-1. Project Location and Vicinity

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The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

The Project Area begins at Tank A and terminates at Tank B. Tank A is located at 2296 Heinemann Drive and is bounded by Hart Vickson Lane to the east and residences to the north, west and south. The pump station currently connects to the existing transmission pipeline on Hart Vickson Lane. The replacement project will do the same. The transmission pipeline will be installed within Hart Vickson Lane and connect to the Tank A pump station on the eastern side of the tank site. The proposed water pipeline route follows the alignment of Hart Vickson Lane and extends south to Baldwin Street, continues to Usher Drive then Wind River Road where it terminates and connects to Tank B (Figure 2-2).

2.4 Project Characteristics

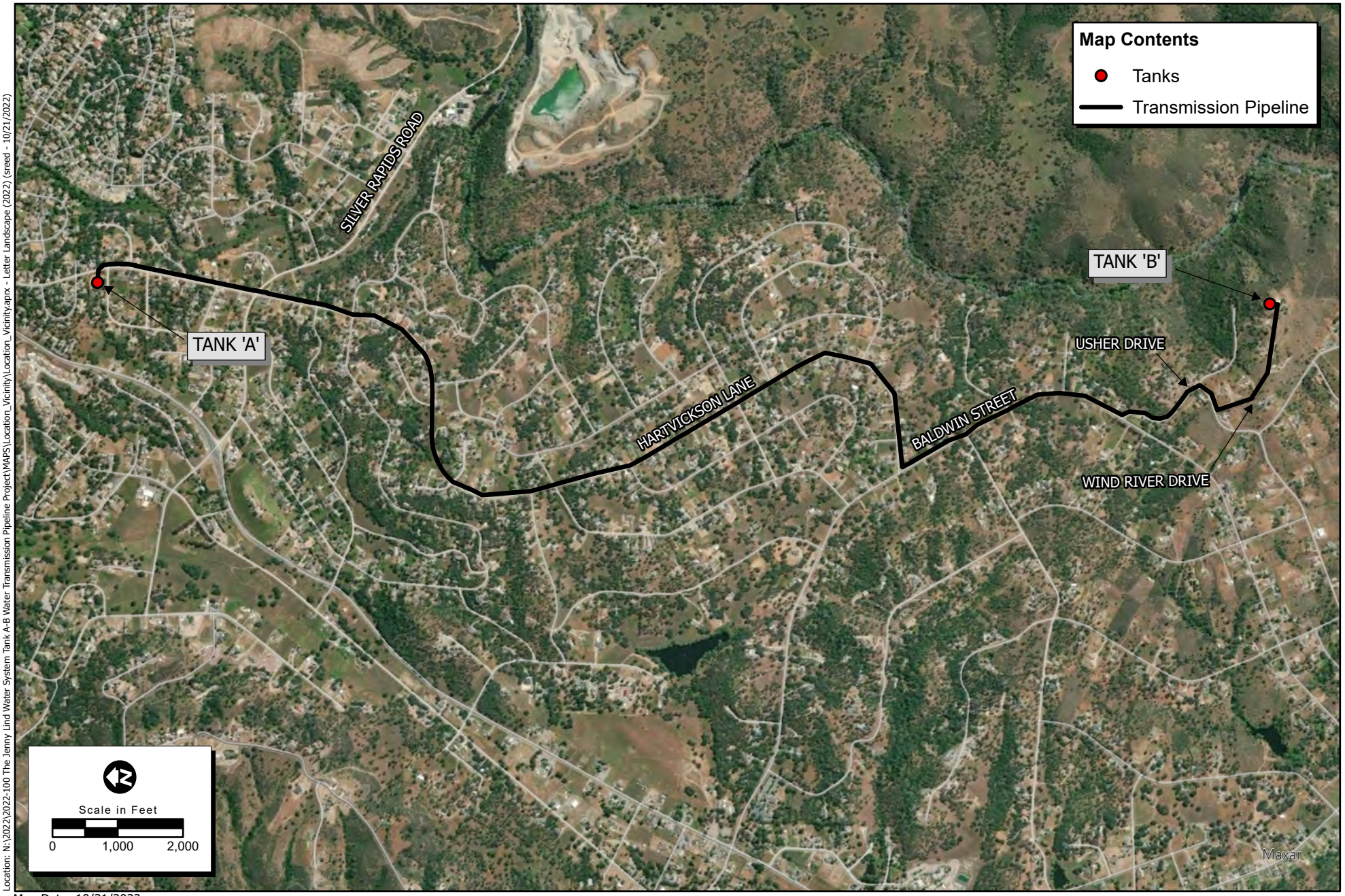
The Proposed Project involves construction of a new, dedicated transmission main from the existing Tank A booster pump station to the existing Tank B. The Project is designed to remove the hydraulic bottleneck and improve conveyance to Tank B. The replacement transmission main is sized at 14-inch diameter for the first 13,600 linear feet from the Tank A pump station and 12-inch diameter for the last 6,500 linear feet before Tank B. The pipe material will be of either ductile iron or C900 PVC.

The proposed transmission pipeline is shown on Figure 2-2. From Tank A the transmission line follows Hart Vickson Lane to its intersection with Baldwin Street, then along Baldwin Street, Usher Drive, and Wind River Road to the existing Tank B site. The new transmission pipeline will be in a separate open-cut trench parallel to the existing distribution system lines. The trench and new transmission pipeline will be located within the existing road ROW and established utility easements. All construction work will be conducted within the travel lanes or within the adjacent ROW (where feasible). Partial lane closure will take place during construction activities.

The new transmission pipeline will be isolated from the existing water distribution mains and only connected at five locations along its alignment with tie-in connections being made via pressure reducing valve (PRV) stations at six locations along the pipeline (Figure 2-3). The transmission main will allow flow in both directions including forward pumping from Tank A to fill Tank B and, when the pump station is idle, gravity flow in the reverse direction allowing Tank B to supply water system demands when peak flow exceeds the pumping capacity.

While the new transmission pipeline is under construction, the existing distribution system will continue to operate in its current configuration and will continue to transfer water from Tank A pump station to fill Tank B. The existing distribution system will also continue to supply customer water demands along the existing route. However, upon completion of the new transmission pipeline, the existing distribution system will no longer be necessary for Tank A to B transmission and will be isolated and divided into smaller service zones. Each service zone will be supplied via dedicated PRV stations, Each pressure zone will be served by at least two PRV stations or each zone will be served by looping from multiple directions. A dead-end run, e.g. residential cul-de-sac, will be served by a single dedicated PRV station.

To facilitate construction of the new transmission pipeline, the existing pavement within one traffic lane will be saw-cut along the trench line. Pavement will be replaced upon completion of the underground utility construction in accordance with the County Public Works Requirements. Substantial traffic control signage and flaggers will be deployed for the duration of the project.



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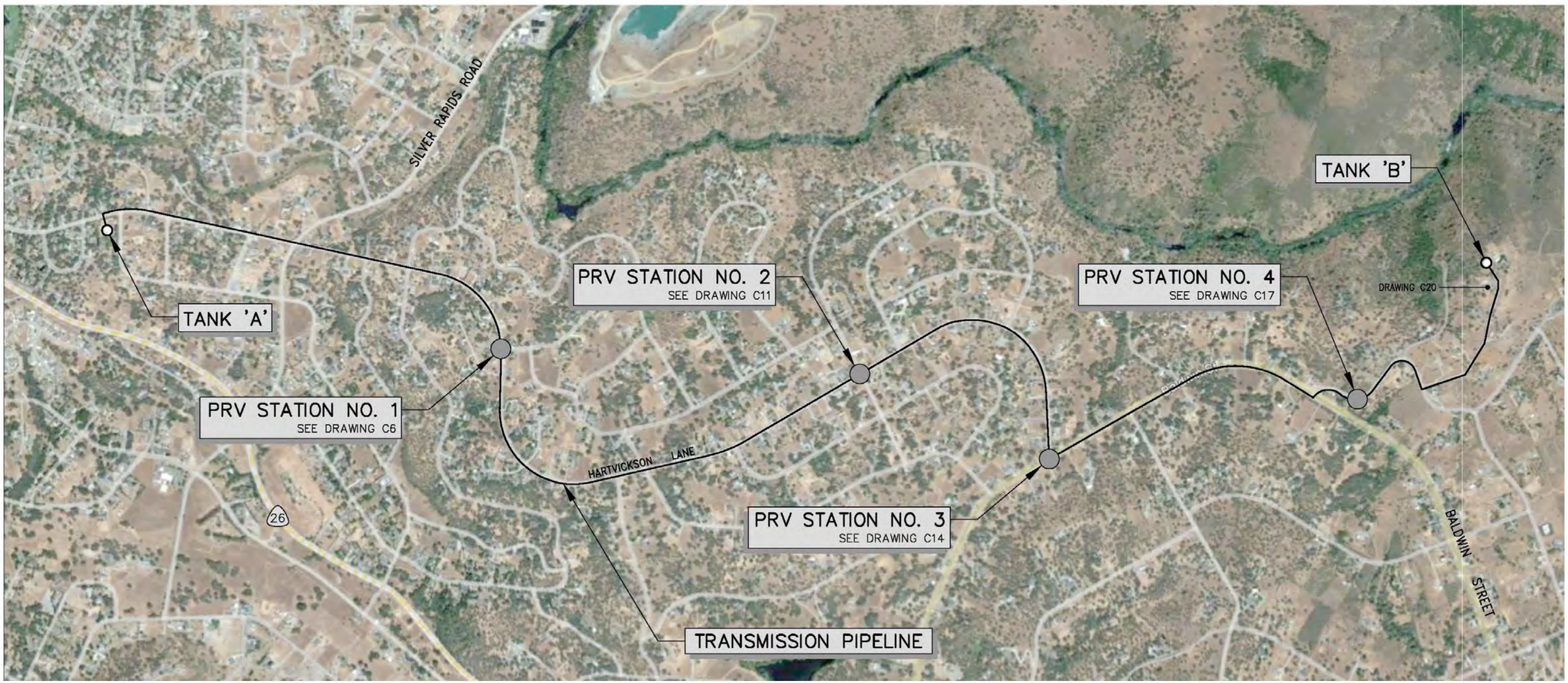
Map Date: 10/21/2022

Figure 2-2. Proposed Project Alignment



Source: Coleman Engineering

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Figure 2-3 PRV Station Locations Map

2022-100/Jenny Lind Water System Tank A-B
Water Transmission Pipeline Project

Additionally, while existing pavement is being saw-cut, removed, and replaced with new pavement for the transmission main, the District will replace old water service laterals (service saddles, corp. stops, service line, and meter valve) from the distribution main to the service box, adding guard valves to or replacing fire hydrants, and making other repairs to the existing water distribution system.

The existing Tank B inlet and outlet pipes are small and will be upsized, replaced and reconfigured to comply with California waterworks standards. The new transmission main will discharge directly into Tank B, removing the inlet hydraulic constraint. The existing outlet will be retained with valve additions and modifications to allow for flow into the distribution system when the Tank A booster pump station is both operating and not operating (reverse gravity flow). A new tank mixer may be installed inside the tank to improve circulation and turnover and avoid water quality problems, e.g., disinfection byproducts.

2.5 Project Staging

Temporary staging would occur where the ROW limits allow. If necessary, larger staging areas may be used. These sites would be surveyed by a qualified biologist if not paved, graveled, or in a currently disturbed area.

2.6 Project Timing

Construction of the Proposed Project is initially anticipated to start in late summer of 2023 and take approximately 12 to 18 months to be completed by December 2024. This schedule may be extended pending approval of the construction contract and issuing a notice of award, and for potential extended supply times for materials. A reduction in site construction activity is expected due to rain events from December to April each year due to inclement weather. Also, current supply chain issues have increased lead times for some materials (pipe and fittings) and may delay the start date for groundbreaking. See Table 2-1 for a detailed breakdown of anticipated construction activities and approximate timeframe to completion.

Table 2-1 Construction Operations

Description of Activity	Duration (approximate)
Excavation Operations*	
• Rubber tired backhoe loader(s) (sized up to Cat 450) • Trench excavator(s) (likely no larger than Cat 335) • Wheel loader(s) (likely no larger than Cat 966), dozer(s) (likely no larger than Cat D8 – for clearing ROW and spreading material) • Trenching machines (not expected) • Rock removal by hydraulic hammer on excavator (not expected to be required or very limited based on geotechnical investigation) • Compaction via in-trench hand compaction (wacker, vibraplate) or equipment mounted (sheep's foot roller) • Sweeper	Approximately 12 months

Table 2-1 Construction Operations	
Description of Activity	**Duration (approximate)**
• Air Compressor(s)	
Hauling Operations*	
• Rubber tired dump truck(s) • l transfer truck and trailers • Semi bottom and end dumps possible but not likely considering narrow and winding access	Approximately 12months
Final Paving Operations	
• Roller compactor(s) • Pavers • asphalt grinders • asphalt cutters • concrete saw • Sweeper	Approximately 3 months
Other Equipment*	
• Sprayers, • air compressor, • portable generator	Approximately 3 months
Total Duration:	**12 to 18 months**

*Note: Some of these activities will be done concurrently

2.7 Regulatory Requirements, Permits, and Approvals

The following approvals and regulatory permits would be required for implementation of the Proposed Project:

- Calaveras County Encroachment Permit within the ROW
- Acquire easements for some ROW through private property, only if needed to complete construction.
- Storm Water Pollution Prevention Plan (SWPPP)

2.8 Consultation With California Native American Tribe(s)

CCWD has notified the following California Native American tribes traditionally and culturally affiliated with the geographic area of the Proposed Project: Calaveras Band of Mi-Wuk Indians and Chicken Ranch Rancheria of Me-Wuk Indians of California. No tribes have requested consultation pursuant to PRC Section 21080.3.1. Section 4.18 of this IS/MND provides a summary of the notification process.

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by the Project, involving at least one impact that is a *Potentially Significant Impact,* as indicated by the checklist on the following pages.

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

Determination

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☐
I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	☒
I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	☐
I find that the 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 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 Project, nothing further is required.	☐

_____ Date: _____

Michael J. Minkler, General Manager
Calaveras County Water District

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4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

4.1.1 Environmental Setting

4.1.1.1 Regional Setting

State Scenic Highways

The California Scenic Highway Program protects and enhances the scenic beauty of California's highways and adjacent corridors. The California Department of Transportation (Caltrans) can designate a highway as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view.

According to the Calaveras County General Plan Environmental Impact Report (GP EIR), 24 miles of the 58-mile stretch of State Route (SR) 4 and 89 known as the Ebbetts Pass National Scenic Byway is within Calaveras County. The Proposed Project is over 30 miles west of the Southern edge of Ebbetts Pass. Additionally, the County contains SR 49, an eligible State Scenic Highway per the California Scenic Highway Mapping System. The Proposed Project is approximately 10 miles west of SR 49.

General Plan

Calaveras County General Plan

The following goals and policies regarding visual character and quality resources are set forth in the Conservation Element of the Calaveras County General Plan:

Goal COS-5: *Scenic Resources – Abundant scenic resources that preserve rural character, quality of life, and tourism-based economic development, while protecting property rights.*

Policy COS 5.1: *Encourage the conservation of natural and historic landscapes and important landmarks as scenic resources important to the County's rural character, scenic beauty and the tourism component of the economy. (IMs COS-6A and COS-6B)*

IM COS-6A: *Flexible Development Standards – Review and amend, as applicable, the County Code to incorporate flexible development standards that encourage the retention of scenic resources, landmarks, and the natural landscape.*

4.1.1.2 Visual Character of the Project Site

The Proposed Project is located west of SR 49, north of SR 4, and immediately south of Valley Springs. The Project Site lies directly west of New Hogan Lake and Calaveras River, defining the adjacent land as a mining landscape. The Proposed Project is located within the Sierra Nevada foothills, with views of the

rolling hills to the East of the Proposed Alignment. The Alignment is situated in a rural residential neighborhood, with no sidewalks along the project site and generally developed land adjacent to the road. Figure 4.1-1a shows the alignment along with the location of photos taken along the Project corridor which are shown in Figures 4.1-1b and 4.1-1c. The pipeline would be underground with six PRV stations proposed above ground that would appear as small buildings or garden sheds. The primary group that would have views of the Project include local residents using the neighborhood street system for daily activities.

4.1.2 Aesthetics (I) Environmental Checklist and Discussion

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒

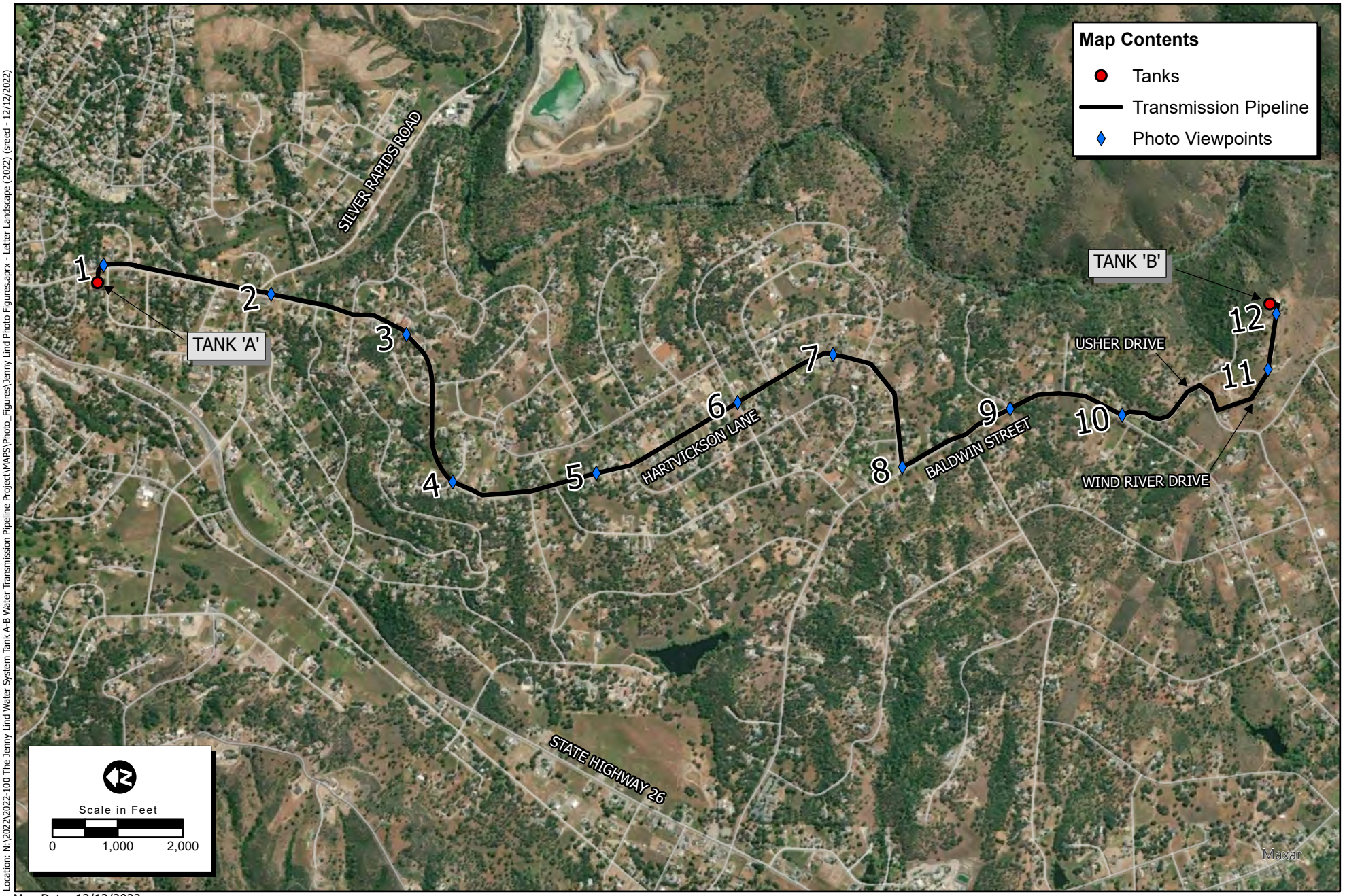
No impact

The Proposed Project is proposed within rural residential surface streets. Based on review of the Caltrans State Scenic Highway List and the Calaveras County General Plan, no officially designated scenic vistas or scenic land units were identified within the Project Site or vicinity (Caltrans 2022, Calaveras County 2019). Therefore, the Project would have no impact on scenic vistas and no mitigation is required.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

No impact

As stated above, according to Caltrans' list of designated Scenic Highways and the Calaveras County General Plan, the Proposed Project is not located near or within a state scenic highway and therefore would not damage designated scenic resources, including but not limited to trees, outcroppings, and historic buildings within a state scenic highway. Therefore, no impacts are anticipated, and no mitigation measures are required.



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Map Date: 12/12/2022

Figure 4.1-1a. Photos Along Proposed Project Alignment

Viewpoint 1: Tank B

Viewpoint 2: Wind River Drive

Viewpoint 3: Intersection of Baldwin Street & Usher Drive

Viewpoint 4: Baldwin Street

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Figure 4.1-1b. Representative Site Photographs

2022-100/Jenny Lind Water System Tank A-B
Water Transmission Pipeline Project

Viewpoint 5: Intersection of Baldwin Street & Hart Vickson Lane

Viewpoint 6: Hart Vickson Lane

Viewpoint 7: Hart Vickson Lane

Viewpoint 8: Hart Vickson Lane

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Figure 4.1c Representative Site Photographs

2022-100/Jenny Lind Water System Tank A-B
Water Transmission Pipeline Project

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒

No impact

The Proposed Project is within an urbanized, Rural Residential community (Figures 4.1-1a, b, and c). Project construction activities would introduce heavy equipment, including backhoes, excavators, wheel loaders, and/or similar machinery into the viewshed of all viewer groups, creating temporary effects on views of and from the Project Site during construction. Once the Project is completed there will be no change in the visual character or quality of public views of the site and surroundings and the project would not conflict with zoning and other regulations governing scenic quality. There would be no impact and no mitigation is required.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

No impact

The Proposed Project involves installing a new transmission main parallel to existing distribution system lines and some modifications at the two existing tank sites. No new lighting is proposed as part of the Project and the Project would not create a new source of substantial light or glare. There would be no impact and no mitigation is required.

4.1.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.2 Agriculture and Forestry Resources

4.2.1 Environmental Setting

According to the California Department of Conservation online Important Farmland Finder Map (https://maps.conservation.ca.gov/DLRP/CIFF/, 2018), the Project Site does not contain Prime Farmland,

Unique Farmland, or Farmland of Statewide Importance, nor is the site zoned for agriculture or forestry use or is under Williamson Act contract. The California Important Farmland Finder Map identifies the site as primarily Urban and Built-Up Land from Tank A through most of the alignment, and the area around Tank B as Other Land (low density rural development).

The County's Zoning Ordinance describes the permitted land uses and development standards for each of the designated zoning districts in the county on a parcel-by-parcel basis. The Proposed Project is intended to stabilize the hydraulic operations of a domestic water system and the site is designated as public ROW under the existing County Zoning Ordinance.

4.2.2 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

No impact

As discussed above, the California Important Farmland Finder Map identifies the Project Site as Urban and Built-Up Land and Other (low density rural development). Thus, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. There would be no impact and mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

No impact

The Project Site and surrounding areas are not zoned for agricultural use and no nearby parcels are under Williamson Act contracts (Calaveras County 2019). This Project would not conflict with existing zoning for agricultural uses or a Williamson Act contract. Therefore, no impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒

No impact

As discussed above, as public ROW, the County Zoning Ordinance does not identify the Project Site as forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)). Thus, project implementation would not conflict with or cause the rezoning of any of the above zoning designations and there would be no impact and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

See discussion under item c). No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

No impact

See discussion under item a) and c), the Proposed Project would not result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest. No impact would occur and no mitigation measures are required.

4.2.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.3 Air Quality

The following information was provided by the Jenny Lind Water System Tank A to B Water Transmission Pipeline Project – Air Quality and Greenhouse Gas Emissions Assessment Memorandum completed by ECORP Consulting, Inc. (2022a). This document is included as Appendix A of this Initial Study.

4.3.1 Environmental Setting

The Project Area is located in unincorporated Calaveras County. The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. The Proposed Project is located in the Mountain Counties Air Basin (MCAB). The MCAB lies along the northern Sierra Nevada range, close to or contiguous with the Nevada border. The large variations in terrain and exhibits large variations in climate, both of which affect air quality.

Both the U.S. Environmental Protection Agency (USEPA) and CARB have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called criteria pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O_3), Carbon Monoxide (CO), Particulate Matter (PM), Oxides of Nitrogen (NO_x), sulfur dioxide (SO_2), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Calaveras County portion of the MCAB is designated as a nonattainment area for the federal O_3 standard and is also a nonattainment area for the state standards for O_3 and PM_{10} (Particulate Matter less than 10 microns in diameter) (ECORP 2022a).

The air quality regulating authority in Calaveras County is the Calaveras County Air Pollution District (CCAPCD). The agency's primary responsibility is ensuring that the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are attained and maintained in the Calaveras County portion of the MCAB. The CCAPCD coordinates the work of government agencies, businesses, and private citizens to achieve and maintain healthy air quality for Calaveras County. The CCAPCD develops market-based programs to reduce emissions associated with mobile sources, processes permits, ensures compliance with permit conditions and with CCAPCD rules and regulations, and conducts long-term planning related to air quality. The CCAPCD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, as well as many other activities.

The following is a list of noteworthy CCAPCD rules that are required of construction activities associated with the Proposed Project:

- **Rule 202 (Visible Emissions):** Prohibits the discharge of air containments for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart or such opacity as to obscure an observer's view to a degree equal to or greater to shade No. 1 on the Ringelmann Chart.

- **Rule 205 (Nuisance):** Prohibits the discharge of air containments which cause injury, detriment, nuisance, or annoyance.
- **Rule 207 (Particulate Matter):** A person shall not release or discharge into the atmosphere from any source or single processing unit, exclusive of sources emitting combustion contaminants only, particulate matter emissions in excess of 0.1 grains per cubic foot of dry exhaust gas at standard conditions.
- **Rule 210 (Specific Contaminants):** Limits the amount of sulfur carbon dioxide released in the atmosphere.

4.3.2 Air Quality (III) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

Less than Significant Impact

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the NAAQS and CAAQS. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The CCAPCD is the air pollution control agency for Calaveras County, including the Project Site. The agency's primary responsibility is ensuring that the NAAQS and CAAQS are attained and maintained in the Calaveras County portion of the MCAB. A project is inconsistent with regional air quality planning if it would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations, as determined by a comparison of Project emissions to CCAPCD significance thresholds. As shown in Table 4-1, the Proposed Project would be below the CCAPCD significance thresholds during construction. The Project would result in negligible amounts of emissions during operations. Since the Project would result in less than significant emission impacts, it would not delay the timely attainment of air quality standards or CCAPCD air quality planning goals. The Proposed Project would not conflict with or obstruct the implementation of any air quality plan.

Additionally, the Project does not include development of new housing or employment centers and would not induce population or employment growth. Rather, the Proposed Project improvements address existing deficiencies that require modification in order to continue to provide reliable water service for existing development in the Project Area.

For these reasons, the Project would have a less than significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐

Less Than Significant Impact.

According to the CCAPCD, an air quality impact is considered significant if the Proposed Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. As shown in Table 4-1, the CCAPCD has established thresholds of significance for air quality pertaining to construction and operational activities of land use development projects such as that proposed.

Table 4-1. Calaveras County Air Pollution Control District Significance Thresholds – Pounds per Day

Air Pollutant	Construction Activities	Operations
Reactive Organic Gases	150	150
Nitrogen Oxide	150	150
Carbon Monoxide	--	--
Sulfur Oxide	--	--
Coarse Particulate Matter	150	150
Fine Particulate Matter	--	--

4.3.2.1 Project Construction Emissions

Emissions associated with Project construction would be temporary and short term but have the potential to represent a significant air quality impact. Two basic sources of short-term emissions will be generated through Project construction: operation of the heavy-duty equipment (i.e., excavators, loaders, haul trucks) and the creation of fugitive dust during clearing and grading. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation.

Project construction emissions were modeled using the Roadway Construction Emissions Model (RCEM), version 9.0.1. RCEM is a spreadsheet-based model that is able to estimate exhaust emissions from heavy-duty construction equipment, haul trucks, and worker commute trips as well as fugitive dust from the construction of a new roadway, road widening, roadway overpass, levee or pipeline projects. Appendix A provides more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

Predicted maximum daily emissions attributable to Project construction are summarized in Table 4-2. Such emissions are short-term and of temporary duration, lasting only as long as Project construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the CCAPCD's thresholds of significance.

Table 4-2. Construction-Related Criteria Air Pollutant Emissions

Description	Pollutant (maximum pounds per day)		
	ROG	**NO_X**	**PM_{10}**
Excavation and Hauling	3.11	26.36	7.58
Final Paving	4.02	31.68	1.57
CCAPCD Significant Impact Threshold	*150*	*150*	*150*
Exceed CCAPCD Threshold?	**No**	**No**	**No**

Source: RCEM version 9.0.1. Refer to Appendix A for Model Data Outputs.
Notes: Emission calculations conservatively account for the import of 40 cubic yards of soil material and export of 40 cubic yards of soil and demolished asphalt daily, during the Excavation and Hauling phase of construction [21,120 cubic yards of soil and demolished asphalt import/export total over the course of construction]. Calculations also account for the import of 80 cubic yards of asphalt daily during the Final Paving phase [5,280 cubic yards of asphalt total over the course of construction].

As shown in Table 4.-2, emissions generated during Project construction would not exceed the CCAPCD's thresholds of significance. Since the Project's emissions do not exceed thresholds, no exceedance of the ambient air quality standards would occur, and no regional health effects from Project criteria pollutants would occur.

4.3.2.2 Project Operational Emissions

Operational emissions impacts are long-term air emissions impacts that are associated with any changes in the permanent use of the Project Site by onsite stationary and offsite mobile sources that substantially increase emissions. Once construction is complete, no regular additional daily vehicle trips or personnel would be added to operate or maintain the new facilities. Project operations would not include any emitting stationary equipment. The Project would not be a greater source of operational emissions beyond current conditions. Therefore, Proposed Project operations would not contribute to onsite or offsite emissions.

Because of these reasons, the Project's construction and operations would have less than a significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Less than Significant Impact.

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The Project Site is linear and traverses many different locations throughout the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County adjacent to State Highway 26, an area primarily made up of sensitive residential receptors. Virtually all aspects of Project implementation would involve construction activity occurring adjacent to these land uses.

4.3.2.3 Construction-Generated Air Contaminants

Construction-related activities would result in temporary, short-term Project-generated emissions of Diesel Particulate Matter (DPM), Reactive Organic Gases (ROG), NOx, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); paving; and other miscellaneous activities. The Calaveras County portion of the MCAB is listed as a nonattainment area for the federal O_3 standard and is also a nonattainment area for the state standards for O_3 and PM_{10}. Thus, existing O_3 and PM_{10} levels in Calaveras County are at unhealthy levels during certain periods. However, as previously demonstrated, the Project would not exceed the CCAPCD significance thresholds.

PM_{10} and $PM_{2.5}$ contain microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. PM exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary Toxic Air Contaminant (TAC) of concern. The potential cancer risk from the inhalation of DPM outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. As with O_3 and NO_x, the Project would not generate emissions of PM_{10} that would exceed CCAPCD's thresholds. Accordingly, the Project's PM emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

4.3.2.4 Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Project; nor would the Project attract mobile sources that spend long periods queuing and idling at the site. Thus, by its very nature, the Project would not be a source of TAC concentrations post-construction.

Therefore, the construction and operations of the Proposed Project will have a less than significant effect on sensitive receptors.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Less than Significant Impact

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word *strong* to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant

reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would not adversely affect a substantial number of people to odor emissions.

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified as being associated with odors. The installed water transmission pipeline would not emit odors. Therefore, the Proposed Project would have a less than significant impact when it comes to odors.

4.3.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.4 Biological Resources

This section is based on the analysis and recommendations presented in the Biological Resources Assessment prepared for the Proposed Project (ECORP 2021b, Appendix B).

4.4.1 Environmental Setting

The Study Area is located within sloped foothill terrain situated at an elevational range of approximately 545 feet to 905 feet above Mean Sea Level (MSL) in the Northern Sierra Nevada Foothills District Subregion within the Sierra Nevada Region of the of the California Floristic Province. The average winter minimum temperature in Camp Pardee, approximately 5.7 miles north of the Study Area, is 41.1 ˚F and the average summer maximum temperature is 92.1 ˚F. Average annual precipitation is approximately 22.86 inches (ECORP 2022b).

The Study Area is located within the Calaveras County ROW of Hart Vickson Lane, Baldwin Street, Usher Drive, Wind River Drive and Wind River Drive within the Rancho Calaveras community area. The Study Area begins at Tank A, follows the above described alignment and ends at Tank B. The surrounding land use is low-density residential to rural residential. Descriptions of the vegetation communities are provided below. The vegetation communities occurring within the Study Area include developed, ruderal grassland, blue oak woodland, and chamise chaparral. The majority of the Study Area is the developed vegetation community since the majority of the pipeline will be installed in the existing road alignment and public ROW. The ruderal grassland vegetation community is the second largest vegetation community and is comprised of the road shoulders. A small portion of the Study Area is blue oak woodland and chamise chaparral that overlap the edges of the Study Area.

4.4.1.1 Wildlife

Habitat within the Study Area is likely to support a variety of common wildlife species. Wildlife species observed onsite during the November 15, 2022 reconnaissance-level site visit include acorn woodpecker (*Melanerpes formicivorus*), white-breasted nuthatch (*Sitta carolinensis*), American crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), western fence lizard (*Sceloporus occidentalis*), California mule deer (*Odocoileus hemionus californicus*), and California ground squirrel (*Otospermophilus beecheyi*).

4.4.1.2 Soils

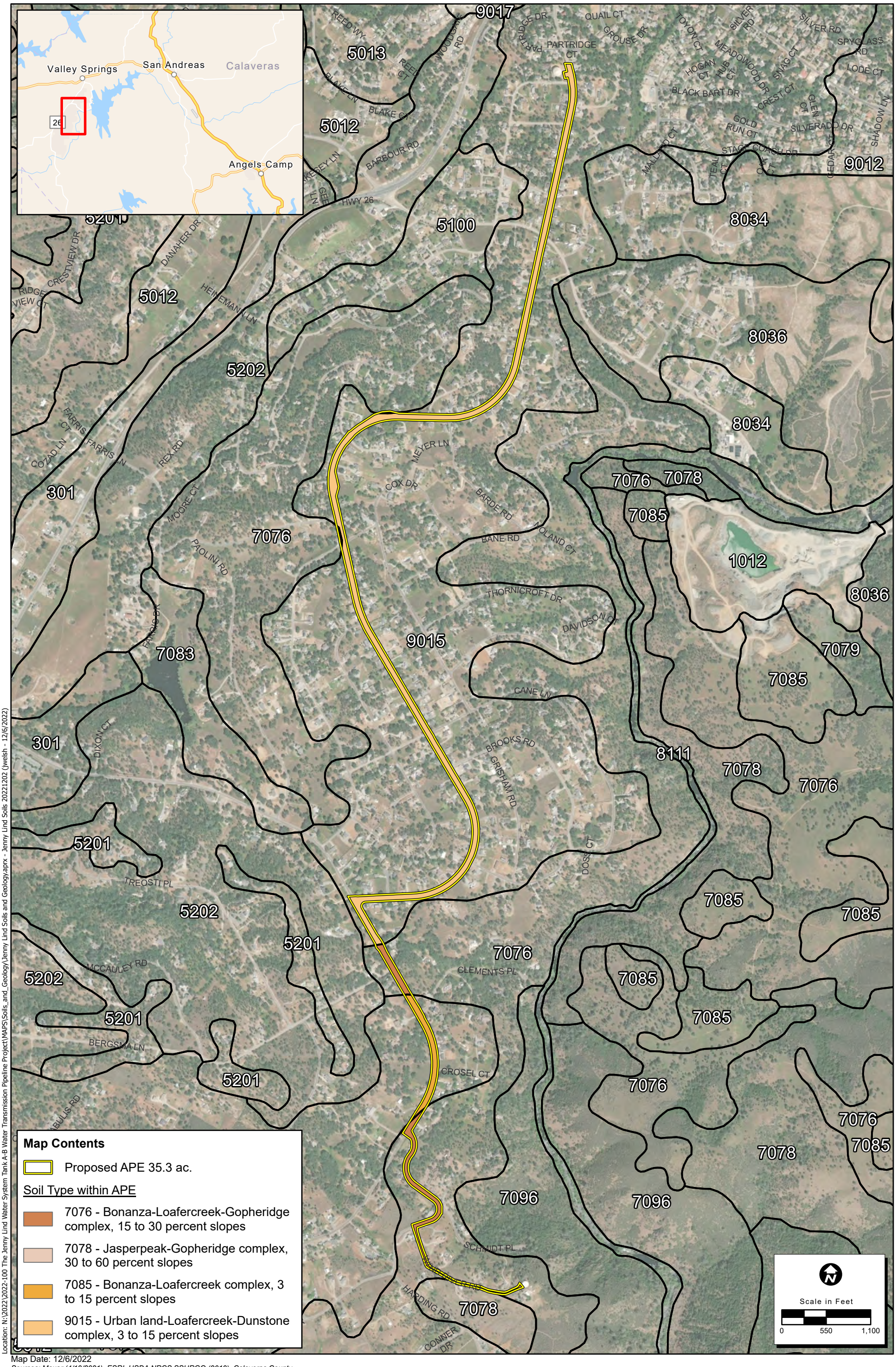
According to the Web Soil Survey (ECORP 2022b), four soil units have been mapped within the Study Area (Figure 4.4-1):

- 7076 – Bonanza-Loafercreek-Gopher Ridge complex, 15 to 30 percent slopes
- 7078 – Jasper Peak-Gopher Ridge complex, 30 to 60 percent slopes
- 7085 – Bonanza-Loafercreek complex, 3 to 15 percent slopes
- 9015 – Urban land-Loafercreek-Dunstone complex, 3 to 15 percent slopes

A minor component (2 percent of mapped area) of the Dunstone portion of the *9015* soil complex contains *Mollic fluvaquents, cobbly* that is hydric. None of the remaining soil units are considered hydric, as their soil units do not contain hydric components (ECORP 2022b).

4.4.1.3 Potential Waters of the U.S.

A preliminary aquatic resources assessment was conducted within the Study Area concurrent with the reconnaissance-level field survey. This reconnaissance-level assessment was not performed in accordance with the Corps of Engineers Wetlands Delineation Manual or the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (ECORP 2022b). One ephemeral drainage aquatic resource was identified during the reconnaissance-level field survey (Figure 4.4-2) at the northeast corner of Hart Vickson Lane and Baldwin Street. This feature flows under Hart Vickson Lane through an approximately 3-foot-wide existing metal culvert and continues parallel to Baldwin Street on the eastern side of the street and flows outside of the Study Area. This feature is mapped in the National Wetlands Inventory data (Figure 4.4-3). Based on the USFWS Cowardin classification system, the aquatic feature is classified as Riverine Intermittent Streambed (R4SBC). Based on aquatic resource terminology, *Riverine* features include rivers, streams, creeks, drainages, ditches, and canals. (ECORP 2022b). The proposed trenching and installation of the transmission pipeline in this vicinity will cross under the existing metal culvert and not enter/disturb the ephemeral drainages on either side of the paved road.



Map Contents

- Proposed APE 35.3 ac.

Soil Type within APE

- 7076 - Bonanza-Loafercreek-Gopheridge complex, 15 to 30 percent slopes
- 7078 - Jasperpeak-Gopheridge complex, 30 to 60 percent slopes
- 7085 - Bonanza-Loafercreek complex, 3 to 15 percent slopes
- 9015 - Urban land-Loafercreek-Dunstone complex, 3 to 15 percent slopes

Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Soils_and_Geology\Jenny Lind Soils and Geology.aprx - Jenny Lind Soils 20221202 (jwelsh - 12/6/2022)

Map Date: 12/6/2022

Sources: Maxar (4/19/2021), ESRI, USDA NRCS SSURGO (2019), Calaveras County

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Figure 4.4-1. NRCS Soils

2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

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Map Contents

Proposed APE 35.3 ac.

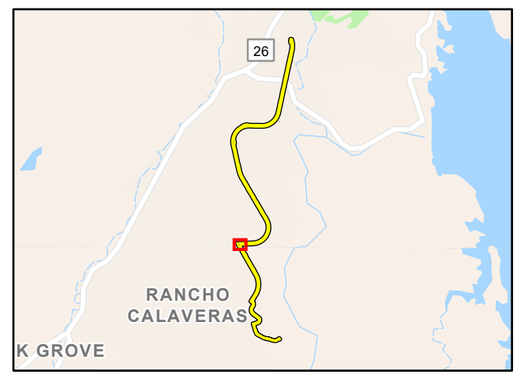
Culvert

Aquatic Resource Type

Ephemeral Drainage - 0.0052 total ac.

Sources: Maxar (4/19/2021), ESRI, Calaveras County

The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Calaveras District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.



Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Jurisdictional_Delineation\Jenny Lind Aquatic Resources aprx - Jenny Lind PARA 20221205 (jwelsh - 12/6/2022)

Map Date: 12/6/2022

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Scale in Feet
0 50

Figure 4.4-2. Preliminary Aquatic Resources Assessment

2022-100 The Jenny Lind Water System Tank A-B
Water Transmission Pipeline Project

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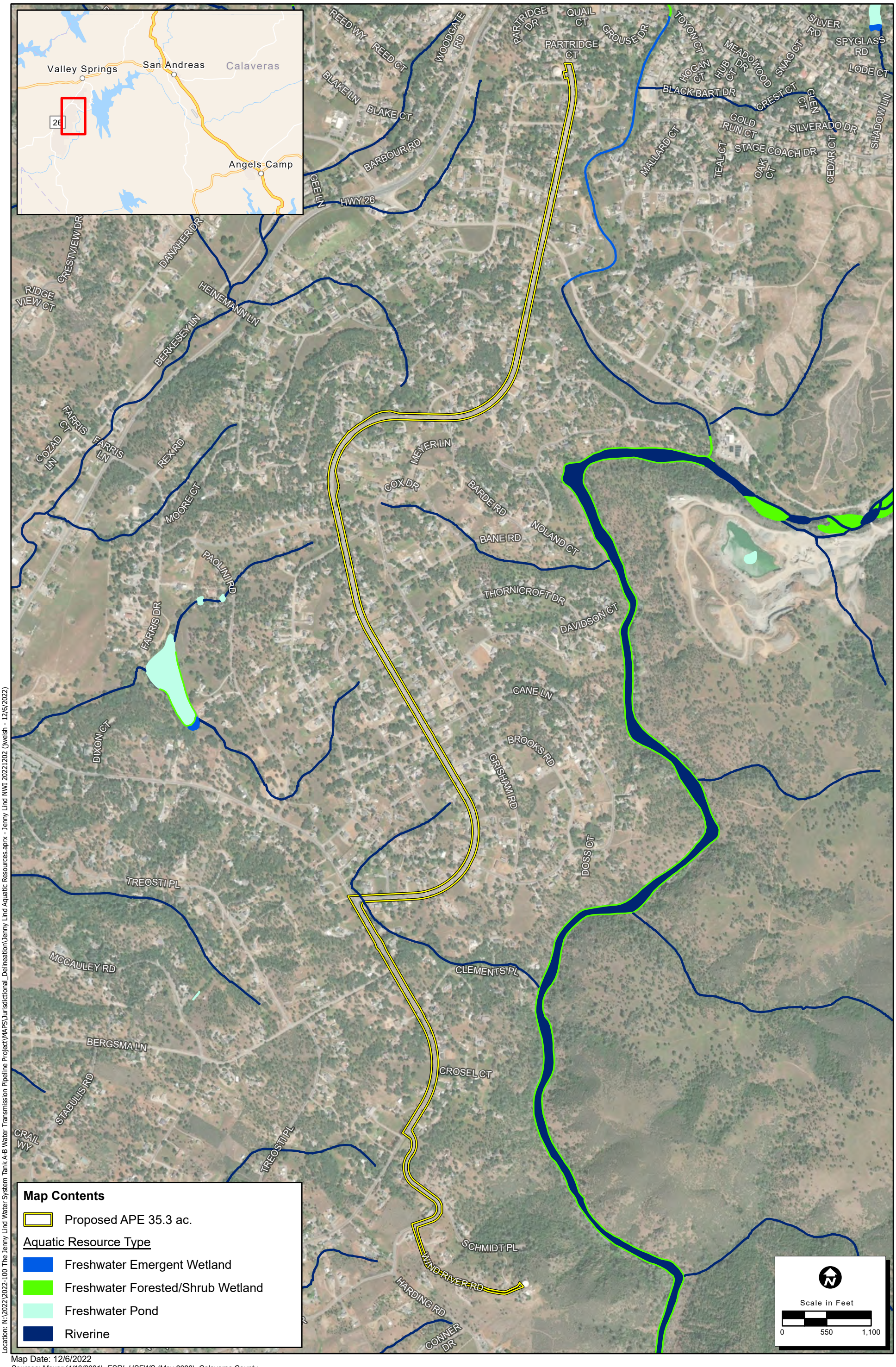

Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Jurisdictional_Delineation\Jenny Lind Aquatic Resources.aprx - Jenny Lind NWI 20221202 (jwelsh - 12/6/2022)

Map Date: 12/6/2022

Sources: Maxar (4/19/2021), ESRI, USFWS (May 2022), Calaveras County

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Figure 4.4-3. National Wetlands Inventory (NWI)

2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

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The ephemeral drainage has not been verified by the USACE or the Central Valley Regional Water Quality Control Board (RWQCB) and jurisdictional status of waters (Waters of the U.S./State) has not been determined.

4.4.1.4 Special-Status Species

Special-status species identified during the literature review and database searches with the potential to occur in the region surrounding the Study Area are included in Appendix B. Table 1 evaluates these special-status plant and animal species based on site-specific information to determine their potential to occur. Included in this table are the listing status for each species, a brief habitat description, approximate flowering period for plants and survey period for animals, and a determination on the potential to occur onsite. Following the table provides a brief description of each special-status species with potential to occur onsite. Descriptions of species that have at least a low potential to occur in the Study Area are provided in the following sections. Species that were considered to be absent from the Study Area due to the lack of suitable habitat, or because the known distribution of the species does not include the Study Area vicinity, are not discussed further in this document.

Special Status Plants

Thirty-one special-status plant species were identified as having the potential to occur in the region surrounding the Study Area based on the database queries and literature review (Appendix B, table 1). However, upon further analysis and after the site visit, 26 species were determined to be absent from the Study Area due to the lack of suitable habitat. No further discussion of these species is provided in this analysis. Brief descriptions of the remaining five species that have the potential to occur within the Study Area are presented below.

Big-Scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis*) is not listed pursuant to either the federal or California Endangered Species Acts (ESA) but is designated as a California Rare Plant Rank (CRPR) 1B.2 species. This species is an herbaceous perennial that occurs in chaparral, cismontane woodlands, valley and foothill grassland, and sometimes on serpentinite soils. Big-scale balsamroot blooms from March through June and is known to occur at elevations ranging from 150 to 5,100 feet above MSL. Big-scale balsamroot is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties (ECORP 2022b).

There are no CNDDB documented occurrences of big-scale balsamroot within 5 miles of the Study Area. The Chamise Chaparral and Blue Oak Woodland vegetation communities may provide marginally suitable habitat for this species. Big-scale balsamroot has a low potential to occur within the Study Area (ECORP 2022b).

Bisbee Peak Rush-Rose

Bisbee Peak rush-rose (*Crocanthemum suffrutescens*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 3.2 species. This species is a perennial evergreen shrub that

occurs often in gabbroic or Ione soil, often in burned or disturbed areas within chaparral. Bisbee Peak rush-rose blooms from April through August and is known to occur at elevations ranging from 245 to 2,200 feet above MSL. Bisbee Peak rush-rose is endemic to California; its current range includes Amador, Calaveras, and El Dorado counties (ECORP 2022b).

There are no CNDDB documented occurrences of Bisbee Peak rush-rose within 5 miles of the Study Area. The Chamise Chaparral vegetation community may provide marginally suitable habitat for this species. Bisbee Peak rush-rose has a low potential to occur within the Study Area (ECORP 2022b).

Stanislaus Monkeyflower

Stanislaus monkeyflower (*Erythranthe marmorata*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in cismontane woodland and lower montane coniferous forests. Stanislaus monkeyflower blooms from March through May and is known to occur at elevations ranging from 330 to 2,955 feet above MSL. Stanislaus monkeyflower is endemic to California; its current range includes Amador, Calaveras, Fresno, Stanislaus, and Tuolumne counties. It is believed to be extirpated from Amador, Stanislaus, and Tuolumne counties (ECORP 2022b).

There are no CNDDB documented occurrences of Stanislaus monkeyflower within 5 miles of the Study Area. The Blue Oak Woodland vegetation community may provide marginally suitable habitat for this species. Stanislaus monkeyflower has a low potential to occur within the Study Area (ECORP 2022b).

Parry's Horkelia

Parry's horkelia (*Horkelia parryi*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.2 species. This species is a small, herbaceous perennial that occurs in chaparral and cismontane woodlands and is associated with very acidic, nutrient-poor, coarse soils typical of the Ione Formation. Parry's horkelia blooms from April through September and is known to occur at elevations ranging from 260 to 3,510 feet above MSL. Parry's horkelia is endemic to California; the current range for this species includes Amador, Calaveras, El Dorado, Mariposa, Sonoma, and Tuolumne counties (ECORP 2022b).

There are no CNDDB documented occurrences of Parry's horkelia within 5 miles of the Study Area. The Blue Oak Woodland and Chamise Chaparral vegetation communities may provide marginally suitable habitat for this species. Parry's horkelia has a low potential to occur within the Study Area (ECORP 2022b).

Forked Hare-Leaf

Forked hare-leaf (*Lagophylla dichotoma*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs sometimes in clay in cismontane woodland and valley and foothill grassland. Forked hare-leaf blooms from April through May and is known to occur at elevations from 150 to 1,100 feet above MSL. Forked hare-leaf is endemic to California; the current range of this species includes Calaveras, Fresno, Merced, and Stanislaus counties. It is believed to possibly be extirpated from Merced County (ECORP 2022b).

There are no CNDDB documented occurrences of forked hare-leaf within 5 miles of the Study Area (ECORP 2022b). The Blue Oak Woodland vegetation community may provide marginally suitable habitat for this species. Forked hare-leaf has a low potential to occur within the Study Area.

Invertebrates

Five special-status invertebrate species were identified as having potential to occur in the region surrounding the Study Area based on the database queries and literature review (Appendix B); however, upon further analysis and after the site visit, four species were determined to be absent from the Study Area due to the lack of suitable habitat. No further discussion of these species is provided in this analysis. Brief descriptions of the remaining one species that has the potential to occur within the Study Area are presented below.

Valley Elderberry Longhorn Beetle

The Valley Elderberry Longhorn Beetle (VELB, *Desmocerus californicus dimorphus*) is listed as threatened pursuant to the federal Endangered Species Act. The VELB is completely dependent on its larval host plant, elderberry (*Sambucus* species), which occurs in riparian and other woodland and scrub communities. Elderberry plants, located within the range of the beetle, with one or more stems measuring 1.0 inch or greater in diameter at ground level are considered to be habitat for the species. The adult flight season extends from late March through July. During that time the adults feed on foliage and perhaps flowers, mate, and females lay eggs on living elderberry plants. The first instar larvae bore into live elderberry stems, where they develop for one to two years feeding on the pith. The fifth instar larvae create exit holes in the stems and then plug the holes and remain in the stems through pupation (ECORP 2022b). The VELB occurs in metapopulations throughout the Central Valley. These metapopulations (subpopulations) occur throughout contiguous riparian habitat which shift temporarily and spatially based on changing environmental conditions. This temporal and spatial shifting of the metapopulations results in a patchy and ever-changing distribution of the species. Research indicates that dense elderberry shrub clumps in healthy riparian habitat is the primary habitat for the VELB. The beetle's current distribution extends from Shasta County in the north to Fresno County in the south and includes everything from the valley floor up into the lower foothills. The vast majority of VELB occurrences have been recorded below 500 feet (152 meters); however, rare occurrences have been recorded up to approximately 3,000 feet (ECORP 2022b).

The VELB has not been reported within 5 miles of the Study Area (CDFW 2022). The one blue elderberry shrub on Usher Drive provides low-quality habitat because it is isolated in a nonriparian habitat with no exit holes observed during the November 15, 2022 site visit (Appendix B). The elderberry shrub is multitrunked with large branches greater than 1-inch in diameter at ground level. A photograph of the elderberry shrub is included in Appendix B.

Special-Status Birds

Golden Eagle

The golden eagle (*Aquila chrysaetos*) is not listed pursuant to either the California or federal ESAs. However, it is fully protected according to Section 3511 of the Fish and Game Code of California and the federal Bald and Golden Eagle Protection Act. Golden eagles generally nest on cliff ledges and/or large lone trees in rolling to mountainous terrain. Golden eagles nest throughout California except the flat portions of the Central Valley, the immediate coast, and portions of southeastern California. Occurrences within the Central Valley are usually dispersing post-breeding birds, nonbreeding subadults, or migrants. Foraging habitat includes open grassland and savannah. Nesting occurs during February through August (ECORP 2022b).

Golden eagle has not been reported within 5 miles of the Study Area. The Blue Oak Woodland vegetation community within and adjacent to the Study Area provides marginally suitable nesting habitat; however, the moderate level of human disturbance in the area makes it unlikely that golden eagle would nest within or adjacent to the Study Area. Therefore, golden eagle has a low potential to occur within or adjacent to the Study Area (ECORP 2022b).

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species and is protected pursuant to the California ESA. This species nests in North America (Canada, western U.S., and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta. In California, the nesting season for Swainson's hawk ranges from mid-March to late August. Swainson's hawk nest within tall trees in a variety of settings including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures (ECORP 2022b).

Swainson's hawk has not been reported within 5 miles of the Study Area. The Blue Oak Woodland and Ruderal Grassland vegetation communities within and adjacent to the Study Area provide marginal nesting and foraging habitat. Swainson's hawk has a low potential to occur within or adjacent to the Study Area (ECORP 2022b).

Nuttall's Woodpecker

The Nuttall's woodpecker (*Dryobates nuttallii*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS Bird of Conservation Concern (BCC). Nuttall's woodpeckers are resident from Siskiyou County south to Baja California. They nest in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands. Breeding occurs during April through July (ECORP 2022b).

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area. The Blue Oak Woodland vegetation community within the Study Area provides suitable nesting habitat. Nuttall's woodpecker has potential to occur within the Study Area (ECORP 2022b).

Yellow-Billed Magpie

The yellow-billed magpie *(Pica nuttalli*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures or cropland. Nest building begins in late January to mid-February and may take up to 6 to 8 weeks to complete, with eggs laid during April through May and fledging occurring from May through June. The young leave the nest at about 30 days after hatching. Yellow-billed magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004-2006 (ECORP 2022b).

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area. The Blue Oak Woodland vegetation community within the Study Area provides potential nesting habitat for this species. Yellow-billed magpie has potential to occur within the Study Area (ECORP 2022b).

Oak Titmouse

Oak titmouse (*Baeolophus inornatus*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. Oak titmouse breeding range includes southwestern Oregon south through California's Coast, Transverse, and Peninsular ranges, western foothills of the Sierra Nevada, into Baja California; they are absent from the humid northwestern coastal region and the San Joaquin Valley. They are found in dry oak or oak-pine woodlands but may also use scrub oaks or other brush near woodlands (ECORP 2022b). Nesting occurs during March through July (ECORP 2022b).

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area. The Blue Oak Woodland vegetation community within the Study Area provides potential nesting habitat for this species. Oak titmouse has potential to occur within the Study Area (ECORP 2022b).

Wrentit

The wrentit (*Chamaea fasciata*) is not listed in accordance with either the California or federal ESAs but is designated as a BCC by the USFWS. Wrentit are a sedentary resident along the west coast of North America from the Columbia River south to Baja California. Wrentit are found in coastal sage scrub, northern coastal scrub, and coastal hard and montane chaparral, and breed in the dense understory of valley oak riparian, Douglas-fir and redwood forests, early-successional forests, riparian scrub, coyote bush and blackberry thickets, suburban parks, and larger gardens. Nesting occurs during March through August (ECORP 2022b).

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area. The Blue Oak Woodland and Chamise Chaparral vegetation communities within the Study Area provide potential nesting habitat for this species. Wrentit has potential to occur within the Study Area (ECORP 2022b).

Lawrence's Goldfinch

The Lawrence's goldfinch (*Spinus lawrencei*) is not listed pursuant to either the California or federal ESAs but is currently a BCC according to the USFWS. Lawrence's goldfinch breed west of the Sierra Nevada-Cascade axis from Tehama, Shasta, and Trinity counties south into the foothills surrounding the Central

Valley to Kern County; and on the Coast Range from Contra Costa County to Santa Barbara County. Lawrence's goldfinch nest in arid woodlands usually with brushy areas, tall annual weeds and a local water source (ECORP 2022b). Nesting occurs during March through September (ECORP 2022b).

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area. The Blue Oak Woodland and Chamise Chaparral vegetation communities within the Study Area provide potential nesting habitat for this species. Lawrence's goldfinch has potential to occur within the Study Area (ECORP 2022b).

Bullock's Oriole

The Bullock's oriole (*Icterus bullockii*) is not listed pursuant to either the California or federal ESAs but is currently a BCC according to the USFWS. In California, Bullock's orioles are found throughout the state except the higher elevations of mountain ranges and the eastern deserts. They are found in riparian and oak woodlands where nests are built in deciduous trees, but may also use orchards, conifers, and eucalyptus trees. Nesting occurs from March through July (ECORP 2022b).

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area. The Blue Oak Woodland vegetation community within the Study Area provide potential nesting habitat for this species. Bullock's oriole has potential to occur within the Study Area (ECORP 2022b).

Special-Status Mammals

Two special-status reptile species was identified as having potential to occur in the region surrounding the Study Area based on the database queries and literature review (Table 1). However, upon further analysis and after the site visit, the two species were determined to be absent from the Study Area due to the lack of suitable habitat and no proposed trimming or removal of any trees by the Project. No further discussion of these species is provided in this analysis.

4.4.1.5 Sensitive Natural Communities

Two sensitive natural communities were identified as having the potential to occur within the Study Area based on the literature review (ECORP 2022b). These include northern hardpan vernal pool and Ione Chaparral. According to the CNDDB/Biogeographic Information and Observation System, no sensitive natural communities were mapped within the Study Area (ECORP 2022b), and none were observed during the November 2022 site visit.

4.4.1.6 Wildlife Movement Corridors and Nurseries

The Study Area is located within a rural residential to developed portion of the Rancho Calaveras and Jenny Lind communities. The majority of the Study Area is within the ROW of existing Calaveras County roads. The Study Area is within an Essential Habitat Connectivity area mapped by the CDFW (ECORP 2022b). Since the majority of the Project is restricted to existing roadways, the Project will not impede with habitat connectivity any more than the existing road already affects habitat connectivity.

Wildlife nursery sites were not observed within the Study Area during the 2022 site visit.

4.4.2 Biological Resources (IV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Less Than Significant with Mitigation Incorporated

As discussed above, the Study Area may support potential habitat for several special-status plants. No special-status plants were observed during the November 15, 2022 field survey; however, protocol-level surveys have not been conducted and therefore cannot be dismissed. Given that the Project primarily involves construction within existing roadways, impacts to habitat with the potential to support special-status plants is low. However, habitat adjacent to the roadway and within the ROW has the potential to support special-status plants and activities in these areas should be avoided. Implementation of Mitigation Measure BIO-1, which identifies avoidance areas, will reduce impacts to special-status plants to less than significant.

As discussed above, ECORP biologist Dan Machek located one elderberry shrub with potential habitat for VELB within the Study Area. The proposed pipeline alignment trench has been designed to maximize the distance from the observed elderberry shrub but is still within 30 feet of the dripline. The proposed alignment has been designed to avoid the elderberry shrub. However, if trenching and paving get close to the shrub damage could potentially occur; therefore, any ground-disturbing activities take place within the vicinity of the elderberry shrub shall conform to identified avoidance measures. Implementation of Mitigation Measures BIO-2 will reduce the potential impacts to special-status invertebrates to less than significant.

Many different species of nesting birds or raptors have the potential to occur within or adjacent to the Study Area. If the Project proposes to conduct Project activities during the bird nesting season (February 1 through August 31), then implementation of Mitigation Measure BIO-3 will reduce impacts to nesting birds or raptors to less than significant.

It is anticipated that staging areas will be identified prior to Project construction. To avoid potential impacts to sensitive biological resources, implementation of Mitigation Measure BIO-4 will ensure that the Project does not impact any special-status species or potentially jurisdictional aquatic features.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒

No Impact.

As discussed above, no sensitive natural communities were mapped within the Project Area (ECORP 2021b, Appendix B), and none were observed during the November 2022 site visit. Therefore, the Project will not have an impact on sensitive natural communities or riparian habitats.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

No Impact.

As discussed above in Section 4.4.2.1, one ephemeral drainage aquatic resource was identified during the reconnaissance-level field survey at the northeast corner of Hart Vickson Lane and Baldwin Street. This feature is mapped in the National Wetlands Inventory data (ECORP 2021b, Appendix B). The ephemeral drainage has not been verified by the USACE or the Central Valley RWQCB and jurisdictional status of waters (Waters of the U.S./State) has not been determined. Currently, the Project is designed to avoid all drainage features and therefore will not have an impact on state or federally protected wetlands.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

Since the majority of the Project is restricted to existing roadways, the Project will not impede habitat connectivity any more than the existing road already affects habitat connectivity. Additionally, there is no

fish habitat within the Project Area. Therefore, there will be no impact to migratory fish or wildlife movement within the Project Area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐

Less than Significant with mitigation incorporated.

The proposed Project will take place entirely within the existing roadway ROW although tree trimming may be required at some locations where branches hang over the road. However, with implementation of BIO-4 the Project will not conflict with local policies or ordinances protecting biological resources.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

No Impact.

The Proposed Project will take place within the existing ROW and will not modify habitat or impact natural communities. Therefore, the Project will not conflict with adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other local, regional, or state habitat conservation plan.

4.4.3 Mitigation Measures

BIO-1:

Special-Status Plant Habitat Avoidance. Potential habitat for special-status plant species occurs in the blue oak woodland and chamise chaparral vegetation communities within the Project Area. Therefore, to avoid impacts during construction of the Proposed Project, all Project personnel will be provided the Vegetation Communities and Land Cover Types Map (Appendix C) and will not access or conduct any construction activity outside of the existing roadway within the blue oak woodland and chamise chaparral vegetation communities (along the pipeline alignment).

BIO-2: **Valley Elderberry Longhorn Beetle.** If the proposed pipeline alignment trench is within 30 feet of the dripline of an observed elderberry shrub, trenching and paving may damage an elderberry shrub. Therefore, any ground-disturbing activities within 30 feet of the dripline of the elderberry shrub shall conform to the following avoidance measures.

The design and construction of the new trench and pipeline has been moved an additional 3 feet left of the alignment for a 60-foot clearance (30 feet on either side). However, the project will Initiate informal consultation with the USFWS for guidance regarding measures to avoid and minimize potential impacts to VELB and VELB habitat. These measures could include exclusionary fencing and buffers.

BIO-3: **Nesting Bird and Raptors.** Retain a qualified biologist to conduct a preconstruction nesting raptor and bird survey of all suitable habitat in the Study Area within 14 days of the commencement of construction during the nesting season (February 1 through August 31). Surveys shall be conducted in accessible areas within 500 feet of the Study Area for nesting raptors and 100 feet of the Study Area for nesting birds. Preconstruction nesting surveys are not required for construction activity outside the nesting season.

If active nests are not found during the preconstruction survey, the biologist shall document the findings in a letter report for the lead agency, and no further mitigation shall be required. Upon request by CDFW, the letter report will be made available to CDFW.

If active nests are found, a no-disturbance buffer shall be established around the nest. The buffer distances shall be established by a qualified biologist in consultation with CDFW and are generally recommended to be 250 to 500 feet for raptors and 50 to 100 feet for nonraptor birds. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.

BIO-4: **Staging Area Preconstruction Clearance Survey.** Within 14 days prior to construction a qualified biologist will conduct a preconstruction survey of identified staging areas for (1) potential jurisdictional aquatic features, (2) special-status plant potential habitat, and (3) special-status wildlife. If any of these conditions are observed then species-specific avoidance zones will be established in coordination with the qualified biologist. The qualified biologist will provide a memo letter with avoidance and minimization measure recommendations. Avoidance zones will be established with temporary high-visibility fencing.

4.5 Cultural Resources

ECORP Consulting, Inc. prepared a Cultural Resources Inventory Report (ECORP 2022c) for the Proposed Project to determine if cultural resources were present in or adjacent to the Project Area and assess the sensitivity of the Project Area for undiscovered or buried cultural resources. Cultural resources include pre-contact archaeological sites, historic archaeological sites, and historic built environment sites. Pre-contact archaeological sites are places that contain the material remains of activities carried out by the native population of the area (i.e., Native Americans) prior to the arrival of Europeans in the Project Area. Places that contain the material remains of activities carried out by people after the arrival of Europeans are considered historic archaeological sites. Historic built environment features include houses, garages, barns, commercial facilities, industrial facilities, community buildings, and other buildings, structures and facilities that are more than 50 years old. Historic built environment features may also have associated

archaeological deposits, such as abandoned wells, cellars, privies, refuse deposits, and foundations of former outbuildings.

The information provided below is an abridged version of the Cultural Resources Inventory Report and is included here to provide a brief context of the potential cultural resources in the Project Area. Due to the sensitive nature of cultural resources and their records and documentation, which are restricted from public distribution by state and federal law, the IS/MND appendices do not include the cultural resources report; however, all pertinent information necessary for impact determinations is included in this section. A redacted version of the cultural resources report that does not include site records or locations may be obtained by contacting CCWD.

4.5.1 Environmental Setting

The majority of the proposed Project alignment follows existing roads from Tank A to Tank B, including Hart Vickson Lane, Baldwin Street, Usher Drive, and Wind River Road. Surrounding these existing roadways are private rural residences. Elevations range from approximately 545 feet to 905 feet above mean sea level. The Calaveras River is located less than 1 mile northeast from Tank B in the Project Area. Cosgrove Creek is located less than 1 mile from Tank A of the Project Area. There are multiple unnamed seasonal drainages with modern culverts that run along the roadways of the Project Area. According to the NRCS Web Soil Survey, there are five soil types located within the Project Area: Urban Land-Loafercreek-Dunstone complex, 3 to 15 percent slopes, Bonanza-Loafercreek-Gopher Ridge complex, 15 to 30 percent slopes, Bonanza-Loafercreek complex, 3 to 15 percent slopes, Jasper Peak-Gopheridge complex, 30 to 60 percent slopes, and Gopheridge-Jasper Peak complex, 50 to 90 percent slopes (ECORP 2022c).

There exists a moderate potential for buried pre-contact archaeological sites in the Project Area due to the presence of the Calaveras River and Cosgrove Creek just east of the Project Area, and the likelihood of pre-contact archaeological sites located along perennial waterways.

4.5.1.1 Project Area History

The history of Calaveras County was directly connected to the Gold Rush of 1850s as this county was situated within the California Mother Lode. As early as 1849, thousands of individuals sought the opportunity to mine for gold and other natural sources along the waterways and Sierra Nevada Foothills and West Calaveras was considered the gateway to the Mother Lode. Due to the economic development of the various industries in Calaveras County, there were three railroads that served as a commercial connection to nearby railways and throughout the western U.S. The Stockton and Copperopolis and San Joaquín and Sierra Nevada railroads served the communities near and within the Project Area. The Stockton and Copperopolis railroad's western terminus was in Milton, which is 9 miles south of the Project Area. It was originally intended to be a connection to the copper mines, but it became a stage line for several boomtowns through the County. The San Joaquin and Sierra Nevada eastern terminus was in Valley Springs, which is 3 miles north of the Project Area. Valley Springs served as a supply town and access point to mining and other industries (ECORP 2022c).

The Project Area is in present day Valley Springs, but during the historic era, it was a historic boom town named Jenny Lind. Originally named *Dry Diggin*, the town of Jenny Lind served as a waystation situated between two major railroads and gold mining operations. During the early years of the Gold Rush, placer mining was a method many used along the Calaveras River and eventually hydraulicking was incorporated at the tail end of the 19th century. Gold dredging became the primary method of mining from 1903 until 1940, coinciding with the start of U.S. involvement with the Second World War (ECORP 2022c).

By the 1950s, the town of Jenny Lind became an unincorporated community. In the 1960s, Pacific Cascade Land Company purchased 1,200 acres from the Lombardi Family and 4,000 acres from the Dennis Family and developed the area into a residential subdivision called Rancho Calaveras (ECORP 2022c). The Project Area is located within the Rancho Calaveras residential subdivision.

Jenny Lind was a famous Swedish opera singer known as the Swedish nightingale in the 19th century. She made her first debut to the U.S. by going on tour with P.T. Barnum in the 1850s. Her tour was primarily on the eastern U.S., and she never visited California. The origins of the town's namesake are based on two functioning theories. First, occupants of the town renamed their town after Jenny Lind as an attempt for her to extend her tour westward. Second, the name of the town is named after early pioneer Dr. John Y. Lind (ECORP 2022c).

The Jenny Lind Water System Tank A-B Transmission Pipeline Project Area lies closest to the Campo Seco – Valley Springs Mining District. Mining was undertaken by several means within the district including hydraulicking, ground sluicing, drift mining, and dragline dredging. The most productive mine in the district, the Penn Mine, produced over 60,000 ounces of gold, primarily as a byproduct of copper and zinc sulfide mining operations (ECORP 2022c).

4.5.2 Cultural Resources (V) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒

No Impact.

The records search and the 2022 field survey did not yield any historic-period or pre-contact cultural resources in the Project Area.

No cultural resources were identified on the property as a result of the records search and field survey. Therefore, no Historic Properties under Section 106 of the National Historic Preservation Act (NHPA) or Historical Resources under CEQA will be affected by the Proposed Project.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐

Less than Significant with Mitigation.

ECORP conducted a pedestrian survey of the Project Area on November 17, 2022. The Project Area is located on an active roadway and due to safety concerns, ECORP archaeologists drove portions of the Project Area and surveyed on foot when it was safe to do so. The Project Area starts at Tank A, which is located on an uphill slope and paved gravel road. This gravel road turns into a main road that has aggregate base rock/gravel extending onto both sides of the shoulders, and into natural vegetation. The roads along the pipeline route between Tank A and Tank B are surrounded by residential properties, dry vegetation, and drainage channels with culverts on both sides of the road. Each water tank is on a circular concrete pad with a gravel foundation. The ECORP archaeologists inspected any exposed soil, cut banks and drainage. They did not identify cultural material or evidence of habitation within these exposed areas. The 2022 survey by ECORP did not identify cultural resources within the Project Area. However, there always remains the potential for ground-disturbing activities to expose previously unrecorded cultural resources; therefore, with implementation of CUL-1, impacts to archaeological resources will remain less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Less than Significant with Mitigation.

There are no known burial or dedicated cemetery sites within the Project Area; however, as stated above in b) there always remains the potential for ground-disturbing activities to expose previously unrecorded cultural resources or human remains; therefore, with implementation of CUL-1, impacts to human remains will remain less than significant.

4.5.3 Mitigation Measures

CUL-1: **Unknown Resources.** If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as

appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.
- If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the Calaveras County Coroner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the Project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

4.6 Energy

Energy relates directly to environmental quality. Energy use can adversely affect air quality and other natural resources. The vast majority of California's air pollution is caused by burning fossil fuels. Consumption of fossil fuels is linked to changes in global climate and depletion of stratospheric ozone. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice

of different travel modes (e.g., auto, carpool, and public transit); vehicle speeds; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy. In addition, residential, commercial, and industrial land uses consume energy, typically through the usage of natural gas and electricity. This analysis focuses on the one source of energy that is relevant to the Proposed Project: the equipment fuel necessary for Project construction.

The following information was provided by the *Jenny Lind Water System Tank A to B Water Transmission Pipeline Project – Energy Consumption Assessment Memorandum* completed by ECORP Consulting, Inc. (2022d). This document is included as Appendix D of this IS/MND.

4.6.1 Environmental Setting

4.6.1.1 Electricity Services

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear. Pacific Gas and Electricity Company (PG&E) provides electricity and natural gas to Calaveras County. It generates or buys electricity from hydroelectric, nuclear, renewable, natural gas, and coal facilities. PG&E provides natural gas and electricity to most of the northern two-thirds of California, from Bakersfield and Barstow to near the Oregon, Nevada, and Arizona State Line. It provides 5.2 million people with electricity and natural gas across 70,000 square miles. In 2017, PG&E announced that 80 percent of the company's delivered electricity comes from greenhouse gas emission-free sources, including renewables, nuclear, and hydropower.

The California Public Utilities Commission (CPUC) regulates PG&E. The CPUC has developed energy efficiency programs such as smart meters, low-income programs, distribution generation programs, self-generation incentive programs, and a California solar initiative. Additionally, the California Energy Commission (CEC) maintains a power plant database that describes all of the operating power plants in the state by county. Calaveras County, which encompasses the Project Site, contains four power plants generating electricity, of which three are hydro-powered and one is solar-powered (ECORP 2022d).

4.6.1.2 Energy Consumption

Electricity use is measured in kilowatt-hours (kWh). Vehicle fuel use is typically measured in gallons (e.g., of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh. Total automotive fuel consumption in Calaveras County from 2017 to 2021 is shown in Table 4-3. As shown, automotive consumption has decreased since 2017.

Table 4-3. Automotive Fuel Consumption in Calaveras County 2017-2021	
Year	**Fuel Consumption (gallons)**
2021	25,979,986
2020	23,413,525
2019	25,901,898
2018	25,953,930
2017	26,300,995

Source: ECORP Consulting, Inc. 2022d.

4.6.2 Energy (VI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	☒	☐

Less than Significant Impact

Operations of the Proposed Project would not result in the consumption of electricity or natural gas at any rate greater than under current conditions and thus, would not contribute to the county-wide usage. The one source of energy associated with the Project includes the equipment fuel necessary for construction. For the purpose of this analysis, Project increases in construction fuel consumption are compared with the county-wide fuel consumption in 2021, the most recent full year of data. The amount of total construction-related fuel used was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1.

As shown in Table 4-4, the Project's gasoline fuel consumption during the construction period is estimated to be 101,576 gallons of fuel, which would increase the annual construction-related gasoline fuel use in the county by 0.39 percent during Project construction. As such, Project construction would have a nominal effect on local and regional energy supplies, especially over the long term. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and require recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Table 4-4. Proposed Project Energy and Fuel Consumption		
Energy Type	**Annual Energy Consumed**	**Percentage Increase Countywide**
Vehicular/Equipment Fuel Consumption		
Project Construction	101,576 gallons	0.39

Source: ECORP 2022d, Appendix D.
Notes: The Project increase construction-related fuel consumption is compared with the countywide construction-related fuel consumption in 2021, the most recent full year of data.

Operations of the Project would not generate any fuel consumption as it would not be contributing to any mobile sources. As such, fuel consumption associated with vehicle trips generated by the Project during operation would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Therefore, the Project would have less than significant impacts.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

No impact.

The Project proposes a new water transmission pipeline to ensure necessary water storage for the water distribution system at all times. It does not conflict with or obstruct a plan for renewable energy or energy efficiency. There would be no impact.

4.6.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.7 Geology and Soils

The Geology and Soils chapter of this document describes the geologic and soil characteristics of the Proposed Project Site and evaluates the extent to which implementation of the Project could be affected by seismic-related ground failure and soil stability. Information sources for this evaluation include the *Mines and Mineral Resources of Calaveras County, California*, and the U.S. Department of Agriculture (USDA) National Resource Conservation Service (NRCS).

4.7.1 Environmental Setting

4.7.1.1 Geomorphic Setting

The planned Project Area is located within sloped foothill terrain on the western margin of the Sierra Nevada foothills in the Sierra Nevada geomorphic province. The Proposed Project Site is located between

545 feet to 905 feet in elevation. This province trends north-northwest from Bakersfield to Lassen Peak and includes the Sierra Nevada Mountain range and a broad belt of western foothills. The Sierra Nevada block is composed of northwest-trending belts of metamorphic, volcanic, and igneous rocks that have undergone intense deformation, faulting, and intrusion. Active faults that mark the eastern edge of the Sierra Nevada have resulted in up thrusting and tilting of the entire Sierra Nevada block in the last 5 million years-steeply on the western edge (adjacent to the Mono Basin), and gently along the western edge (adjacent to the Great Valley). The gently rolling Sierra Nevada foothills are comprised of metamorphosed sedimentary rocks that have been intruded by igneous rocks. The rock formations that make up the western edge of the Sierra Nevada block likely originally formed as a volcanic arc that was later accreted (added) to the western margin of the continent during the Jurassic period (California Division of Mines and Geology 1962).

4.7.1.2 Regional Seismicity and Fault Zones

Earthquakes can be measured in several ways. Earthquakes create certain types of waves with different velocities, which can be recorded on instruments called seismometers. The Richter Scale measures earthquake magnitude by plotting the amplitude (length and width) of the seismic waves, taking into consideration the distance from the seismometer. The scale is logarithmic so that a recording of magnitude 7, for example, indicates a disturbance with ground motion 10 times as large as a recording of magnitude 6. The Moment Magnitude scale is used by geologists to measure the magnitude of an earthquake based on the physical size of the fault rupture and slip displacement, as well as the amount of energy released. The Modified Mercalli scale is used by the public as a subjective measure of earthquake intensity; it does not have a mathematical basis. It was developed as a way of relating the intensity of ground shaking at any particular location to the physical effects that people experience. This scale is composed of 12 increasing levels of intensity that range from imperceptible shaking (Scale I) to catastrophic destruction (Scale XII) (USGS 2017).

Major faulting along the east flank of the Sierra Nevada has had a profound influence on the geologic history of Calaveras County. Faulting occurred on the east flank during the end of the Pliocene epoch and at the beginning of the Pleistocene epoch, creating the elevation of the Sierra Nevada, which became asymmetrical in form, with a broad, gently dipping western slope and short, steeply dipping eastern slope (California Division of Mines and Geology 1962).

Classifying and Identifying Faults

Geologists have determined that the greatest potential for surface fault rupture and strong seismic ground shaking is from active faults, that is, faults with evidence of activity during the Holocene epoch (the last 11,700 years). Faults classified as *potentially active* (where there is evidence that movement has occurred during the last 1.6 million years), have a lower potential for surface fault rupture and strong seismic ground shaking. Pre-Quaternary faults have exhibited evidence of movement more than 1.6 million years Before Present, and therefore are not considered active. Pre-Quaternary faults are generally not considered to represent a surface fault rupture or strong seismic ground shaking hazard (unless those faults are influenced by human-caused activity such as construction of a large water-storage reservoir directly over a fault zone).

According to the California Department of Conservation, the nearest potentially active faults (Quaternary and Late Quaternary) are the Bear Mountains Fault Zone and the Melones Fault Zone, which generally frame the Foothills Fault System. The Fault Zones pass through the western portion of the County and are identified near Valley Springs, Mokelumne Hill, south of Melones near Jamestown, and south of Copperopolis. Faults located near Valley Springs and Mokelumne Hill include the Poorman Gulch, Youngs Creek, Waters Peak, and Ione faults. Rawhide Flat East fault is the fault located south of Melones near Jamestown, and the Bowie Flat, Rawhide Flat West, and Negro Jackpoint faults are located south of Copperopolis (California Department of Conservation 2015).

Surface Fault Rupture

The 1972 Alquist-Priolo Earthquake Fault Zoning Act required the State Geologist to establish regulatory *Earthquake Fault Zones* around the surface traces of active faults, to mitigate the hazard of surface fault rupture to structures for human occupancy. For the purposes of the Act, an active fault is one that has ruptured in the last 11,000 years. The act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. Calaveras County is not located within or adjacent to an Alquist-Priolo Earthquake Fault Zone.

Surface fault rupture is associated with being located on or within close proximity of an active fault. Rupture could occur vertically, horizontally, or both and can be devastating to structures and infrastructures. According to the Calaveras County General Plan, because the County is not within, and does not cross, an Alquist-Priolo Earthquake Fault Zone, the risk of surface fault rupture within the County is considered low.

Seismic Ground Shaking

Ground shaking – motion that occurs as a result of energy released during faulting – could potentially result in the damage or collapse of buildings and other structures, depending on the magnitude of the earthquake, the location of the epicenter, and the character and duration of the ground motion. Other important factors to be considered are the characteristics of the underlying soil and rock and, where structures exist, the building materials used and the workmanship of the structures.

Ground motions from seismic activity can be estimated using a computer model. The California Geological Survey Probabilistic Seismic Hazards Assessment Model (2008) indicates that peak ground acceleration in Calaveras County has the potential to reach or exceed less than 0.1 to 0.2 g, which equates to one chance in 475 of being exceeded each year. The GP EIR recognizes that potential ground shaking in Calaveras County can be compared to an intensity value of I, II, III on the Modified Mercalli Scale, which few people recognize as earthquakes when felt.

Liquefaction

Liquefaction is the sudden temporary loss of shear strength in saturated, loose to medium-dense, granular sediments to ground shaking. Liquefaction generally occurs when seismically induced ground shaking causes soil pore water pressure to increase to a point equal to the overburden pressure.

Liquefaction causes foundation failure of buildings and other structures due to the reduction of foundation bearing strength. The potential for liquefaction depends on the duration and intensity of earthquake shaking, particle size distribution of the soil, density of the soil, and elevation of the groundwater. Areas at risk due to the effects of liquefaction are typically those with a high groundwater table and underlying loose to medium-dense, granular sediments, particularly younger alluvium, and artificial fill. Because According to the Calaveras County General Plan, because Calaveras County is not located in a seismic hazard zone, the County is not considered to be at risk from liquefaction hazards.

Landslides

Ground failure including landslides is dependent on slope and geology as well as the amount of rainfall, excavation, or seismic activities. A landslide is a mass of rock, soil, and debris displaced down a slope by sliding, flowing, or falling. Steep slope sand downslope creep of surface materials characterize landslide-susceptible areas. Debris flows consist of a loose mass of rocks and other granular material that, if present on a steep slope and saturated, can move down slope. The rate of rock and soil movements can vary from a slow creep over many years to sudden mass movements.

Landslides occur throughout the State of California, but the density of incidents increases in zones of active faulting. Because Calaveras County is not located in a seismic hazard zone, the County is not considered to be at risk from landslides because of active faulting. The planned Project Area gradually slopes upwards to the east, as it is positioned in the Sierra Nevada foothills. The site is located within the foothill terrain at a range of approximately 545 to 905 feet above MSL. The western foothills in the County have a low chance of landslide risk compared to the eastern mountains that contain slopes of 20 percent or greater, which have higher potential in the event of high amounts of rainfall or snowmelt.

Seismic Seiches

Earthquakes may affect open bodies of water by creating seismic sea waves and seiches. Seismic sea waves (often called *tidal waves*) are caused by abrupt ground movements (usually vertical) on the ocean floor in connection with a major earthquake. Because of the Proposed Project's long distance from the Pacific Ocean, seismic sea waves do not represent a hazard. A seiche is the sloshing of water in an enclosed or restricted water body, such as a basin, river, or lake, which is caused by earthquake motion; the sloshing can occur for a few minutes or several hours. There are no large water bodies in the Project Area where seiches would represent a hazard. New Hogan Lake is approximately 2 miles east of the Project Area, and as described above, the seismic hazards in the Sierra Nevada foothills are low, therefore the risk of a seismic seiche that would overtop New Hogan Lake and result in downstream flooding in the Project Area is also considered low.

4.7.1.3 Soils

According to the Web Soil Survey (ECORP 2022d), four soil units have been mapped within the Study Area (Figure 4.4-1):

- 7076 – Bonanza-Loafercreek-Gopheridge complex, 15 to 30 percent slopes

- 7078 – Jasper Peak-Gopheridge complex, 30 to 60 percent slopes
- 7085 – Bonanza-Loafercreek complex, 3 to 15 percent slopes
- 9015 – Urban land-Loafercreek-Dunstone complex, 3 to 15 percent slopes

A minor component (2 percent of mapped area) of the Dunstone portion of the *9015* soil complex contains *Mollic fluvaquents, cobbly* that is hydric. None of the remaining soil units are considered hydric, as their soil units do not contain hydric components (ECORP 2022d).

4.7.1.4 Paleontological Resources

ECORP prepared a paleontological assessment (ECORP 2022e) for the Proposed Project to determine if paleontological resources were present in or adjacent to the Project Area and assess the area for undiscovered paleontological resources. Appendix D provides the University of California Museum of Paleontology (UCMP) database results and Paleontological Assessment Memorandum which includes more details about the geology, and the probability of finding fossil specimens.

ECORP requested a paleontological database search of the paleontology locality and specimen collection records for the Project Area and surrounding area (0.5-mile radius) from the UCMP in November 2022. Additional information from a query of the UCMP online catalog records, a review of regional geologic maps from the California Geological Survey, and a review of existing literature on paleontological resources of Calaveras County were used to provide information about paleontological resources.

4.7.2 Geology and Soils (VII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒

No impact

i) Surface Fault Rupture-According to the GP EIR, there is a Quaternary fault detected northeast of the planned Project Area. Although this fault has potential (low) to become active again, the surface fault rupture would not pose hazard to the Project Site as this Project is adding a transmission main in the public ROW and no new structures are being implemented. The Proposed Project would result in no impact and no mitigation is required.

ii) Strong seismic ground shaking-The GP EIR recognizes that potential ground shaking in Calaveras County can be compared to an intensity value of I, II, III on the Modified Mercalli Scale, which few people recognize as earthquakes when felt. Consistent with county policies, infrastructure underneath the public ROW would be reviewed by County engineers to ensure that Project components are consistent with standard engineering practices and requirements which are specifically designed to prevent structural damage during seismic ground shaking. Thus, the Proposed Project would result in no impact and no mitigation is required.

iii) Because Calaveras County is not located in a seismic hazard zone, the County is not considered to be at risk from liquefaction hazards. Therefore, liquefaction would not pose a hazard for the planned Project Area and related impacts were found to be less than significant in the GP EIR. Thus, the Proposed Project would result in no impact and no mitigation is required.

iv) Landslides-According to the GP EIR, because Calaveras County is not located in a seismic hazard zone, the County is not considered to be at risk from landslides because of active faulting. Landslide risk varies from the eastern to western portions of the County where slopes may exceed 20 percent in the Sierra Nevada mountains. As this Proposed Project takes place in the rolling hills of the Sierra Nevada foothills, the area does not have a history of landslides. Therefore, landslides would not pose a hazard in the planned Project Area, and this impact was found to be less than significant in the GP EIR. Thus, the Proposed Project would result in no impact and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Less Than Significant Impact

Best Management Practices (BMPs) are included as part of the SWPPP prepared for the Proposed Project and would be implemented to manage erosion and the loss of topsoil during construction-related activities. Implementation of the SWPPP would reduce soil erosion impacts to a less than significant level.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒

No impact

The project is being constructed as a parallel transmission main to an already existing water distribution system and would be placed within an existing road system. The project by its nature would not result in onsite or offsite landslides, lateral spreading, subsidence, liquefaction or collapse. Thus, the Proposed Project would result in no impact and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒

No impact

The Proposed Project will add a parallel transmission main to an already existing water distribution system. No new development, structures, or grading will be necessary, therefore reducing the potential for hazards from unstable and expansive soils to less than significant. Thus, the Proposed Project would result in no impact and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

No impact

The Proposed Project does not include septic or other alternative wastewater disposal systems. Thus, there would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

No impact

A paleontological record search was conducted by ECORP through the UCMP. There were no records of previous finds in or near the Project Site (ECORP 2022e). The nearest finds are recent discoveries of Miocene-aged fossil vertebrates on the north side of the Camanche Reservoir in the Mehrten Formation. In addition to the record search results, ECORP conducted reviews of published and unpublished literature. No fossils have been recovered due to the complexity of the geology in the study area. This holds true for most regions where volcanic and metamorphic rocks dominate. Volcanic rocks are generally void of fossils, unless preserved in ash deposits and rocks that have undergone metamorphism generally do not preserve previously existing fossils. The Proposed Project involves a transmission water main implementation under the existing road ROW, the Proposed Project Site will return to its preconstruction state after Project completion. Given the presence of volcanic and metamorphic rocks within than surrounding the Project Site, the Project is not anticipated to create a new impact to unique paleontological resources or unique geologic features.

4.7.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.8 Greenhouse Gas Emissions

This section is based in part on the results of the Jenny Lind Water System Tank A to B Water Transmission Pipeline Project – Air Quality and Greenhouse Gas Emissions Assessment Memorandum prepared for the Project (ECORP 2022a, Appendix A). The Project Site is located in Calaveras County, which is regulated by the CCAPCD, but they have not adopted thresholds of significance for the analysis of Greenhouse Gas (GHG) emissions under CEQA. Therefore, in the absence of any GHG emissions significance thresholds the projected emissions are compared to the GHG thresholds recommended by the Sacramento Metropolitan Air Quality Management District (SMAQMD), the air pollution control officer for Sacramento County. This section presents regional and local existing conditions in addition to pertinent GHG emissions-related standards and regulations.

4.8.1 Environmental Setting

GHG emissions are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as CO_2, CH_4, N_2O, and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The

overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps more than 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2. Often, estimates of GHG emissions are presented in Carbon Dioxide Equivalents (CO_2e). Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

The local air quality agency regulating Calaveras County is the CCAPCD. However, the CCAPCD has not adopted thresholds of significance for the analysis of GHG emissions under CEQA. Therefore, in the absence of any GHG emissions significance thresholds the projected emissions are compared to the GHG thresholds recommended by the SMAQMD, the air pollution control officer for Sacramento County. The SMAQMD thresholds of 1,100 metric tons of CO_2e annually for construction and 1,100 metric tons of CO_2e annually during operations are considered appropriate for the purposes of this analysis due to the proximities of Sacramento and Calaveras counties. Therefore, the threshold used to analyze the Project is specific to the analysis herein and the lead agency retains the ability to develop and/or use different thresholds of significance for other projects in its capacity as lead agency and recognizing the need for the individual threshold to be tailored and specific to individual projects.

4.8.2 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Less than Significant Impact.

The Project is compared to the SMAQMD GHG significance thresholds for construction and operations. The SMAQMD has developed and adopted an update to its land development project GHG thresholds, which require a project to demonstrate consistency with CARB's 2017 Climate Change Scoping Plan (ECORP 2022a, Appendix A).

4.8.2.1 Construction Greenhouse Gas Emissions

A potent source of GHG emissions associated with the Proposed Project would be combustion of fossil fuels during construction activities. Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project Site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 4-5 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

Table 4-5. Construction-Related Greenhouse Gas Emissions	
Emission Source	**CO_2e (Metric Tons/Year)**
Excavation and Hauling	791
Final Paving	240
Combined Total	**1,031**
Significant Impact Threshold	*1,100*
Exceed Significant Impact Threshold?	**No**

Source: RCEM version 9.0.1. Refer to Appendix A for Model Data Outputs.
Notes: Emission calculations conservatively account for the import of 40 cubic yards of soil material and export of 40 cubic yards of soil and demolished asphalt daily, during the Excavation and Hauling phase of construction [21,120 cubic yards of soil and demolished asphalt import/export total over the course of construction]. Calculations also account for the import of 80 cubic yards of asphalt daily during the Final Paving phase [5,280 cubic yards of asphalt total over the course of construction].

As shown in Table 4-5, Project construction would result in the generation of approximately 1,031 metric tons of CO_2e over the course of construction, which is below the significance threshold of 1,100 metric tons of CO_2e. Once construction is complete, the generation of these GHG emissions would cease.

4.8.2.2 Operational Greenhouse Gas Emissions

Operational GHG emissions impacts are long-term GHG emissions impacts that are associated with any changes in the permanent use of the Project Site by onsite stationary sources, indirect electricity sources, and offsite mobile sources that substantially increase emissions. Once construction is complete, no regular additional daily vehicle trips or personnel would be added to operate or maintain the new facilities. Project operations would not include any GHG emitting stationary equipment, and indirect emissions associated with the electricity required to pump water would be no greater than current conditions. The Project would not be a greater source of operational emissions beyond current conditions. Therefore, Proposed Project operations would not contribute to onsite or offsite GHG emissions.

For these reasons, the Proposed Project's construction and operations would have a less than a significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

No impact.

As previously described, the State of California promulgates several mandates and goals to reduce statewide GHG emissions, including the goals to reduce statewide GHG emissions to 40 percent below

1990 levels by the year 2030 (Senate Bill [SB] 32) and 80 percent below 1990 levels by 2050 (Executive Order [EO] S-03-05). The Proposed Project would comply with the SMAQMD's numeric, bright-line GHG threshold of 1,100 metric tons of CO_2e per year, which was developed in consideration of statewide GHG reduction goals. Furthermore, the Project would not include new permanent sources of GHG emissions and would not generate new or unplanned permanent GHG emissions. Therefore, the Project would not interfere with the state's goals of reducing GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, as established in SB 32 and EO S-03-05.

Furthermore, the Proposed Project would comply with the State Building Code provisions designed to reduce GHG emissions during construction. During construction, the Project would utilize equipment in compliance with CARB requirements. Mobile sources during construction would be subject to the requirements of California Assembly Bill 1493 (Pavley Standards), the Advanced Clean Cars Program, and the Low Carbon Fuel Standard Regulation. Additionally, the Project would be designed and constructed consistent with California Title 24 and CALGreen (2019). These regulations require projects to comply with specific standards related to energy efficiency construction practices.

For these reasons, the Project would not conflict with any applicable plan, policy, or regulation related to the reduction in GHG emissions. There is no impact.

4.8.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.9 Hazards and Hazardous Materials

4.9.1 Environmental Setting

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined by the California Health and Safety Code, Section 25501 as follows:

> "Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

A hazardous material is defined in 22 CCR Section 662601.10 as follows:

> A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to

human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

Transporters of hazardous waste in California are subject to several federal and state regulations. They must register with the California Department of Health Services (DHS) and ensure that vehicle and waste container operators have been trained in the proper handling of hazardous waste. Vehicles used for the transportation of hazardous waste must pass an annual inspection by the California Highway Patrol (CHP). Transporters must allow the CHP or DHS to inspect its vehicles and must make certain required inspection records available to both agencies. The transport of hazardous materials that are not wastes is regulated by the U.S. Department of Transportation through national safety standards.

The Calaveras County Division of Environmental Health is designated by the California Department of Public Health as a Registered Environmental Health Specialist (REHS) Program. The REHS program ensures that individuals who are REHS' have met prescribed education, training, and experience requirements and have passed a comprehensive examination reflective of the demands encountered within the environmental health profession. The County will refer large cases of hazardous materials contamination or violations to the Central Valley RWQCB (Region 5) and the California Department of Toxic Substances Control (DTSC). It is not uncommon for other agencies, such as federal and state Occupational Safety and Health Administrations, to become involved when issues of hazardous materials arise.

Under Government Code Section 65962.5, both the DTSC and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. The Project Site is not listed by the DTSC as a hazardous substances site on the list of hazardous waste sites compiled pursuant to Government Code Section 65962.5 (Cortese List). Per the SWRCB Cortese List, there are two sites that had a Leaking Underground Storage Tank within the Jenny Lind community and are both closed cases, one in 1995 and one in 2009.

4.9.2 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project consists of the upgrade of the pipeline infrastructure to increase the flow and reliability of the Jenny Lind Water system. The Proposed Project alignment is located within the existing roadway alignment including Baldwin Street, Hart Vickson Lane, Usher Drive, and Wind River Road between the existing Tank A and Tank B sites. These roadways are primarily surrounded by private rural residences.

The Proposed Project is anticipated to require the use of some hazardous materials such as diesel fuel during construction. The transport of hazardous materials by truck is regulated by federal safety standards under the jurisdiction of the U.S. Department of Transportation. The use of such materials would not create a significant hazard to the public and impacts would be less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

Less than Significant Impact.

Onsite storage and/or use of large quantities of hazardous materials capable of affecting soil and groundwater are not proposed. The potential risk associated with accidental discharge associated with use and storage of equipment-related hazardous materials during pipe construction is considered low because the handling of any such materials would be addressed through the implementation of BMPs associated with the SWPPP required for the Project. The Proposed Project is an infrastructure project that would not require the long-term use or storage of hazardous substances; therefore, no potential for the release of hazardous materials into the environment is expected. A less than significant impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

No Impact.

The Proposed Project consists of constructing new pipeline infrastructure. Hazardous materials, substances, or waste would be handled consistent with federal, state, and local regulations. Jenny Lind Elementary located at 5100 Driver Road, Valley Springs, is located approximately 1.4 mile east of the Proposed Project alignment. No impact would occur. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

No Impact.

The Project Site is not located on a list of hazardous materials sites (DTSC 2022). The nearest hazardous materials site is a voluntary cleanup site located northeast of the Project Site off Hogan Dam Road, approximately 5 miles northeast of the Project Site. No impact would occur. No mitigation is required.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project Area?	☐	☐	☐	☒

No Impact.

According to the Calaveras County Airport Land Use Commission Airport Land Use Plan, 10.9 miles west of the Maury Rasmussen Field Airport is the closest airport to the Project Site. The Proposed Project is located approximately 12.77 miles southwest of the Calaveras County Airport and not within the safety zones for the airport. Therefore, no safety hazards to people residing or working in the Project Area would result due to the proximity to a public or public use airport. No impact would occur (Caltrans 2002)

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

The Calaveras County Emergency Operation Plan (EOP) is considered the primary document when discussing how disasters will be managed by the County. Implementation of the Proposed Project would not interfere with the adopted Calaveras County EOP. While much of the Project construction would occur in the road ROW, all construction that would impede traffic would require implementation of Mitigation

Measure TRANS-1 (Section 4.17) that requires preparation and implementation of a Construction Traffic Management Plan, which would assist in maintaining traffic flow along the roadway. Therefore, construction of the Proposed Project would not obstruct evacuation routes or access to critical emergency facilities. Once construction is completed, the proposed pipeline would not interfere with the EOP or any evacuation. This impact is less than significant with mitigation.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project is located within Calaveras County, which has an elevated risk of wildfires; Section 4.20 provides further discussion. Although the County is considered to be at high risk for fires, the Proposed Project would improve the existing pipeline infrastructure to increase flows and storage. Additionally, no habitable structures are proposed as part of the Proposed Project. During Project construction BMPs would be implemented to avoid incidental/accidental wildland fires. The Proposed Project would have a beneficial impact by upgrading the local water distribution system improving fire flow. Therefore, no additional risk of loss, injury, or death involving wildland fires would occur. Impacts would be less than significant. No mitigation is required.

4.9.3 Mitigation Measures

Implement Mitigation Measure TRANS-1.

4.10 Hydrology and Water Quality

4.10.1 Environmental Setting

4.10.1.1 Regional Hydrology

Surface Water

The USEPA identifies Calaveras County as having six watersheds within its boundaries (USEPA 2017). These include the: Middle San Joaquin River-Lower Merced River-Lower Stanislaus River; Lower Calaveras River-Mormon Slough; Lower Cosumnes River -Lower Mokelumne River; Upper Stanislaus River; Upper Calaveras River; and Upper Mokelumne River watersheds.

All of these watersheds are part of the greater San Joaquin River hydrologic region. The region extends south from just below the northeastern corner of Sacramento County and east to include the southern third of El Dorado County, almost all of Calaveras County, all of Amador, Mariposa, Madera, Merced, Stanislaus, and Tuolumne counties, and the western slope of Alpine County (Department of Water Resources [DWR] 2005).

The Project Site lies within the Upper Stanislaus River watershed. The Stanislaus River watershed drains 1,075 square miles and is divided into two distinct sections – the mountainous upper watershed, where the vast majority of its flow originates, and the narrow, heavily developed lower watershed where it flows across the San Joaquin Valley (National Oceanic and Atmospheric Administration [NOAA] 2014). Goodwin Dam has traditionally been considered the dividing line between the upper and lower watersheds (Metz 2017). The upper watershed comprises 90 percent of the total area and supplies a commensurate proportion of the river flow. Stretching from the foothill to alpine regions of the Sierra Nevada, it consists of rugged narrow canyons and ridges with an average local relief of 2,000 feet or more from river to rim. Much of the watershed is at high elevation, with 40 percent of the total area above winter snow line. The average precipitation in the upper basin as a whole is 46.8 inches (Moratto n.d.). The vast majority of the upper basin is either undeveloped, or commercial timber land, with very small areas of open water (mostly reservoirs), agriculture and ranching, as well as mountain meadows and exposed rock above the tree line (SWRCB 2002). The higher elevations are mostly federal Forest Service land and designated wilderness, while the middle elevations are a patchwork of state, federal, and privately owned land (NOAA 2007).

Groundwater

As previously stated, the Proposed Project Site is located in the San Joaquin River hydrologic region. While approximately half of the San Joaquin River hydrologic region is within the San Joaquin Valley Groundwater Basin, most of Calaveras County is not (DWR 2013). The Project Site is not located within an identified groundwater basin.

4.10.1.2 Regional Water Quality

Surface and groundwater water quality in Calaveras County is generally good. The western portion of Calaveras County supports most of the population and associated developed land uses, and therefore has the greatest potential for water quality problems. The California SWRCB identifies impaired water bodies in the state. Impaired water bodies are those that are contaminated by pollutants, the water bodies are considered impaired and subsequently placed on the 303d list. These impairments are related to the amount of pollution that has occurred in or near the water body. The 303(d) list is the list of impaired waterbodies. All states are required to develop a list of waterbodies that do not meet water quality standards. This requirement comes from Section 303(d) of the Clean Water Act, hence the common name for the list. In Calaveras County, there are 12 bodies of water that are considered impaired. These include: San Antonio Creek, Bear Creek, Little Johns Creek, Calaveras Creek, the Calaveras River, the North Fork and Middle Fork of the Mokelumne River, Pardee Reservoir, Comanche Reservoir, New Hogan Lake, New Melones Reservoir and the Stanislaus River below Melones Reservoir. The Project Site is within the Stanislaus River watershed. However, the Stanislaus River above New Melones Reservoir is not an impaired water body (SWRCB 2017).

4.10.1.3 Site Hydrology and Onsite Drainage

As described in Section 2 of this IS/MND, the Proposed Project involves construction of a new transmission pipeline from the Tank A pump station to Tank B (approximately 20,000 feet in length). This new transmission pipeline will be sized to reduce head loss and designed to have limited and controlled

interconnection with the existing distribution system along its length to assist in stabilizing the hydraulic behavior of the water system. The new transmission pipeline's primary function is to ensure Tank B is able to provide the necessary storage for the distribution system at all times. Most of the construction of the Proposed Project would occur within roadway ROW.

A Biological Resources Assessment report was prepared for the Proposed Project by ECORP Consulting, Inc. (2022b)(Appendix B). The report identified one ephemeral drainage aquatic resource during the reconnaissance-level field survey at the northeast corner of Hart Vickson Lane and Baldwin Street. This feature flows under Hart Vickson Lane through an approximately 3-foot-wide metal culvert and continues parallel to Baldwin Street on the eastern side of the street and flows outside of the Study Area. This feature is mapped in the National Wetlands Inventory database. Based on the USFWS Cowardin classification system, the aquatic feature is classified as Riverine Intermittent Streambed (R4SBC). Based on aquatic resource terminology, Riverine features include rivers, streams, creeks, drainages, ditches, and canals.

Ephemeral drainages are linear features that exhibit a bed and bank and an ordinary high-water mark. These features typically convey runoff for short periods of time, during and immediately following rain events, and are not influenced by groundwater sources at any time during the year.

4.10.2 Hydrology and Water Quality (X) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐

Less than Significant Impact.

4.10.2.1 Project Operation:

The Proposed Project would supplement an existing water supply pipeline with no alteration in water source, treatment or delivery capacity relative to current conditions. As such, long-term operation of the Proposed Project will have no impact on existing water quality standards or waste discharge requirements.

4.10.2.2 Project Construction:

Site preparation and construction activities associated with proposed pipeline construction and staging area development will involve temporary/short-term earthmoving activities including trenching and grading which can facilitate soil erosion and sediment loading to nearby water bodies. Construction activities that are subject to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, which result in soil disturbances of at least one acre of total land area. The SWRCB permits all regulated construction activities under Order No. 98-08-DWQ (1999). This Order requires that prior to

beginning any construction activities, the permit applicant must obtain coverage under the General Construction Permit by preparing and submitting a Notice of Intent (NOI) and appropriate fee to the SWRCB. Additionally, coverage will not occur until an adequate SWPPP has been prepared. A separate NOI shall be submitted to the SWRCB for each construction site.

Required elements of a SWPPP include (1) site description addressing the elements and characteristics specific to the site; (2) descriptions of BMPs for erosion and sediment controls; (3) BMPs for construction waste handling and disposal; (4) implementation of approved local plans; (5) proposed post-construction controls, including a description of local post-construction erosion and sediment control requirements; and (6) non-stormwater management.

Typical construction BMPs include, but are not necessarily limited to, scheduling or limiting activities to certain times of year; prohibiting certain construction practices; implementing equipment maintenance schedules and procedures; implementing a monitoring program; other management practices to prevent or reduce pollution, such as using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks do not enter the storm drain system or surface waters; developing and implementing a spill prevention and cleanup plan; installing traps, filters, or other devices at drop inlets to prevent contaminants from entering storm drains; and using barriers, such as straw bales or plastic, to minimize the amount of uncontrolled runoff that could enter drains or surface water. Because construction of the Proposed Project would cumulatively disturb more than 1 acre, all activities would be subject to these permit requirements.

With preparation of the required SWPPP, implementation of BMPs associated with that plan and listed above and compliance with the Calaveras County Code Chapter 15.05 Grading and Drainage Ordinance, the construction activities for the Proposed Project would fully comply with all relevant water quality standards and waste discharge requirements as described above. The impact, therefore, is less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

Less than Significant Impact.

Construction and operation of the Proposed Project would in no way alter current use of groundwater within the CCWD service area. Due to the linear nature of the proposed pipeline and proposed restoration of project construction staging areas to pre-project conditions, any localized effects of the Project on groundwater recharge would be unsubstantial. Therefore, this impact is less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
i) result in substantial erosion or siltation onsite or offsite;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐

Less than Significant Impact.

As discussed in Item a) above, project construction and staging activities will result in soil disturbances of at least one acre of total land area. As such, an NPDES Construction General Permit will be required prior to the start of construction. Additionally, coverage will not occur until an adequate SWPPP has been prepared.

As noted, required elements of a SWPPP include (1) site description addressing the elements and characteristics specific to the site; (2) descriptions of BMPs for erosion and sediment controls; (3) BMPs for construction waste handling and disposal; (4) implementation of approved local plans; (5) proposed post-construction controls, including a description of local post-construction erosion and sediment control requirements; and (6) non-stormwater management.

Excavation and grading activities associated with the Proposed Project will expose bare soil surfaces making these surfaces more susceptible to erosion and sediment transport. To comply with the requirements of the NPDES Construction General Permit CCWD will be required to file an NOI with the State of California and submit a SWPPP defining BMPs for construction and post-construction related control of the Proposed Project Site runoff and sediment transport. Requirements for the SWPPP include incorporation of both erosion and sediment control BMPs. The SWPPP should include the following applicable elements:

- diversion of offsite runoff away from the construction area;
- prompt revegetation of proposed landscaped areas;

- perimeter straw wattles or silt fences and/or temporary basins to trap sediment before it leaves the site;
- regular sprinkling of exposed soils to control dust during construction during the dry season;
- installation of a minor retention basin(s) to alleviate discharge of increased flows;
- specifications for construction waste handling and disposal;
- erosion control measures maintained throughout the construction period;
- preparation of stabilized construction entrances to avoid trucks from imprinting debris on City roadways;
- contained wash out and vehicle maintenance areas;
- training of subcontractors on general construction area housekeeping;
- construction scheduling to minimize soil disturbance during the wet weather season; and
- regular maintenance and storm event monitoring.

Note that the SWPPP is a *live* document and should be kept current by the person responsible for its implementation. Preparation of, and compliance with a required SWPPP would effectively prevent Proposed Project onsite erosion and sediment transport off-site. This will reduce potential runoff, erosion, and siltation associated with construction and operation of the Proposed Project. The Project will also restore areas affected by pipeline construction, construction staging, and related facilities to pre-project conditions relative to topography and ground cover, to the extent possible. The effects of the Proposed Project on onsite and offsite erosion and siltation, therefore, would be less than significant and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☐	☒

No Impact.

The Proposed Project is not located in an area that is at risk for flood hazard, tsunami, or seiche zones. Therefor there is not a risk of pollutant release during these events as a result of the Proposed Project.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Less than Significant Impact.

As discussed under Items a, b, and c, with acquisition of the required SWPPP and compliance with standard permit measures for the control and management of construction-related erosion and polluted runoff, the Proposed Project impacts on the quality and quantity of runoff during Project construction would be less than significant. With restoration of the Project Site to pre-project conditions relative to topography and cover after Project completion, the long-term impact of the Project on water quality is less than significant and therefore would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No mitigation is required.

4.10.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.11 Land Use and Planning

4.11.1 Environmental Setting

Within the Project limits, the proposed transmission pipeline would be located within the existing road ROW. It will follow Hart Vickson Lane from the Tank A booster pump station to its intersection with Baldwin Street, then follow Baldwin Street, Usher Drive and Wind River Road to the existing Tank B Site. The extent of the Project construction would occur on land designated as ROW by the Calaveras County General Plan Land Use Element. The parcels immediately surrounding the Project Area have Rural Residential (RR) land use designations. Since the new transmission pipeline will be in a separate open-cut trench within the existing road ROW and existing utility easements, no land use designations will be altered.

4.11.2 Land Use and Planning (XI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒

No Impact.

The Project is proposing a supporting transmission main to the existing lines, all of which would exist entirely within land designated as Public ROW and would not physically divide an established community and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

No Impact.

The Project is consistent with adopted General Plan policy. Thus, Project implementation would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. There would be no impact and no mitigation is required.

4.11.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.12 Mineral Resources

4.12.1 Environmental Setting

Minerals are defined as any naturally occurring chemical elements or compounds formed by inorganic processes and organic substances. Minable minerals are defined as a deposit of ore or minerals having a value materially in excess of the cost of developing, mining, and processing the mineral and reclaiming the Project Area. The conservation, extraction, and processing of mineral resources is essential to meeting the needs of society.

The Surface Mining and Reclamation Act of 1975 (SMARA) states that cities and counties shall adopt ordinances "...that establish procedures for the review and approval of reclamation plans and financial assurances and the issuance of a permit to conduct surface mining operations..." (PRC Section 2774). The intent of this legislation is to ensure the prevention or mitigation of the adverse environmental impacts of mining, the reclamation of mined lands, and the production and conservation of mineral resources are consistent with recreation, watershed, wildlife, and public safety objectives (PRC Section 2712).

SMARA requires the State Geologist to classify land into Mineral Resource Zones (MRZs) according to the known or inferred mineral potential of that land. The process is based solely on geology, without regard to existing land use or land ownership. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision makers and considered before land use decisions, which could preclude mining, are made. Areas subject to California mineral land classification studies are divided into the following MRZ categories that reflect varying degrees of mineral potential:

- MRZ-1: Areas of no mineral resource significance

- MRZ-2: Areas of identified mineral resource significance
- MRZ-3: Areas of undetermined mineral resource significance
- MRZ-4: Areas of unknown mineral resource significance

The Calaveras County General Plan has identified a number of mineral resources that are found in the county including limestone, gold, sand, gravel, copper, zinc, asbestos, and chromite (Calaveras County 1996). According to the Department of Conservation mapping software, the Project Area is listed as MRZ-1.

4.12.2 Mineral Resources (XII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

No Impact.

The Calaveras County Geographical Information Systems (GIS) provides mapping for areas in the County that are considered to have potential mineral resources. The Proposed Project alignment is not within an area identified as having the potential for mineral resources by the County. Therefore, implementation of the Proposed Project would not result in the loss of availability of a known mineral resource. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

No Impact.

The Calaveras County GIS provides mapping for areas in the County that are considered to have potential mineral resources. The Proposed Project alignment is not within an area identified as having the potential for mineral resources by the County (Calaveras County 2017a). Therefore, implementation of the Proposed Project would not result in the loss of availability of a known mineral resource. No impact would occur.

4.12.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.13 Noise

This section documents the results of the Jenny Lind Water System Tank A to B Water Transmission Pipeline Project Noise Impact Assessment Memorandum, prepared by ECORP in December 2022 (ECORP 2022f; Appendix F), as a comparison of predicted Proposed Project noise levels to noise standards promulgated by the County of Calaveras. The purpose of this section is to estimate Project-generated noise levels and determine the level of impact the Proposed Project would have on the environment. This section describes the existing environmental and regulatory conditions specific to noise and addresses the potential impacts posed by the Proposed Project.

4.13.1 Environmental Setting

4.13.1.1 Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels/community noise equivalent level (in L_{dn}/CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **Day-Night Average (L_{dn})** is a 24-hour average L_{eq} with a 10-dBA *weighting* added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations.

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each

doubling of distance from a line source, such as a roadway, depending on ground surface characteristics. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed (ECORP 2022f).

The manner in which older structures in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer structures is generally 30 dBA or more (ECORP 2022f).

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60- to 70-dBA range, and high, above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1.0 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3.0-dBA change is considered a just-perceivable difference.
- A change in level of at least 5.0 dBA is required before any noticeable change in community response would be expected. An increase of 5.0 dBA is typically considered substantial.

A 10.0-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Sensitive Noise Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as

parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. The Project Site is linear and traverses many different locations throughout the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County adjacent to State Highway 26, an area primarily made up of sensitive residential receptors. Virtually all aspects of Project implementation would involve construction activity occurring adjacent to these noise-sensitive land uses.

4.13.1.2 Vibration Sources and Characteristics

Ground vibration can be measured several ways to quantify the amplitude of vibration produced, including through Peak Particle Velocity (PPV) or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively.

Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

4.13.1.3 Existing Noise Environment

The communities of Jenny Lind, Rancho Calaveras, and La Contenta, which encompasses the Project Site, are impacted by noise sources typical of small, rural environments. It is subject to typical neighborhood noise such as noise generated by traffic, heavy machinery, and day-to-day outdoor activities. Mobile sources of noise, especially cars and trucks, are the most common source of noise in the community.

The American National Standards Institute (ANSI) Standard 12.9-2013/Part 3 *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-Term Measurements with an Observer Present* provides a table of approximate background sound levels in L_{dn}, daytime L_{eq}, and nighttime L_{eq}, based on land use and population density. The ANSI standard estimation divides land uses into six distinct categories. Descriptions of these land use categories, along with the typical daytime and nighttime levels, are provided in Table 4-6. At times, one could reasonably expect the occurrence of periods that are both louder and quieter than the levels listed in the table. ANSI notes, "*95% prediction interval [confidence interval] is on the order of ±10 dB*." The majority of the Project Area would be considered ambient noise Category 5 or 6.

Table 4-6. ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density

Category	Land Use	Description	People per Square Mile	dBA		
				Typical Ldn	Daytime Leq	Nighttime Leq
1	Noisy Commercial & Industrial Areas and Very Noisy Residential Areas	Very heavy traffic conditions, such as in busy, downtown commercial areas; at intersections for mass transportation or other vehicles, including elevated trains, heavy motor trucks, and other heavy traffic; and at street corners where many motor buses and heavy trucks accelerate.	63,840	67	66	58
2	Moderate Commercial & Industrial Areas and Noisy Residential Areas	Heavy traffic areas with conditions similar to Category 1, but with somewhat less traffic; routes of relatively heavy or fast automobile traffic, but where heavy truck traffic is not extremely dense.	20,000	62	61	54
3	Quiet Commercial, Industrial Areas and Normal Urban & Noisy Suburban Residential Areas	Light traffic conditions where no mass-transportation vehicles and relatively few automobiles and trucks pass, and where these vehicles generally travel at moderate speeds; residential areas and commercial streets, and intersections, with little traffic, compose this category.	6,384	57	55	49
4	Quiet Urban & Normal Suburban Residential Areas	These areas are similar to Category 3, but for this group, the background is either distant traffic or is unidentifiable; typically, the population density is one-third the density of Category 3.	2,000	52	50	44
5	Quiet Residential Areas	These areas are isolated, far from significant sources of sound, and may be situated in shielded areas, such as a small wooded valley.	638	47	45	39

Table 4-6. ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density						
6	Very Quiet Sparse Suburban or rural Residential Areas	These areas are similar to Category 4 but are usually in sparse suburban or rural areas; and, for this group, there are few if any nearby sources of sound.	200	42	40	34

Source: ECORP 2022f

4.13.2 Noise (XIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

Less Than Significant Impact.

As previously described, noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise sensitive and may warrant unique measures for protection from intruding noise. The Project Site spans many different locations throughout the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County, which is primarily made up of noise-sensitive residential receptors. Virtually all aspects of Project implementation would involve construction activity occurring adjacent to these land uses.

4.13.2.1 Onsite Project Construction Noise

Construction noise associated with the Proposed Project would be temporary and would vary depending on the specific nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., site preparation, excavation, paving). Noise generated by construction equipment, including earth movers, pile drivers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

Chapter 9.02, *Noise Control*, of the Calaveras County Code of Ordinances states that sound from construction activity is exempt from all County noise standards provided that all construction in or adjacent to residential areas be limited to the daytime hours between 7:00 a.m. and 6:00 p.m., unless otherwise subject to conditions in a valid discretionary land use permit that addresses construction noise associated with the project. Therefore, the Project would be required to limit construction to the daytime hours between 7:00 a.m. and 6:00 p.m.

To estimate the worst-case onsite construction noise levels that may occur at the nearest noise-sensitive receptors and in order to evaluate the potential health-related effects (physical damage to the ear) from construction noise, the construction equipment noise levels were calculated using the Roadway Construction Noise Model and compared against the construction-related noise level threshold established in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998 by the National Institute for Occupational Safety and Health (NIOSH). A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby sensitive receptors.

It is acknowledged that the majority of construction equipment is not situated at any one location during construction activities, but rather spread throughout the linear Project Site and at various distances from sensitive receptors. Therefore, this analysis measures construction noise produced by all construction equipment operating simultaneously at a distance of 100 feet. The anticipated short-term construction noise levels generated for the necessary equipment is presented in Table 4-7.

Table 4-7. Construction Average (dBA) Noise Levels at Nearest Residential Receptors			
Equipment	**Estimated Exterior Construction Noise Level at Existing Residences (dBA)**	**Construction Noise Standards (dBA L_{eq})**	**Exceeds Standards?**
Excavation and Hauling	79.8	*85*	**No**
Final Paving	84.3	*85*	**No**

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model. Refer to Appendix F for Model Data Outputs.
Notes: Construction equipment used during construction derived from the RCEM. The RCEM contains default construction equipment and usage parameters for typical roadway construction projects.
L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 4-7, Project onsite construction activities would not exceed the NIOSH threshold of 85 dBA L_{eq} at the nearest noise-sensitive receptors.

4.13.2.2 Offsite Project Construction Traffic Noise

Construction associated with the Project would result in additional traffic (e.g., worker commutes and material hauling) on adjacent roadways over the period that construction occurs. According to the RCEM, which is used to predict the number of on-road Project construction-related trips, construction would not instigate more than 104 trips in a single day (up to 96 construction worker commute trips and up to 8 haul truck/delivery trips). According to the Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). While Project construction workers would instigate their trip to the Project Site from differing locations, the addition of 104 daily trips spread over the various roadway facilities that would be used to reach the Project Site would not result in a doubling of traffic on any of these roadway facilities, and therefore its contribution to existing traffic noise would not be perceptible. Additionally, it is noted that construction is temporary, and construction-related trips would cease upon completion of construction.

4.13.2.3 Project Operational Noise

The Project proposes necessary upgrades to the District's water conveyance system. Specifically, a new transmission pipeline would be sized to reduce head loss and designed to have limited and controlled interconnection with the existing distribution system along its length to assist in stabilizing the hydraulic behavior of the water system. The new transmission pipeline's primary function is to ensure Tank B provides the necessary storage for the distribution system at all times. The Project would not expand its water supply capacity in a manner that would induce population or employment growth. Once upgrades

are complete, the Project transmission pipeline would not be a greater source of operational noise beyond current conditions.

For the reasons listed above, this impact is less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒	☐

Less than Significant.

4.13.2.4 Project Construction Vibration

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Proposed Project would be primarily associated with short-term, construction-related activities. Construction on the Project Site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is not anticipated that pile drivers would be necessary during Project construction. Vibration decreases rapidly with distance, and it is acknowledged that construction activities would occur throughout the Project Site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment are summarized in Table 4-8.

Table 4-8. Typical Construction Equipment Vibration Levels

Equipment Type	Peak Particle Velocity at 100 Feet (inches per second)
Vibratory Roller	0.026
Hoe Ram (Rock Breaker)	0.011
Large Bulldozer	0.011
Caisson Drilling	0.011
Loaded Trucks	0.009
Jackhammer	0.004
Small Bulldozer/Tractor	0.000

Source: ECORP 2022f

The County of Calaveras does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020) recommended standard of 0.3 inch per second peak particle velocity (PPV) with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

As shown in Table 4-8, groundborne vibrations attenuate rapidly from the source due to geometric spreading and material damping. Geometric spreading occurs because the energy is radiated from the source and spreads over an increasingly large distance while material damping is a property of the friction loss which occurs during the passage of a vibration wave. Vibration as a result of construction activities would not exceed 0.3 PPV. Thus, Project construction would not exceed the recommended threshold.

Project Operational Vibration

Project operations would not include the use of any stationary equipment that would result in excessive groundborne vibration levels. Therefore, the Project would result in no groundborne vibration impacts during operations.

For these reasons, the Project would have a less than significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project Area to excessive noise levels?	☐	☐	☐	☒

No impact.

The Project Site is located approximately 10.9 miles west of the Maury Rasmussen Field Airport. The Project Site is located outside of the noise contours of this airport facility. Aircraft noise does not significantly impact the communities of Jenny Lind, Rancho Calaveras, or La Contenta and the Proposed Project would not expose people visiting or working on the Project Site to excess airport noise levels. Therefore, the Proposed Project would have no impact.

4.13.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.14 Population and Housing

4.14.1 Environmental Setting

The Proposed Project alignment spans a distance of approximately 2 miles, transecting the Jenny Lind community area of Calaveras County, California. U.S. Census data reports that population growth in unincorporated Calaveras County, including the Jenny Lind community area, has increased 0.9 percent from 68,163 in 2020 to 68,766 in 2021. In 2021 there were 34,274 houses available and 69 percent of them were owner occupied. Housing in unincorporated Amador County has a relatively high vacancy rate with average sized households of approximately 2.54 people per household (in 2021). Specific data could not be found in on the Jenny Lind community.

4.14.2 Population and Housing (XIV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

No Impact.

The Proposed Project objective is to construct a new, dedicated transmission main from the Tank A pump station to Tank B approximately 20,000 feet in length and is designed to remove the hydraulic bottleneck and improve conveyance to Tank B. The pipeline wouldn't increase service capacity or extend service to areas that do not currently have service. Upon completion of the Proposed Project, the Project Area would be returned to existing conditions. Implementation of the Proposed Project would upgrade existing deficient infrastructure and would not induce substantial population growth in the area. Furthermore, minimal operation and maintenance of the pipeline would be required and no permanent employees would be hired as a result of the Proposed Project. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact.

As described above, the Proposed Project will replace the existing pipeline within the roadway alignment and would not involve land outside the roadway ROW. The Proposed Project alignment would not displace any existing housing and therefore, no impact would occur and no mitigation is required.

4.14.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.15 Public Services

4.15.1 Environmental Setting

4.15.1.1 Police Services

The Calaveras County Sheriff's Office (Sheriff's Office) provides law enforcement services to the unincorporated areas of Calaveras County including the Jenny Lind community area. The Sheriff's Office main facility is located at 1045 Jeff Tuttle Drive, San Andreas, California. The Sheriff department has several operations such as: Bike Team, Dispatch and Communications, Investigations, K9 Officers, Marine Safety, Marijuana Enforcement Team, Narcotics Enforcement, Off-Highway Vehicles, Specialized Patrols, Active Reserves, Special Weapons and Tactical Team, Hostage Negotiation Team, and other special operations.

4.15.1.2 Fire Services

The Calaveras Consolidated Fire Protection District (Cal-Co Fire) covers roughly a 163-square mile area in the western portion of Calaveras County serving the communities of Valley Springs, Burson, Wallace, Campo Seco, Milton, Rancho Calaveras, La Contenta, and Jenny Lind. Cal-Co Fire protects various commercial operations, single-family residences, three high traffic recreational lakes and an expansive wildland interface area. Cal-Co Fire has five full-time personnel and roughly 50 volunteers that provide suppression, prevention, and emergency medical services to approximately 15,000 residents. The Cal-Co has three fire stations located at: 3255 Helisma Road, Burson, California 95225; 129 East Highway 12, Valley Springs, California 95252; and 6501 Jenny Lind Road, Valley Springs, California 95252 (Jenny Lind Fire Department).

4.15.1.3 Schools

Calaveras County Unified School District is responsible for providing Kindergarten through 12th grade education to students within Calaveras County. There are 10 schools throughout Calaveras County including one high school, one continuation high school, one independent study, one junior high school, five elementary schools, and one Preschool/After School Service, as well as a District Office. Jenny Lind Elementary located at 5100 Driver Road, Valley Springs, California is located within 1.4 miles east of the Proposed Project alignment.

4.15.1.4 Parks

Calaveras County has 13 public parks located withing the County as well as two state parks. The two state parks are: Calaveras Big Trees State Park located at 1170 Highway 4 I Arnold and Columbia State Historic Park located at 11255 Jackson Street in Columbia. The closest park to the Proposed Project is the Jenny Lind Veterans Memorial Park located at 610 Daphanie Street in Valley Springs.

4.15.1.5 Other Public Facilities

Calaveras County Library provides materials and services to promote lifelong learning needs of residents from pre-school to adulthood. There are eight library branches that support the Calaveras County Library including Angels Camp, Arnold, Copperopolis, Mokelumne Hill, Murphys, San Andreas, Valley Springs, and West Point Branch libraries. The closest library to the Project Site is the Valley Springs branch located approximately 8 miles northeast. Other public facilities within Calaveras County include the Calaveras County Museum and Calaveras County Schoolhouse Community Gardens.

4.15.2 Public Services (XV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☒	☐
Fire Protection?	☐	☒	☐	☐
Police Protection?	☐	☒	☐	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other Public Facilities?	☐	☐	☐	☒

Less than Significant Impact with Mitigation Incorporated.

The Proposed Project consists of improvements to an existing water distribution system. The proposed pipeline would be maintained by CCWD and would not require public services beyond existing conditions. The increased flow would assist local Firefighters in providing improved fire protection service to the local community. During construction, partial roadway closures would be required. CCWD would consult with affected property owners as to what specific requirements could apply to the use of their property during construction. TRANS-1 requires preparation and implementation of a traffic management plan to ensure access along the project roadways is maintained for both emergency and residential use during construction. With implementation of TRANS-1 the Proposed Project would have a less than significant impact on public services.

Mitigation Measures

See Traffic section for Mitigation Measure TRANS-1

4.16 Recreation

4.16.1 Environmental Setting

Calaveras County offers an abundance of outdoor recreation opportunities given the County's proximity to the Sierra Nevada Mountains and historic gold rush towns. The county also has a state park, a national forest, and a small portion of a wilderness area, as well as multiple large caverns. As a result, the County offers a variety of recreational activities including gold mining and panning, camping, biking, hiking, rafting, kayaking, horseback riding, and fishing.

Calaveras County contains varied public and private recreation facilities. The GP EIR identifies that new recreational facilities would be needed to serve population growth within the County. The County has an adopted standard of 3 acres of parkland per 1,000 residents, which has historically been met through the dedication of improving and expanding recreation facilities as a part of development. Such a standard ensures that improvement and expansion of recreation facilities within the County occurs in tandem with population growth.

4.16.2 Recreation (XVI) Materials Checklist

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒

No Impact.

The Proposed Project is limited to construction of a new, dedicated transmission main to remove a hydraulic bottleneck that occurs in the Jenny Lind Water System. The Project would not increase county population and would be implemented consistent with all adopted General Plan policies and implementation measures. Thus, the Project would not 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. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

No Impact.

The Proposed Project is limited to construction of a new, dedicated transmission main to remove a hydraulic bottleneck that occurs in the Jenny Lind Water System. The project would not increase county population and would be implemented consistent with all adopted General Plan policies and implementation measures. Thus, the Project would not 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. There would be no impact.

4.16.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.17 Transportation

4.17.1 Environmental Setting

The Proposed Project is located in Calaveras County, California approximately 47 miles southeast of the City of Sacramento on the western slope of the Sierra Nevada. The Proposed Project transects the Jenny Lind community area, located approximately 7 miles southwest of Valley Springs and is west of Jenny Lind Road and Highway 26.

The Proposed Project alignment is located within existing roadways of Hart Vickson Lane, Baldwin Street, Usher Drive, Wind River Drive, and Wind River Drive. These roadways are primarily surrounded by semi-rural private residences. The Proposed Project would upgrade aging facilities with a new pipeline in order to increase fire flow and improve the distribution system quality and reliability in the Jenny Lind community within the CCWD system. The Proposed Project is not intended to increase service capacity in the CCWD system and, as such, would not directly or indirectly result in future growth and development not served by existing facilities.

4.17.2 Transportation (XVII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

The Proposed Project would install a below-ground water pipeline. No long-term modifications to roadway features are proposed that would conflict with adopted policies, plans or programs regarding alternative transportation. Traffic disruption during project construction, however, may adversely affect access to roadways for alternative transportation. This is considered a short-term but potentially significant impact. Implementation of Mitigation Measure TRANS-1 will reduce this impact to less than significant with mitigation incorporated.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☐	☒

No Impact.

CEQA Guidelines Section 15064.3 subdivision (b) addresses the criteria for analyzing transportation impacts and establishes the Vehicle Miles Traveled (VMT) metric as the most appropriate measure of transportation impacts in a CEQA document. The Proposed Project is a pipeline infrastructure project and will not result in a permanent increase in VMT. Consequently, there would be no impact. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

No Impact.

The Proposed Project involves installation of a below-ground water pipeline. No modifications to roadway features are proposed as part of the Project. The Project would not introduce transportation hazards and related impacts. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	☐	☒	☐	☐

No Impact.

Traffic disruption during Project construction may adversely affect access to roadways within the Project Area. This is considered a short-term but potentially significant impact. Implementation of Mitigation Measure TRANS-1 will reduce this impact to less than significant with mitigation incorporated.

4.17.3 Mitigation Measures

TRANS-1: **Construction Traffic Management Plan**. Prior to commencing construction of the Proposed Project, a construction traffic management plan (Traffic Plan) shall be prepared by the Contractor, in coordination with the CCWD, Caltrans (if necessary), and Calaveras County. The management plan shall be detailed and comprehensive to adequately mitigate potential conflicts between baseline and construction-related traffic. The Traffic Plan will include, at a minimum, the following measures:

A. Adequate off-street worker parking shall be provided along the pipeline route.

B. A flagman or signal-controlled one-way traffic-control operation shall be provided where two-way traffic operation is impractical or unsafe.

C. Roadway disturbances shall be minimized during non-working hours; open trenches shall be covered with steel plates or by the use of temporary backfill during non-working hours.

D. Temporary steel plate trench crossings shall be provided as needed to maintain access to homes, farms, and businesses.

E. Construction sites shall be posted with appropriate warning signage at least one week prior to construction to allow local residents to select an alternative travel route.

F. Construction staging areas shall be provided to minimize storage of equipment and materials in the traffic lanes.

G. All paved surfaces disturbed during construction shall be repaved when work is complete.

H. The Contractor shall provide traffic control and diversion plans for review and approval by each appropriate jurisdiction.

I. To minimize delays in emergency response during project construction, emergency providers shall be notified in advance. Police, fire protection, and

ambulance services shall be notified in advance of the times, duration, and location of construction activities throughout the project's construction process.

4.18 Tribal Cultural Resources

4.18.1 Environmental Setting

Ethnographically, the Project Area is in the territory occupied by the Northern Sierra Miwok. Prior to the arrival of the Spanish, the Miwok were one of the largest native groups in California, stretching from the crest of the Sierra Nevada Mountains, across the San Joaquin Valley and Delta Region, into the Coast Range north of San Francisco. The Northern Sierra Miwok lived within the foothills and mountains of the Cosumnes and Mokelumne River drainages. They belong to the Sierra Miwok language group, which is a subset of the Utian language family. Lexicostatistical chronologies suggest that the Miwok ancestors inhabited California's Delta Region for millennia, with expansion into the foothills occurring in the more recent past (Levy 1978).

The tribelet was the primary political unit among the Miwok. The tribelet controlled a defined territory and all the resources within it. Tribelets were composed of several lineages that were each tied to geographical locations. Levy (1978:402) suggests that the population of Sierra Miwok settlements averaged 25 persons.

Based on mission records, the accounts of early explorers and initial attempts at censuses, it has been estimated that the total Miwok population was around 19,500 prior to 1800. In 1904, Special Indian Agent C.E. Kelsey estimated the total population at less than 800 (Slagle 2004).

Subsistence activities of the Northern Sierra Miwok closely resembled that of other inhabitants of the Sierra Foothills. As winter snows thawed, small groups moved out of the village, following deer into higher elevations. At the same time, spring greens were gathered to supplement the stored foods and meat. Seeds of many different plants, particularly grasses, were collected between May and August. Following the annual burning of the underbrush in August, the highly prized Digger pine nuts were collected. Digger pine nuts were also occasionally collected before they were ripe in the spring. Fall and early winter was when families would set out to collect and stockpile acorns (Levy 1978:402). Hunting was a year-round activity for the Northern Sierra Miwok.

Acorns from at least seven species of oak were collected and eaten by Native Americans. While acorns from the valley oak were most important to the Plains Miwok, Sierra Miwok made the most extensive use of acorns from the interior live oak, blue oak, and black oak. They were usually collected from the ground after they had fallen from the tree, although long sticks were sometimes used to collect acorns that had yet to be released (Levy 1978:402).

Nuts were also an important element of the Miwok diet and included buckeye, laurel, hazelnut, digger pine, and sugar pine. They also harvested roots like wild onion and "Indian potato," which were eaten raw, steamed, baked, or dried and processed into flour cakes to be stored for winter use. Berries were eaten, although they did not comprise a substantial portion of the diet.

Animals taken by the Northern Sierra Miwok included mule deer, black bear, grizzly bear, black tailed jackrabbits, cottontails, beavers, grey and ground squirrels, wood rats, valley quail, and mountain quail. Occasional forays were made down to the valley floor to hunt antelope and tule elk, which were not available in the Sierra Foothills (Levy 1978). Fishing was undertaken by the Sierra Miwok, yet it was not a central part of the diet. Salmon was available in the lower stretches of Sierran rivers, and trout was taken at higher elevations.

Other foods exploited by the Northern Sierra Miwok included insects such as grasshoppers and yellow jacket larvae, and shellfish such as river mussels and freshwater clam (Levy 1978). Food taboos were observed by the Sierra Miwok and, as a result, they did not consume dog, coyote, skunk, eagle, great-horned owl, roadrunner, snakes, or frogs (Levy 1978:402).

The Sierra Miwok constructed a variety of structures for different purposes. The primary house used by the Miwok living in the foothills was the conical bark-slab house. More substantial semi-subterranean houses were occupied during the winter months by those wealthy enough to afford such a structure. A circular brush structure was used in the summer during times of mourning. Semi-subterranean earth lodges, measuring 40 to 50 feet in diameter were used for social or communal gatherings. The Miwok also made use of sweathouses that varied in size from 6 to 15 feet in diameter.

Trade was important with goods generally traveling east to west and vice versa. Items such as Olivella and Haliotis shells, salmon, and salt traveled east from the coast and valley into the Sierra and beyond. Digger pine nuts, bows, arrows, deer skins, and sugar pine nuts came down from the Sierra to the Great Valley. Precious goods such as salt and obsidian were also traded in from the Great Basin. Basketry moved in both directions in the prehistoric trade networks (Wilson and Towne 1978; Levy 1978).

Primary sources on the aboriginal way of life for Northern Sierra Miwok people include Aginsky (1943), Barrett (1919), Barrett and Gifford (1933), Gifford (1917), Kroeber (1925), and Merriam (1910; 1955). Unfortunately, by the time ethnographers began interviewing and recording aspects of traditional Sierra Miwok life, it had been all but destroyed.

The Spanish made occasional forays into the Central Valley beginning around 1769, with the first written description composed by Pedro Fages in 1772. By 1776, Miwok territory had been explored by José Canizares. In 1808, Miwok territory was again crossed by Gabriel Moraga while he led an expedition to identify appropriate sites for the establishment of new missions and to capture Native Americans who had fled missionary life. In 1813, a major battle was fought between the Miwok and the Spaniards near the mouth of the Cosumnes River.

i. Summary of Consultation

Within 14 days of initiating CEQA review for the Project, on April 5, 2023, the CCWD sent Project notification letters to the two California Native American tribes named above that had previously submitted general consultation request letters pursuant to Section 21080.3.1(d) of the PRC. The letter provided each tribe with a brief description of the Project and its location, the contact information for the CCWD's authorized representative, and a notification that the tribe has 30 days to request consultation. Appendix G: Non-Confidential Tribal Consultation Record

ii. Calaveras Band of Mi-Wuk Indians

The Calaveras Band of Mi-Wuk Indians did not respond to the CCWD's notification letter, and therefore, the threshold for conducting tribal consultation with that tribe under PRC 21080.3.1(e) was not met. No further attempts at consultation were required by state law.

iii. Chicken Ranch Rancheria of Me-Wuk Indians

Chicken Ranch Rancheria of Me-Wuk Indians did not respond to the CCWD's notification letter, and therefore, the threshold for conducting tribal consultation with that tribe under PRC 21080.3.1(e) was not met. No further attempts at consultation were required by state law.

4.18.2 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☐	☒	☐

Less than Significant with Mitigation Incorporated

The Office of Historic Preservation's (OHP) Built Environment Resource Directory for Calaveras County (dated March 3, 2020) did not include any resources within 0.5 mile of the Project Area (OHP 2022). The nearest resource is the Jenny Lind Building located on 11780 Main Street, approximately 3.6 miles southwest of Tank B within the Project Area in Valley Springs, California.

The National Register Information System (NPS 2022) failed to reveal any eligible or listed properties within the Project Area. The nearest National Register properties are located approximately 12 miles northeast of the Project Area in San Andreas, California.

ECORP reviewed resources listed as California Historical Landmarks (OHP 1996) by the OHP (2022) on December 7, 2022. The nearest listed landmark is #266: Jenny Lind Building. The plaque is located 3.6 miles southwest of the Project Area.

A review of *Historic Spots in California* (Kyle 2002) mentions that the community of Jenny Lind is located on the northern bank of the Calaveras River and became a center for mining operations in the Lower Calaveras. Kyle also mentions that 6 miles south of Jenny Lind, is a town called Milton the first town in Calaveras County to connect to the Southern Pacific Railroad.

The Caltrans Bridge Local and State Inventories (Caltrans 2018, 2019) did not list any historic bridges in or within 0.5 mile of the Project Area.

A review of the Calaveras County local inventory provided by the CCIC did not reveal any resources in the vicinity.

A search of the Sacred Lands File by the NAHC failed to indicate the presence of Native American cultural resources or sacred lands in the Project Area. A record of all correspondence is provided in Appendix C.

Neither the Calaveras Band of Mi-Wuk Indians nor the Chicken Ranch Rancheria of Me-Wuk Indians responded to CCWD's notification letter, therefore, other sources were reviewed to determine potential impacts to TCRs. Sources consulted included the ethnographic history context, ethnographic maps, and results of the records search with the CHRIS, which are all incorporated into the cultural resources report. In summary, the ethnographic information reviewed for the Project did not identify any villages, occupational areas, or resource procurement locations in or around the current Project Area. The cultural resources records search did not reveal any Native American archaeological sites within the Proposed Project Area.

Examination of the lines of evidence summarized above, indicate that this Project will not have an impact on known TCRs. However, there exists a potential for the discovery of previously unknown TCRs during Project construction. If TCRs are encountered, the Project activity could result in a significant impact to those resources. Implementation of unanticipated discovery procedures, as provided in mitigation measure TCR-1 below, would reduce that impact to less than significant.

4.18.3 Mitigation Measures

TCR-1: Unanticipated Discovery of Tribal Cultural Resources. If potentially significant TCRs are discovered during ground disturbing activities, all work shall cease within 50 feet of the find. A Native American Representative from traditionally and culturally affiliated Native American Tribes that requested consultation on the Project shall be immediately contacted and invited to assess the significance of the find and make recommendations for further evaluation and treatment, as necessary. If deemed necessary by the CCWD, a qualified cultural resources specialist, who meets the Secretary of Interior's Standards and Qualifications for Archaeology, may also assess the

significance of the find in joint consultation with Native American representatives to ensure that Tribal values are considered. Work at the discovery location cannot resume until the CCWD, in consultation as appropriate and in good faith, determines that the discovery is either not a TCR, or has been subjected to culturally appropriate treatment, if avoidance and preservation cannot be accommodated.

4.19 Utilities and Service Systems

4.19.1 Environmental Setting

4.19.1.1 Water Service

As described in Section 2.1 Project Background, CCWD owns and operates the Jenny Lind water system and serves as the main water supplier for Calaveras County. The Jenny Lind Water System serves approximately 3,900 customers in the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County. Raw water for the system is supplied from New Hogan reservoir. Water supplied to CCWD customers is treated at the Jenny Lind Water Treatment Plant located 3 miles south of Valley Springs.

4.19.1.2 Wastewater

Eight public agencies are located within Calaveras County that provide wastewater services. These agencies provide wastewater services to the populated areas of the County. The remaining parts of the County rely on individual septic systems (Calaveras County 2021). CCWD provides wastewater collection, treatment and disposal services to 13 communities in the County. Most areas within the Project Area are on individual septic systems (CCWD).

Solid Waste

Calaveras County contracts waste disposal with California Waste Recovery Systems. Calaveras County operates seven transfer stations including Avery, Copperopolis, Gambi, Paloma, San Andreas, Red Hill, and Wilseyville. Additionally, Rock Creek Solid Waste Facility is located in Calaveras County and is owned and operated by the County. Rock Creek has a cease operation date of August 30, 2035 a total capacity of 7,651,000 cubic yards and a remaining capacity of 6,624,226 cubic yards (last measured in September 27,2005) (CalRecycle 2017).

4.19.1.3 Electricity and Natural Gas

Calaveras County is serviced by both PG&E and Pilot Power Group. Natural Gas is provided solely by Alpine Natural gas in La Contenta, Gold Creek, Hogan Dam Estates and Rancho Calaveras subdivisions. Other areas are provided Natural Gas by PG&E.

4.19.2 Utilities and Service Systems (XIX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project involves the construction of a new water pipeline in order to relieve bottlenecking, increase flow, and improve the distribution system reliability within the Jenny Lind Water System and would not require new or expanded water or wastewater facilities. Therefore, a less than significant impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒

No Impact.

The Proposed Project involves the construction of a new water pipeline in order to increase flow and improve the distribution system reliability in the Jenny Lind Water System. The Proposed Project would be operated by CCWD and no new or expanded water demand is associated with the Project. Therefore, no impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

As discussed previously, the Proposed Project involves the construction of a new water pipeline in order to increase flow and improve the distribution system reliability. The Proposed Project does not generate

wastewater, and therefore, it would not contribute to existing wastewater systems or facilities. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project would be installed in a trench. No recycling or waste disposal would be required for operation and maintenance of the Proposed Project and therefore would not affect landfill capacity because the amount of construction debris requiring disposal would be minor and would only occur during the construction period (e.g., cardboard, wood scraps, plastic straps). CCWD's contractors would be responsible for disposing of construction-related debris in local construction-material dumpsters. A less than significant impact would occur. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

No Impact.

As previously described above the Proposed Project would be installed in a trench and no recycling or waste disposal would be required for operation and maintenance of the Proposed Project. CCWD's contractors would be responsible for disposing of construction-related debris in local construction-material dumpsters and insuring compliance with all federal, state, and local statues and regulations related to solid waste. Therefore, no impact would occur and no mitigation is required.

4.19.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.20 Wildfire

4.20.1 Environmental Setting

According to the Fire Hazard Severity Zone online viewer maintained by California Department of Forestry and Fire Protection (CAL FIRE 2022), the Project Site is located within a State Responsibility Area with fire protection services provided by the Calaveras Consolidated Fire Protection District (Cal-Co Fire) and Cal

Fire. In the project limits, a Very High fire hazard severity zone exists from Tank B through the intersection on Baldwin Street and Hart Vickson Lane. The fire severity zone drops off to Moderate throughout most of the transmission alignment from the previously mentioned intersection to Tank A, with a few dispersed stretches of High fire severity zones on Hart Vickson Lane.

A majority of Calaveras County is designated as Very High fire hazard severity zones. Likewise, portions of the Proposed Project Area range from Moderate to Very High fire severity designations. However, the Project will be constructed entirely within the road ROW to improve water infrastructure and flow in the local community.

4.20.2 Wildfire (XX) Environmental Checklist and Discussion

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 Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐

Less than Significant Impact with Mitigation.

A majority of Calaveras County, including a portion of the proposed Project Area, is designated as Very High fire severity zones, and located within a state responsibility area. However, the project will be constructed entirely within the road ROW to improve water infrastructure and flow in the local community. While the Project Area is within fire severity designated zones, construction activities will not occur on vegetated areas prone to fire. As an infrastructure improvement project underneath roadway, the site will return to its preconstruction state after project completion. Therefore, there will be no change to the local population or development. Additionally, the project will implement Mitigation Measure TRANS-1 which requires a Traffic Management Plan to be prepared by the contractor. Therefore, with implementation of Mitigation Measure TRANS-1, impact would be less then significant.

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 Incorporated	Less than Significant Impact	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from, a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒

No Impact.

Although the Proposed Project is in an SRA classified as Moderate, High, and Very High, the Proposed Project does not exacerbate an existing condition by the addition of structures, machinery, people, or recreational opportunities that would encourage the use of flammable materials or create situations that could lead to increase fire risk. The Proposed Project is intended to provide necessary storage for the

distribution system and remove the current hydraulic bottleneck. Activities will not occur in vegetated areas prone to fire. The project will include four PRV stations but does not require installation or maintenance of associated structures that would increase fire risk. In addition, the pipeline will be entirely underground. As an infrastructure improvement project underneath roadway, the site will be returned to its pre-construction state after project completion. There will be no change to the local population or increase in development associated with the Project that would increase fire risk to the local community. Consequently, the Project would not exacerbate wildfire risks or expose people to pollutant concentrations. No impact would occur, and no mitigation is required.

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 Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

As discussed in item b), the Proposed Project does not exacerbate fire risk under existing conditions. The Project will include four PRV stations but does not include installation or maintenance of associated structures (i.e., 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. There would be no impact and no mitigation would be required.

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 Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No Impact.

See discussion in items b) and c). The Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, because of runoff, post-fire slope instability, or drainage changes. Therefore, there would be no new impact as a result of the Proposed Project.

4.21 Mandatory Findings of Significance

4.21.1 Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

Less than Significant Impact with Mitigation.

As stated previously in Section 4.4, Biological Resources, with implementation of Mitigation Measures BIO-1 through BIO-4 the Proposed Project would result in a less than significant impact on the habitat of wildlife species or population, on any plant or animal community, and would not restrict the range of a rare or endangered plant or animal. Furthermore, as stated above in Section 4.5, Cultural Resources, with the implementation of proposed Mitigation Measures CR-1, development of the Proposed Project would not result in significant impacts to Cultural Resources.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐

Less than Significant Impact.

Project impacts would not be cumulatively considerable. No mitigation is required relevant to potential cumulative impacts.

For natural resource subjects (Aesthetics, Agriculture and Forest Resources, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, and Mineral Resources), there would be no cumulative effects because all impacts would be less than significant or would be reduced to less than

significant with mitigation incorporated. The Proposed Project involves the installation of a new water pipeline to increase flow and improve the distribution system reliability. The Project Area would be returned to pre-project conditions after completion of construction. In addition, the project would temporarily involve minimal hazardous materials use associated with construction and would not result in a cumulative effect on the environment.

The nature of the Proposed Project would not induce population growth or result in the development of new housing or employment-generating uses. Therefore, the Proposed Project would not result in a cumulative effect regarding increased demand or expansion for services or utilities. Furthermore, there are no approved or planned projects within proximity to the Proposed Project that would contribute to cumulative effects.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Less than Significant Impact with Mitigation.

Direct and indirect impacts to human beings would be less than significant with the implementation of mitigation measures listed in this Initial Study.

5.0 LIST OF PREPARERS

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LIST OF APPENDICES

APPENDIX A

Air Quality and Greenhouse Gas Emissions Assessment Memorandum

November 2022

Bill Ostroff, P.E., Senior Civil Engineer
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Subject: Jenny Lind Water System Tank A to B Water Transmission Pipeline Project – Air Quality and Greenhouse Gas Emissions Assessment Memorandum

PURPOSE

This memorandum documents the results of an Air Quality and Greenhouse Gas (GHG) Emissions Impact Assessment completed for the Jenny Lind Water System Tank A to B Water Transmission Pipeline Project (Project). This assessment was prepared using methodologies and assumptions recommended in the rules and regulations of the Calaveras County Air Pollution Control District (CCAPCD). Regional and local existing conditions are presented, along with pertinent emissions standards and regulations. The purpose of this assessment is to estimate Project-generated criteria air pollutants and GHG emissions attributable to the Project and to determine the level of impact the Project would have on the environment.

PROJECT BACKGROUND

The Calaveras County Water District (District) was formed in 1949 and has operated continuously since. It includes all of Calaveras County in the Central Sierra Nevada foothills in the northeastern portion of the State. The District provides water service to about 13,000 customers (residential and commercial) in six service areas throughout the County.

The subject Project is part of the Jenny Lind Water System which serves approximately 3,900 customers in the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County adjacent to State Highway 26. The system includes seven water storage tanks: two of which - Tanks A and B – are associated with the Proposed Project. Both tanks were built in 1991 and are connected by a 1970s era 8-inch diameter asbestos cement pipe (ACP) transmission/distribution main routed along Hart Vickson Lane and Baldwin Street. A 1.7 million gallon per day (mgd) pump station at the Tank A site supplies Tank B.

In the summer of 2006, the pump station at Tank A, which is located at the northwest corner of the Hart Vickson Lane / Heinemann Drive intersection 0.3 mile southwest of the La Contenta Golf Course, was unable to meet maximum daily demands (MDD) and consequently Tank B emptied and could not be re-filled for a significant period. (Tank B is located at the terminus of Wind River Road in the community of Rancho Calaveras.) This caused a prolonged service interruption for more than 900 homes within the Rancho Calaveras subdivision.

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PROJECT DESCRIPTION

To remove the hydraulic bottleneck, the District proposes to construct a new transmission pipeline from the pump station at Tank A to Tank B (approximately 20,000 feet in length). This new transmission pipeline would be sized to reduce headloss and designed to have limited and controlled interconnection with the existing distribution system along its length to assist in stabilizing the hydraulic behavior of the water system. The new transmission pipeline's primary function is to ensure Tank B provides the necessary storage for the distribution system at all times.

The proposed transmission pipeline would follow Hart Vickson Lane from the booster pump at Tank A to its intersection with Baldwin Street, then follow Baldwin Street, Usher Drive and Wind River Road to the existing Tank B site. The new transmission pipeline would be in a separate open-cut trench parallel to the existing distribution system lines. The trench and new transmission pipeline would be located within the existing road right of way and established utility easements. All construction work would be conducted within the travel lanes or within the adjacent right-of-way (where feasible). Partial lane closure would take place during construction activities.

The new transmission pipeline would be isolated from the existing water distribution mains and only connected at four locations along its alignment with tie-in connections being made via pressure-reducing valve (PRV) stations. The transmission main would allow flow in both directions including forward pumping from Tank A to fill Tank B and, when the pump station is idle, gravity flow in the reverse direction allowing Tank B to supply water system demands when peak flow exceeds the pumping capacity.

While the new transmission pipeline is under construction, the existing distribution system would continue to operate in its current configuration and would continue to transfer water from the Tank A pump station to fill Tank B. The existing distribution system would also continue to supply customer water demands along the existing route. However, upon completion of the new transmission pipeline, the existing distribution system would no longer be necessary for Tank A to B transmission and is proposed to be isolated and divided into smaller service zones. Each service zone would be supplied via dedicated PRV stations. Each pressure zone would be served by at least two PRV stations or each zone would be served by looping from multiple directions. A dead-end run (e.g., residential cul-de-sac), would be served by a single dedicated PRV station.

To facilitate construction of the new transmission pipeline, the existing pavement within one traffic lane would be saw-cut along the trench line. Pavement would be replaced upon completion of the underground utility construction in accordance with the County Public Works Requirements. Substantial traffic control signage and flaggers would be deployed for the duration of the Project. Additionally, while existing pavement is being saw-cut, removed and replaced with new pavement for the transmission main, the District would replace old water service laterals (service saddles, corp. stops, service line, and meter valve) from the distribution main to the service box, adding guard valves to or replacing fire hydrants, and making other repairs to the existing water distribution system.

The existing Tank B inlet and outlet pipes are small and will be upsized, replaced and reconfigured. The new transmission main would discharge directly into Tank B, removing the inlet hydraulic constraint. The existing outlet would be retained with valve additions and modifications to allow for flow into the distribution system when the Tank A booster pump station is both operating and not operating (reverse gravity flow).

Temporary staging of construction equipment would occur where the Right-of-Way limits allow. If necessary, lager staging areas may be used. Construction of the Proposed Project is anticipated to start in late spring of 2023 and take approximately 12 to 18 months for final completion ending December 2024. A reduction in site construction activity is normal due to rain events from December 2023 to April 2024. Also, current supply chain issues have increased lead times for some materials (pipe and fittings) and may delay the start date for groundbreaking. See Table 1 below for an anticipated detailed breakdown of construction activities and approximate timeframe to completion.

Table 1 Construction Operations	
Description of Activity	**Duration (approximate)**
Excavation Operations	
Rubber tired backhoe loader(s) (sized up to Cat 450) Trench excavator(s) (likely no larger than Cat 335) Wheel loader(s) (likely no larger than Cat 966), dozer(s) (likely no larger than Cat D8 – for clearing right-of-way and spreading material) Trenching machines (not expected) Rock removal by hydraulic hammer on excavator (not expected to be required or very limited based on geotechnical investigation) Compaction via in-trench hand compaction (wacker, vibraplate) or equipment mounted (sheep's foot roller) Sweeper Air Compressor(s)	Approximately 12 months
Hauling Operations	
Rubber tired dump truck(s) l transfer truck and trailers Semi bottom and end dumps possible but not likely considering narrow and winding access	Approximately 12 months
Final Paving Operations	
Roller compactor(s) Pavers asphalt grinders asphalt cutters concrete saw Sweeper	Approximately 3 months
Striping/Finishing	
Sprayers, air compressor, portable generator	Approximately 3 months
Total Duration:	**12 to 18 months**

*Note: Some of these activities will be done concurrently

AIR QUALITY ANALYSIS

Environmental Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, together with the current regulatory structure that applies to the Calaveras County portion of the Mountain Counties Air Basin (MCAB), in which the Project Site is located, pursuant to the regulatory authority of the CCAPCD. The CCAPCD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project Area.

Mountain Counties Air Basin

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. The Project Area is located in unincorporated Calaveras County, which is encompassed by the MCAB. The MCAB lies along the northern Sierra Nevada range, close to or contiguous with the Nevada border, and consists of nine counties or portions of counties stretching from Plumas County on the north to Mariposa County on the south. The MCAB exhibits large variations in terrain and consequently exhibits large variations in climate, both of which affect air quality. Elevations range from over 10,000 feet at the Sierra crest down to several hundred feet above sea level at the Sacramento County boundary. The western portions of the basin slope relatively gradually, with deep river canyons running from southwest to northeast toward the crest of the Sierra Nevada range. East of the divide, the slope of the Sierra is steeper, but river canyons are relatively shallow.

Because of the region's topographical features and meteorological conditions, the MCAB is more sensitive to negative impacts on air quality than most other areas of California. The prevailing wind direction over the county is westerly. However, the terrain has a great influence on local winds, so that wide variability in wind direction can be expected. Afternoon winds are generally channeled up-canyon, while nighttime winds generally flow down-canyon. Winds are, in general, stronger in spring and summer and weaker in fall and winter. Periods of calm winds and clear skies in fall and winter often result in strong, ground-based inversions forming in mountain valleys. These layers of very stable air restrict the dispersal of pollutants, trapping these pollutants near the ground, representing the worst conditions for local air pollution occurring in the county.

Cold temperatures and mild winds often result in temperature inversions in which upper layers of warmer air trap colder air near the surface. Local pollutant sources in the MCAB are trapped by frequent inversions, which limit the volume of air into which they can be mixed and in turn result in elevated pollutant concentrations. The most frequent episodes of high pollution occur during local basin inversions, when

emissions from local sources such as motor vehicles, chimney smoke, and forest burning are trapped in the basin. This is the most common meteorological condition contributing to air quality degradation in the area.

The second-most common meteorological condition contributing to air quality degradation is transport from the Sacramento Valley and the Bay Area into the region. This meteorological condition is strongest during the warmer summer months and contributes approximately 30 percent of the ozone and airborne particulate matter pollution in the region. The lowest pollution regimes are associated with the fall and winter months and contribute approximately 10 percent of the pollution to the region. Similar to other areas, when winds are strong enough to break up basin inversion layers, pollution is generally blown outside of the region and the air quality is typically good. However, when fall and winter winds are weak, this regime is associated with persistent local inversions and the associated buildup of local pollutants.

Criteria Air Pollutants

Both the U.S. Environmental Protection Agency (USEPA) and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are O_3 (precursor emissions include nitrogen oxide (NOx) and reactive organic gases (ROG)), carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Calaveras County portion of the MCAB is designated as a nonattainment area for the federal O_3 standard and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2019).

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Additionally, diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (DPM). In 1998, California identified DPM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for

the majority of California's known cancer risk from outdoor air pollutants. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The Project Site is linear and traverses many different locations throughout the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County adjacent to State Highway 26, an area primarily made up of sensitive residential receptors. Virtually all aspects of Project implementation would involve construction activity occurring adjacent to these land uses.

Regulatory Setting

Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the National Ambient Air Quality Standards (NAAQS), with states retaining the option to adopt more stringent standards or to include other specific pollutants.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation.

State

California Clean Air Act

The California Clean Air Act (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the California Ambient Air Quality Standards (CAAQS). CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

Local

Calaveras County Air Pollution Control District

The CCAPCD is the air pollution control agency for Calaveras County, including the Project Site. The agency's primary responsibility is ensuring that the NAAQS and CAAQS are attained and maintained in the Calaveras County portion of the MCAB. The CCAPCD coordinates the work of government agencies, businesses, and private citizens to achieve and maintain healthy air quality for Calaveras County. The CCAPCD develops market-based programs to reduce emissions associated with mobile sources, processes permits, ensures compliance with permit conditions and with CCAPCD rules and regulations, and conducts long-term planning related to air quality. The CCAPCD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, as well as many other activities.

The following is a list of noteworthy CCAPCD rules that are required of construction activities associated with the Proposed Project:

- **Rule 202 (Visible Emissions):** Prohibits the discharge of air containments for a period or periods aggregating more than three (3) minutes in any one (1) hour which is as dark or darker in shade as

that designated as No. 1 on the Ringlemann Chart or such opacity as to obscure an observer's view to a degree equal to or greater to shade No. 1 on the Ringlemann Chart.

- **Rule 205 (Nuisance):** Prohibits the discharge of air containments which cause injury, detriment, nuisance, or annoyance.
- **Rule 207 (Particulate Matter):** A person shall not release or discharge into the atmosphere from any source or single processing unit, exclusive of sources emitting combustion contaminants only, particulate matter emissions in excess of 0.1 grains per cubic foot of dry exhaust gas at standard conditions.
- **Rule 210 (Specific Contaminants):** Limits the amount of sulfur carbon dioxide released in the atmosphere.

Standards of Significance

Calaveras County Air Pollution Control District

The impact analysis provided below considers the California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The significance criteria established by the applicable air quality management or air pollution control district (CCAPCD) may be relied upon to make impact determinations. According to the CCAPCD, an air quality impact is considered significant if the Proposed Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The CCAPCD has established thresholds of significance for air quality for construction and operational activities of land use development projects such as that proposed, as shown in Table 2.

Table 2. Calaveras County Air Pollution Control District Significance Thresholds – Pounds per Day		
Air Pollutant	**Construction Activities**	**Operations**
Reactive Organic Gases	150	150
Nitrogen Oxide	150	150
Carbon Monoxide	--	--
Sulfur Oxide	--	--
Coarse Particulate Matter	150	150
Fine Particulate Matter	--	--

Methodology

Project construction emissions were modeled using the Roadway Construction Emissions Model (RCEM), version 9.0.1. RCEM is a spreadsheet-based model that is able to estimate exhaust emissions from heavy-duty construction equipment, haul trucks, and worker commute trips as well as fugitive dust from the construction of a new roadway, road widening, roadway overpass, levee or pipeline projects. Project construction-generated air pollutant emissions were calculated using RCEM defaults coupled with Project Site size, construction phasing and duration, and Project equipment information provided by the Project proponent and identified in the Project Description of this memorandum. Operational emissions are addressed qualitatively.

Air Quality Impact Discussion

Would the Project Conflict with or Obstruct Implementation of the Applicable Air Quality Plan?

As previously described, the CCAPCD is the air pollution control agency for Calaveras County, including the Project Site. The agency's primary responsibility is ensuring that the NAAQS and CAAQS are attained and maintained in the Calaveras County portion of the MCAB. A project is inconsistent with regional air quality planning if it would result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations, as determined by a comparison of Project emissions to CCAPCD significance thresholds. As shown in Table 3 below, the Proposed Project would be below the CCAPCD significance thresholds during construction. The Project would result in negligible amounts of emissions during operations. Since the Project would result in less than significant emission impacts, it would not delay the timely attainment of air quality standards or CCAPCD air quality planning goals. The Proposed Project would not conflict with or obstruct the implementation of any air quality plan.

Additionally, the Project does not include development of new housing or employment centers and would not induce population or employment growth. Rather, the Proposed Project improvements address existing deficiencies that require modification in order to continue to provide reliable water service for existing development in the Project Area.

Would the Project Result in a Cumulative 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?

Project Construction Emissions

Emissions associated with Project construction would be temporary and short-term but have the potential to represent a significant air quality impact. Two basic sources of short-term emissions will be generated through Project construction: operation of the heavy-duty equipment (i.e., excavators, loaders, haul trucks) and the creation of fugitive dust during clearing and grading. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation.

Construction-generated emissions associated with the Proposed Project were calculated using the RCEM model. Attachment A provides more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

Predicted maximum daily emissions attributable to Project construction are summarized in Table 3. Such emissions are short-term and of temporary duration, lasting only as long as Project construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the CCAPCD's thresholds of significance.

Table 3. Construction-Related Criteria Air Pollutant Emissions

Description	Pollutant (maximum pounds per day)		
	ROG	**NO_X**	**PM_{10}**
Excavation and Hauling	3.11	26.36	7.58
Final Paving	4.02	31.68	1.57
CCAPCD Significant Impact Threshold	*150*	*150*	*150*
Exceed CCAPCD Threshold?	**No**	**No**	**No**

Source: RCEM version 9.0.1. Refer to Attachment A for Model Data Outputs.
Notes: Emission calculations conservatively account for the import of 40 cubic yards of soil material and export of 40 cubic yards of soil and demolished asphalt daily, during the Excavation and Hauling phase of construction [21,120 cubic yards of soil and demolished asphalt import/export total over the course of construction]. Calculations also account for the import of 80 cubic yards of asphalt daily during the Final Paving phase [5,280 cubic yards of asphalt total over the course of construction].

As shown in Table 3, emissions generated during Project construction would not exceed the CCAPCD's thresholds of significance.

Project Operational Emissions

Operational emissions impacts are long-term air emissions impacts that are associated with any changes in the permanent use of the Project Site by onsite stationary and offsite mobile sources that substantially increase emissions. Once construction is complete, no regular additional daily vehicle trips or personnel would be added to operate or maintain the new facilities. Project operations would not include any emitting stationary equipment. The Project would not be a greater source of operational emissions beyond current conditions. Therefore, Proposed Project operations would not contribute to on- or offsite emissions.

Would the Project Expose Sensitive Receptors to Substantial Pollutant Concentrations?

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The Project Site is linear and traverses many different locations throughout the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County adjacent to State Highway 26, an area primarily made up of sensitive residential receptors. Virtually all aspects of Project implementation would involve construction activity occurring adjacent to these land uses.

Construction Generated Air Contaminants

Construction-related activities would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NOx, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); paving; and other miscellaneous activities. The Calaveras County portion of the MCAB is listed as a nonattainment area for the federal O_3 standard and is also a nonattainment area for the state standards for O_3 and PM_{10}. Thus, existing O_3 and PM_{10} levels in Calaveras County are at unhealthy levels during certain periods. However, as previously demonstrated, the Project would not exceed the CCAPCD significance thresholds.

The health effects associated with O_3 are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in O_3 precursor emissions (ROG or NOx) in excess of the CCAPCD thresholds, the Project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve construction activities that would result in CO emissions in that would pose a health risk to the nearby residences. The exposure from construction

would be temporary and due to air flow within the area, would not result in a concentrated exposure to CO. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

PM_{10} and $PM_{2.5}$ contain microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. PM exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary toxic air contaminant (TAC) of concern. The potential cancer risk from the inhalation of DPM outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. As with O_3 and NO_x, the Project would not generate emissions of PM_{10} that would exceed CCAPCD's thresholds. Accordingly, the Project's PM emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Project; nor would the Project attract mobile sources that spend long periods queuing and idling at the site. Thus, by its very nature, the Project would not be a source of TAC concentrations post-construction.

Would the Project Result in Other Emissions (Such as Those Leading to Odors) Adversely Affecting a Substantial Number of People?

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, the person is describing

the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would not adversely affect a substantial number of people to odor emissions.

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified as being associated with odors. The installed water transmission pipeline would not emit odors.

GREENHOUSE GAS EMISSIONS ANALYSIS

Environmental Setting

Greenhouse gas (GHG) emissions are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e). Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere.

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

In 2021, CARB released the 2021 edition of the California GHG inventory covering calendar year 2019 emissions. In 2019, California emitted 418.2 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2019, accounting for approximately 40 percent of total GHG emissions in the State. When emissions from extracting, refining and moving transportation fuels in California are included, transportation is responsible for over 50 percent of statewide emissions in 2019. Continuing the downward trend from 2018, transportation emissions decreased 3.5 million metric tons of CO_2e in 2019, only being outpaced by electricity, which reduced emissions by 4.3 million metric tons of CO_2e in 2019. Emissions from the electricity sector account for 14 percent of the inventory and have shown a substantial decrease in 2019

due to increases in renewables. California's industrial sector accounts for the second largest source of the State's GHG emissions in 2019, accounting for 21 percent (CARB 2021).

Regulatory Setting

State

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlined measures to meet the 2020 GHG reduction goals. California exceeded the target of reducing GHG emissions to 1990 levels by the year 2017.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the State, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030.

Local

Calaveras County Air Pollution Control District

The CCAPCD has primary responsibility for developing and implementing rules and regulations to maintain national and state air quality standards, permitting new or modified sources, developing air quality management plans, and adopting and enforcing air pollution regulations for all projects in Calaveras

County. The AB 32 Scoping Plan does not specify an explicit role for local air districts with respect to implementing statewide GHG reduction strategies, but it does state that CARB will work actively with air districts in coordinating emissions reporting, encouraging and coordinating GHG reductions, and providing technical assistance in quantifying reductions. The ability of air districts to control emissions (both criteria pollutants and GHGs) is provided primarily through permitting, but also via their role as a CEQA lead or commenting agency, the establishment of CEQA thresholds, and the development of analytical requirements for CEQA documents.

The CCAPCD has not adopted thresholds of significance for the analysis of GHG emissions under CEQA.

Standards of Significance

The State of California does not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 CCR 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130). As a note, the CEQA Guidelines were amended in response to Senate Bill 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

As previously stated, the CCAPCD has not adopted thresholds of significance for the analysis of GHG emissions under CEQA. Therefore, in the absence of any GHG emissions significance thresholds the projected emissions are compared to the GHG thresholds recommended by the Sacramento Metropolitan Air Quality Management District (SMAQMD), the air pollution control officer for Sacramento County. The SMAQMD thresholds of 1,100 metric tons of CO_2e annually for construction and 1,100 metric tons of CO_2e annually during operations are considered appropriate for the purposes of this analysis due to the proximities of Sacramento and Calaveras counties. Therefore, the threshold used to analyze the Project is specific to the analysis herein and the lead agency retains the ability to develop and/or use different thresholds of significance for other projects in its capacity as lead agency and recognizing the need for the individual threshold to be tailored and specific to individual projects.

In Center for Biological Diversity v. Department of Fish and Wildlife (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code section 21003(f) provides it is a policy of the state that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts." (Crockett, Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

Methodology

Project construction GHG emissions were modeled using the RCEM, version 9.0.1. RCEM is a spreadsheet-based model that is able to estimate GHG emissions from heavy-duty construction equipment, haul trucks, and worker commute trips associated with the construction of a new roadway, road widening, roadway overpass, levee or pipeline projects. Project construction generated GHG emissions were calculated using RCEM defaults coupled with Project Site size, construction phasing and duration, and Project equipment information provided by the Project proponent and identified in the Project Description of this memorandum. Operational GHG emissions are addressed qualitatively.

Greenhouse Gas Emissions Impact Discussion

Would the Project Generate Greenhouse Gas Emissions, Either Directly or Indirectly, That May Have a Significant Impact on the Environment?

Construction-Generated Greenhouse Gas Emissions

A potent source of GHG emissions associated with the Proposed Project would be combustion of fossil fuels during construction activities. Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 4 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

Table 4. Construction-Related Greenhouse Gas Emissions

Emission Source	CO_2e (Metric Tons/ Year)
Excavation and Hauling	791
Final Paving	240
Combined Total	**1,031**
Significant Impact Threshold	*1,100*
Exceed Significant Impact Threshold?	**No**

Source: RCEM version 9.0.1. Refer to Attachment A for Model Data Outputs.
Notes: Emission calculations conservatively account for the import of 40 cubic yards of soil material and export of 40 cubic yards of soil and demolished asphalt daily, during the Excavation and Hauling phase of construction [21,120 cubic yards of soil and demolished asphalt import/export total over the course of construction]. Calculations also account for the import of 80 cubic yards of asphalt daily during the Final Paving phase [5,280 cubic yards of asphalt total over the course of construction].

As shown in Table 4, Project construction would result in the generation of approximately 1,031 metric tons of CO_2e over the course of construction, which is below the significance threshold of 1,100 metric tons of CO_2e. Once construction is complete, the generation of these GHG emissions would cease.

Operational-Generated Greenhouse Gas Emissions

Operational GHG emissions impacts are long-term GHG emissions impacts that are associated with any changes in the permanent use of the Project Site by onsite stationary sources, indirect electricity sources, and offsite mobile sources that substantially increase emissions. Once construction is complete, no regular additional daily vehicle trips or personnel would be added to operate or maintain the new facilities. Project operations would not include any GHG emitting stationary equipment, and indirect emissions associated with the electricity required to pump water would be no greater than current conditions. The Project would not be a greater source of operational emissions beyond current conditions. Therefore, Proposed Project operations would not contribute to on- or offsite GHG emissions.

Would the Project Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases?

As previously described, the State of California promulgates several mandates and goals to reduce statewide GHG emissions, including the goals to reduce statewide GHG emissions to 40 percent below 1990 levels by the year 2030 (SB 32) and 80 percent below 1990 levels by 2050 (EO S-03-05). The Proposed Project would comply with the SMAQMD's numeric, bright-line GHG threshold of 1,100 metric tons of CO_2e per year, which was developed in consideration of statewide GHG reduction goals. Furthermore, the Project would not include new permanent sources of GHG emissions and would not generate new or unplanned permanent GHG emissions. Therefore, the Project would not interfere with the state's goals of reducing GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, as established in SB 32 and EO S-03-05.

Furthermore, the Proposed Project would comply with the State Building Code provisions designed to reduce GHG emissions during construction. During construction, the Project would utilize equipment in compliance with CARB requirements. Mobile sources during construction would be subject to the requirements of California Assembly Bill 1493 (Pavley Standards), the Advanced Clean Cars Program, and the Low Carbon Fuel Standard Regulation. Additionally, the Project would be designed and constructed consistent with California Title 24 and CALGreen (2019). These regulations require projects to comply with specific standards related to energy efficiency construction practices.

For these reasons, the Project would not conflict with any applicable plan, policy or regulation related to the reduction in GHG emissions.

REFERENCES

[CARB] California Air Resources Board. 2021. California Greenhouse Gas Emission Inventory 2021 Edition. https://ww2.arb.ca.gov/ghg-inventory-data

_____. 2019. State and Federal Area Designation Maps. http://www.arb.ca.gov/desig/adm/adm.htm.

Crockett, Alexander G. 2011. Addressing the Significance of Greenhouse Gas Emissions Under CEQA: California's Search for Regulatory Certainty in an Uncertain World.

[SMAQMD] Sacramento Metropolitan Air Quality Management District. 2020. Thresholds of Significance Table. http://www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable4-2020.pdf.

ATTACHMENT A

Criteria Air Pollutant & Greenhouse Gas Emissions Modeling Output

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 9.0.1

Daily Emission Estimates for -> Jenny Lind Water System Tank A-B Water Transmission Pipeline

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	1.58	18.71	13.34	3.80	0.80	3.00	1.31	0.69	0.62	0.03	3,312.48	0.67	0.07	3,351.21
Drainage/Utilities/Sub-Grade	1.53	18.31	13.02	3.78	0.78	3.00	1.30	0.67	0.62	0.03	3,219.90	0.66	0.07	3,257.96
Paving	4.02	46.34	31.68	1.57	1.57	0.00	1.47	1.47	0.00	0.08	7,938.82	0.92	0.14	8,003.12
Maximum (pounds/day)	4.02	46.34	31.68	7.58	1.58	6.00	2.61	1.47	1.25	0.08	7,938.82	1.33	0.15	8,003.12
Total (tons/construction project)	0.54	6.42	4.52	1.05	0.26	0.79	0.39	0.23	0.16	0.01	1,124.26	0.21	0.02	1,136.51

Notes:

Project Start Year ->	2023
Project Length (months) ->	18
Total Project Area (acres) ->	2
Maximum Area Disturbed/Day (acres) ->	2
Water Truck Used? ->	No

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	520	0
Grading/Excavation	40	0	60	0	1,000	0
Drainage/Utilities/Sub-Grade	40	0	60	0	920	0
Paving	0	80	0	120	760	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Jenny Lind Water System Tank A-B Water Transmission Pipeline

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	0.21	2.47	1.76	0.50	0.11	0.40	0.17	0.09	0.08	0.00	437.25	0.09	0.01	401.31
Drainage/Utilities/Sub-Grade	0.20	2.42	1.72	0.50	0.10	0.40	0.17	0.09	0.08	0.00	425.03	0.09	0.01	390.14
Paving	0.13	1.53	1.05	0.05	0.05	0.00	0.05	0.05	0.00	0.00	261.98	0.03	0.00	239.59
Maximum (tons/phase)	0.21	2.47	1.76	0.50	0.11	0.40	0.17	0.09	0.08	0.00	437.25	0.09	0.01	401.31
Total (tons/construction project)	0.54	6.42	4.52	1.05	0.26	0.79	0.39	0.23	0.16	0.01	1124.26	0.21	0.02	1,031.04

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model
Data Entry Worksheet

Version 9.0.1

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Jenny Lind Water System Tank A-B Water Transmission Pipeline	
Construction Start Year	2023	Enter a Year between 2014 and 2040 (inclusive)
Project Type For 4: Other Linear Project Type, please provide project specific off-road equipment population and vehicle trip data	4	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	18.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the lone formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	3.78	miles
Total Project Area	1.83	acres
Maximum Area Disturbed/Day	1.83	acres
Water Trucks Used?	2	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County. NEW LINK 8-2-2022.

https://maps.conservation.ca.gov/cgs/gmc/

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing			
	Grading/Excavation	20.00		40.00
	Drainage/Utilities/Sub-Grade	20.00	40.00	
	Paving			
Asphalt	Grubbing/Land Clearing			
	Grading/Excavation			
	Drainage/Utilities/Sub-Grade			
	Paving	20.00	80.00	

Mitigation Options

On-road Fleet Emissions Mitigation	2010 and Newer On-road Vehicles Fleet	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation		Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that require modification when 'Other Project Type' is selected.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing	0.00	1.80	5/1/2023	1/1/2023
Grading/Excavation	12.00	8.10	5/1/2023	1/1/2023
Drainage/Utilities/Sub-Grade	12.00	5.40	6/1/2023	1/1/2024
Paving	3.00	2.70	7/1/2024	12/31/2024
Totals (Months)	27			

Please note: You have entered a different number of months than the project length shown in cell D16.
Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing				0	0.00
Miles/round trip: Grading/Excavation	30.00			2	60.00
Miles/round trip: Drainage/Utilities/Sub-Grade	30.00			2	60.00
Miles/round trip: Paving				0	0.00

2010+ Model Year Mitigation Option Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/mile)	0.03	0.41	3.00	0.11	0.05	0.02	1,707.88	0.00	0.27	1,787.92
Draining/Utilities/Sub-Grade (grams/mile)	0.03	0.41	3.00	0.11	0.05	0.02	1,706.06	0.00	0.27	1,786.01
Paving (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.05	0.42	0.01	0.01	0.00	225.91	0.00	0.04	236.50
Tons per const. Period - Grading/Excavation	0.00	0.01	0.05	0.00	0.00	0.00	29.82	0.00	0.00	31.22
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.05	0.42	0.01	0.01	0.00	225.67	0.00	0.04	236.25
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.01	0.05	0.00	0.00	0.00	29.79	0.00	0.00	31.18
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.01	0.11	0.00	0.00	0.00	59.61	0.00	0.01	62.40

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing				0	0.00
Miles/round trip: Grading/Excavation				0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade				0	0.00
Miles/round trip: Paving	30.00			4	120.00

2010+ Model Year Mitigation Option Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/mile)	0.03	0.41	3.00	0.11	0.05	0.02	1,707.88	0.00	0.27	1,787.92
Draining/Utilities/Sub-Grade (grams/mile)	0.03	0.41	3.00	0.11	0.05	0.02	1,706.06	0.00	0.27	1,786.01
Paving (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.01	0.11	0.84	0.03	0.01	0.00	448.04	0.00	0.07	469.03
Tons per const. Period - Paving	0.00	0.00	0.03	0.00	0.00	0.00	14.79	0.00	0.00	15.48
Total tons per construction project	0.00	0.00	0.03	0.00	0.00	0.00	14.79	0.00	0.00	15.48

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions User Input	User Override of Worker Commute Default Values	Default Values		
Miles/ one-way trip	20		Calculated Daily Trips	Calculated Daily VMT
One-way trips/day	2			
No. of employees: Grubbing/Land Clearing	13		26	520.00
No. of employees: Grading/Excavation	25		50	1,000.00
No. of employees: Drainage/Utilities/Sub-Grade	23		46	920.00
No. of employees: Paving	19		38	760.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/mile)	0.01	0.89	0.07	0.05	0.02	0.00	314.03	0.00	0.01	315.99
Draining/Utilities/Sub-Grade (grams/mile)	0.01	0.88	0.07	0.05	0.02	0.00	313.10	0.00	0.01	315.04
Paving (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	1.02	2.72	0.28	0.00	0.00	0.00	67.51	0.07	0.03	78.55
Draining/Utilities/Sub-Grade (grams/trip)	1.02	2.71	0.28	0.00	0.00	0.00	67.31	0.07	0.03	78.30
Paving (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.15	2.26	0.18	0.10	0.04	0.01	699.75	0.02	0.02	705.29
Tons per const. Period - Grading/Excavation	0.02	0.30	0.02	0.01	0.01	0.00	92.37	0.00	0.00	93.10
Pounds per day - Drainage/Utilities/Sub-Grade	0.13	2.06	0.17	0.09	0.04	0.01	641.86	0.01	0.02	646.93
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.02	0.27	0.02	0.01	0.01	0.00	84.73	0.00	0.00	85.39
Pounds per day - Paving	0.10	1.63	0.13	0.08	0.03	0.01	519.41	0.01	0.01	523.38
Tons per const. Period - Paving	0.00	0.05	0.00	0.00	0.00	0.00	17.14	0.00	0.00	17.27

Total tons per construction project	0.04	0.62	0.05	0.03	0.01	0.00	194.23	0.00	0.00	195.76

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions	User Override of	Program Estimate of	User Override of Truck	Default Values	Calculated	User Override of	Default Values	Calculated
User Input	Default # Water Trucks	Number of Water Trucks	Round Trips/Vehicle/Day	Round Trips/Vehicle/Day	Trips/day	Miles/Round Trip	Miles/Round Trip	Daily VMT
Grubbing/Land Clearing - Exhaust	0		0.00			0.00		0.00
Grading/Excavation - Exhaust	0		0.00			0.00		0.00
Drainage/Utilities/Subgrade	0		0.00			0.00		0.00
Paving	0		0.00			0.00		0.00

2010+ Model Year Mitigation Option Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/mile)	0.03	0.41	3.00	0.11	0.05	0.02	1,707.88	0.00	0.27	1,787.92
Draining/Utilities/Sub-Grade (grams/mile)	0.03	0.41	3.00	0.11	0.05	0.02	1,706.06	0.00	0.27	1,786.01
Paving (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing			0.00	0.00	0.00	0.00
Fugitive Dust - Grading/Excavation	0.15		3.00	0.40	0.62	0.08
Fugitive Dust - Drainage/Utilities/Subgrade	0.15		3.00	0.40	0.62	0.08

Values in cells D195 through D228, D246 through D279, D297 through D330, and D348 through D381 are required when 'Other Project Type' is selected.

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing		pounds per day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing		tons per phase	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Air Compressors	0.25	2.41	1.70	0.09	0.09	0.00	375.26	0.02	0.00	376.66
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Excavators	0.19	3.26	1.50	0.07	0.07	0.01	500.16	0.16	0.00	505.55
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Other Construction Equipment	0.34	4.01	3.36	0.17	0.16	0.01	598.26	0.19	0.01	604.72
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
1.00			Model Default Tier	Skid Steer Loaders	0.06	1.39	0.85	0.03	0.03	0.00	200.51	0.06	0.00	202.67
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Tractors/Loaders/Backhoes	0.15	2.23	1.51	0.07	0.07	0.00	301.64	0.10	0.00	304.89
1.00			Model Default Tier	Trenchers	0.34	2.59	3.21	0.22	0.20	0.00	327.19	0.11	0.00	330.71
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation		pounds per day	1.43	16.40	12.74	0.69	0.64	0.02	2,386.81	0.65	0.02	2,409.41
Grading/Excavation		tons per phase	0.19	2.17	1.68	0.09	0.08	0.00	315.06	0.09	0.00	318.04

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Air Compressors	0.25	2.41	1.69	0.09	0.09	0.00	375.26	0.02	0.00	376.65
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Excavators	0.19	3.26	1.49	0.07	0.07	0.01	500.17	0.16	0.00	505.56
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Other Construction Equipment	0.34	4.01	3.34	0.17	0.16	0.01	598.25	0.19	0.01	604.72
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
1.00			Model Default Tier	Skid Steer Loaders	0.06	1.39	0.85	0.03	0.03	0.00	200.52	0.06	0.00	202.68
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Tractors/Loaders/Backhoes	0.15	2.23	1.50	0.07	0.07	0.00	301.66	0.10	0.00	304.90
1.00			Model Default Tier	Trenchers	0.34	2.59	3.20	0.22	0.20	0.00	327.18	0.11	0.00	330.70
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase	Unit	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	1.39	16.19	12.43	0.67	0.63	0.02	2,352.37	0.65	0.02	2,374.79
Drainage/Utilities/Sub-Grade	tons per phase	0.18	2.14	1.64	0.09	0.08	0.00	310.51	0.09	0.00	313.47

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.00			Model Default Tier	Air Compressors	0.72	7.24	4.88	0.24	0.24	0.01	1,125.79	0.06	0.01	1,129.90
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.00			Model Default Tier	Concrete/Industrial Saws	0.94	10.95	7.24	0.33	0.33	0.02	1,778.00	0.08	0.01	1,784.09
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Crushing/Proc. Equipment	0.85	8.65	5.59	0.26	0.26	0.01	1,329.06	0.07	0.01	1,333.91
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Generator Sets	0.29	3.66	2.54	0.11	0.11	0.01	623.04	0.03	0.00	625.06
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Other Construction Equipment	0.33	4.01	3.21	0.17	0.15	0.01	598.25	0.19	0.01	604.71
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Pavers	0.37	5.79	3.48	0.16	0.15	0.01	910.33	0.29	0.01	920.14
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Rollers	0.29	3.70	3.05	0.16	0.15	0.01	508.29	0.16	0.00	513.77
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase	Unit	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Paving	pounds per day	3.90	44.60	30.71	1.47	1.43	0.07	6,971.37	0.91	0.06	7,010.71
Paving	tons per phase	0.13	1.47	1.01	0.05	0.05	0.00	230.06	0.03	0.00	231.35
Total Emissions all Phases (tons per construction period) =>		0.50	5.77	4.34	0.23	0.21	0.01	855.63	0.20	0.01	862.87

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		89		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

APPENDIX B

Biological Resources Assessment

Biological Resources Assessment

Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

Calaveras County, California

Prepared For:

Calaveras County Water District

Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, California 95677

December 8, 2022

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
BA	Biological Assessment
BCC	Bird of Conservation Concern
BO	Biological Opinion
BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranks
CWA	Clean Water Act
ESA	Endangered Species Act
HCP	Habitat Conservation Plan
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
MSL	Mean sea level
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
ROW	Right-of-way
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
Study Area	Jenny Lind Water System Tank A-B Water Transmission Pipeline Project
SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	Valley elderberry longhorn beetle

1.0 INTRODUCTION

At the request of Calaveras County Water District, ECORP Consulting, Inc. conducted a Biological Resources Assessment (BRA) for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project (Study Area) in Rancho Calaveras, Calaveras County, California.

1.1 Study Area Location

The approximately 35.32-acre Study Area is located within the Calaveras County (County) right-of-way (ROW) in Rancho Calaveras, Calaveras County, California (Figure 1). The Study Area begins at Tank A on Hartvickson Lane heading south, turns south on Baldwin Street, heads southeast on Usher Drive, turns east up Harding Road, continues east on Wind River Drive, and ends at Tank B (Figure 2). The Study Area corresponds to Section 35, Township 4 North, and Range 10 East of the "Valley Springs, California" 7.5-minute quadrangle, Section 2, Township 3 North, and Range 10 East of the "Valley Springs, California" 7.5-minute quadrangle, and Section 11, Township 3 North, and Range 10 East in both the "Valley Springs, California" and "Jenny Lind, California" quadrangle (U.S. Geological Survey [USGS] 1953, photorevised 1980). The approximate center of the property corresponds to latitude 38.1431693° and longitude -120.8429471° within the Upper Calaveras California Watershed (Hydrologic Unit Code 18040011; Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016).

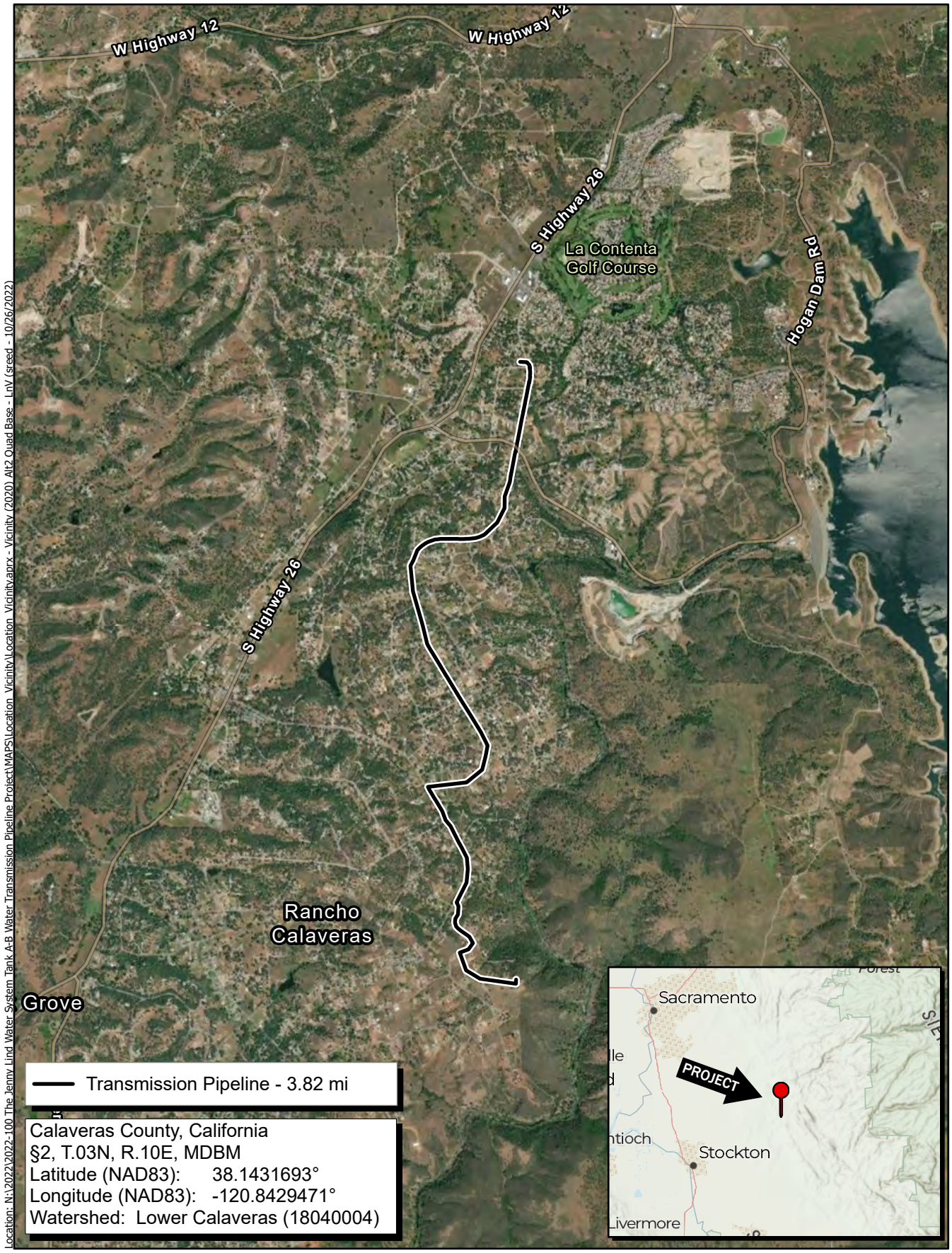
1.2 Purpose of this Biological Resources Assessment

The purpose of this BRA is to collect information on the biological resources present or with the potential to occur in the Study Area, to provide an analysis of potential Project impacts on these resources, and to recommend mitigation measures. This BRA is intended to support review of the Project in accordance with the California Environmental Quality Act (CEQA).

This BRA includes an assessment of the potential for occurrence of special-status plant and animal species or their habitats and sensitive habitats such as wetlands, riparian, and sensitive natural communities within the Study Area. This BRA does not include determinate-level field surveys conducted according to agency-promulgated protocols. The conclusions and recommendations presented in this assessment are based on the preliminary analysis, a review of existing literature, and site reconnaissance.

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under Section 15380 of CEQA Guidelines;
- are identified as a Species of Special Concern (SSC) by the California Department of Fish and Wildlife (CDFW);



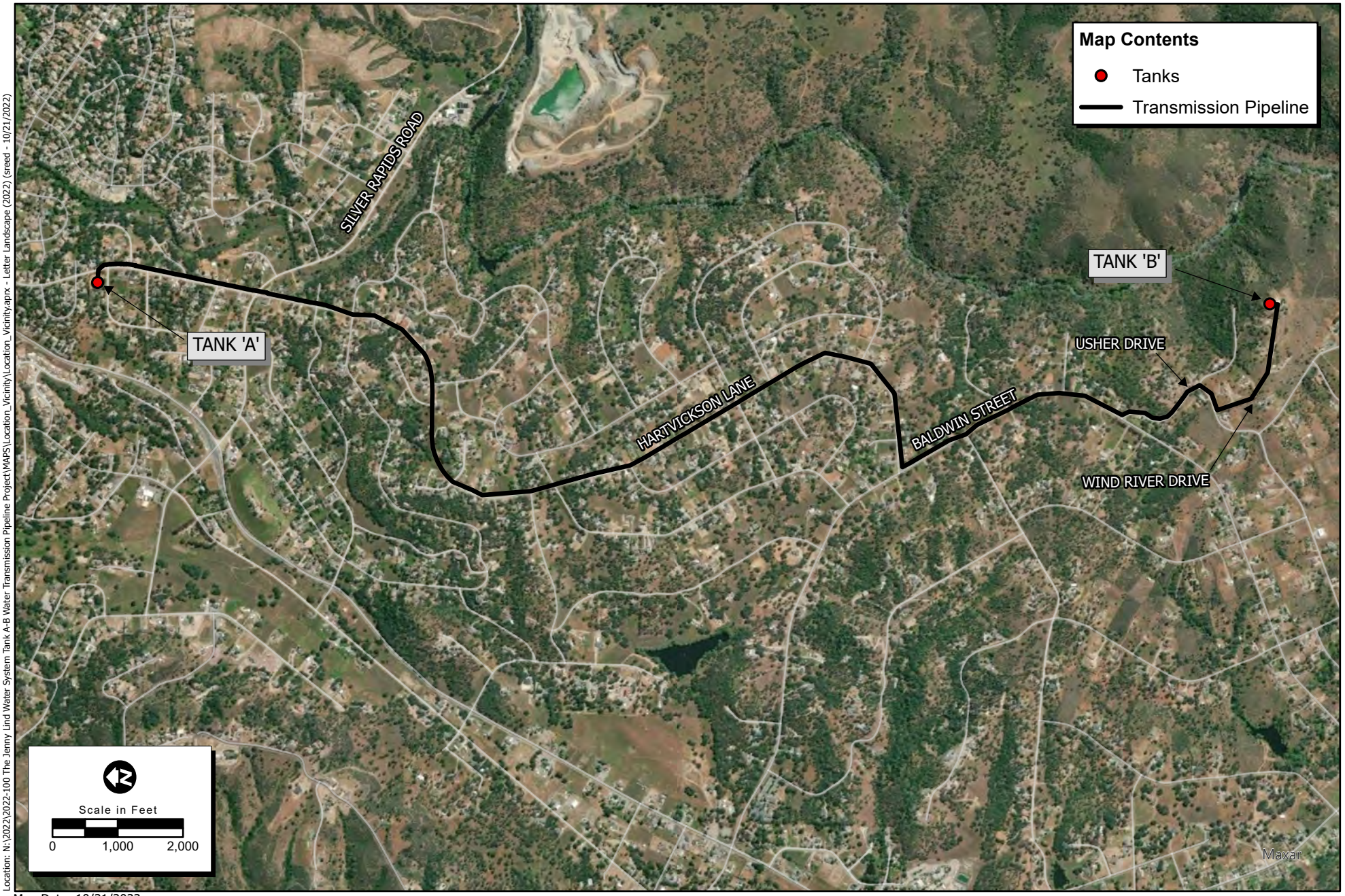
Map Date: 10/24/2022
Sources: ESRI, USGS

Scale in Feet
0 1,000 2,000

Figure 1. Project Location and Vicinity

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project



Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Location_Vicinity\Location_Vicinity.aprx - Letter Landscape (2022) (sreed - 10/21/2022)

Map Date: 10/21/2022

Figure 2: Proposed Project Alignment

- are birds identified as Birds of Conservation Concern (BCC) by the U.S. Fish and Wildlife Service (USFWS);
- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Rank [CRPR] 1 and 2), plants listed by CNPS as species about which more information is needed to determine their status (CRPR 3), and plants of limited distribution (CRPR 4);
- are plants listed as rare under the California Native Plant Protection Act (NPPA; California Fish and Game Code, § 1900 et seq.); or,
- are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Only species that fall into one of the above-listed groups were considered for this assessment. Other species without special status that are sometimes found in database or literature searches were not included in this analysis.

1.3 Project Description

The Project proposes to install 20,000 feet of potable water transmission main (between 12-14-inch diameter transmission lines) to remove an existing hydraulic transmission bottleneck and improve conveyance to Tank B and install connections for new or replaced laterals (Figure 2). The pipeline will be placed in trenches within existing paved roads of the communities of Rancho Calaveras and Jenny Lind, Calaveras County, California. The new pipeline will be installed parallel to the existing transmission system lines from Tank A on Hartvickson Lane, continuing down Baldwin Street, Usher Drive, Harding Road, and continuing to Tank B on Wind River Drive. This BRA assesses the road shoulders, a 50-foot perimeter around tank locations for potential staging of equipment, setup areas and entry/exit pits for directional drilling, replacement of fire hydrants, and connections for new or replaced laterals. While this assessment includes evaluation of the connections for new laterals, it does not include surveys of entire routes for any new laterals that are planned for future installation.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The ESA protects plants and animals that are listed as endangered or threatened by the USFWS and the NMFS. Section 9 of ESA prohibits the taking of listed wildlife, where take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S. Code [USC]

1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a Biological Opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a Habitat Conservation Plan (HCP) is developed.

2.1.1.1 Section 7

Section 7 of ESA mandates that all federal agencies consult with USFWS and/or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. The adverse modifications will require formal consultation with USFWS or NMFS if direct and/or indirect effects will occur to critical habitat that appreciably diminish the value of critical habitat for both the survival and recovery of a species. The applicant must conduct a Biological Assessment (BA) for the purpose of analyzing the potential effects of a project on listed species and critical habitat to establish and justify an "effect determination" if adverse effects are likely. The federal agency reviews the BA and prepares a BO if it concludes that the project may adversely affect a listed species or its habitat. The BO may recommend *reasonable and prudent alternatives* to the project to avoid jeopardizing or adversely modifying habitat.

2.1.1.2 Critical Habitat

Critical Habitat is defined in Section 3 of the ESA as:

1. the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and

2. specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

For inclusion in a Critical Habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features essential to the conservation of the species (16 USC 1533). Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

1. Space for individual and population growth and for normal behavior;

2. Food, water, air, light, minerals, or other nutritional or physiological requirements;
3. Cover or shelter;
4. Sites for breeding, reproduction, or rearing (or development) of offspring; or
5. Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species

Excluded essential habitat is defined as areas that were found to be essential habitat for the survival of a species and assumed to contain at least one of the primary constituent elements for the species but were excluded from the Critical Habitat designation. The USFWS has stated that any action within the excluded essential habitat that triggers a federal nexus will be required to undergo the Section 7(a)(1) process, and the species covered under the specific Critical Habitat designation would be afforded protection under Section 7(a)(2) of ESA.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The protections of the MBTA extend to disturbances that result in abandonment of a nest with eggs or young. As authorized under the MBTA, the USFWS may issue permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of nongame birds in § 3800, migratory birds in § 3513, and birds of prey in § 3503.5 of the California Fish and Game Code.

2.1.3 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 (as amended) provides for the protection of bald eagle and golden eagle by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit [16 USC 668(a); 50 CFR 22]. The USFWS may authorize take of bald eagles and golden eagles for activities where the take is associated with, but not the purpose of, the activity and cannot practicably be avoided (50 CFR 22.26).

2.1.4 U.S. Fish and Wildlife Service Birds of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA." To meet this requirement, the USFWS published a

list of BCC (USFWS 2021a) for the U.S. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS' highest conservation priorities. Depending on the policy of the lead agency, projects that result in substantial impacts to BCC may be considered significant under CEQA.

2.1.5 Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas:

> "…that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b).

The USEPA also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; in California, this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.2 State and Local Regulations

2.2.1 California Fish and Game Code

2.2.1.1 California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050-2116) protects species of fish, wildlife, and plants listed by the state as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the take, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful projects under permits issued by the CDFW.

2.2.1.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and the California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians,

reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species. CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit.

2.2.1.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW and provided in California Fish and Game Code §§ 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as endangered or rare and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code §§ 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code. The NPPA prohibits the take of plants listed under the NPPA, but the NPPA contains a number of exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under the NPPA. Plants listed as rare under the NPPA are not protected under the California ESA but are still protected under the provisions of the NPPA. The Fish and Game Commission no longer lists plants under the NPPA, reserving all listings to the California ESA.

2.2.1.4 California Fish and Game Code Special Protections for Birds

Sections 3503, 3513, and 3800 of the California Fish and Game Code specifically protects birds. Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Additionally, Subsection 3503.5 prohibits the take, possession, or destruction of any birds and their nests in the orders Strigiformes (owls) or Falconiformes (hawks and eagles). These provisions, along with the federal MBTA, serve to protect birds and their nests. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA. Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the commission or a mitigation plan approved by CDFW for mining operations.

2.2.1.5 California Streambed Alteration Notification/Agreement

Section 1602 of the California Fish and Game Code requires that a Streambed Alteration Application (SAA) be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, submits proposed measures to protect affected fish and wildlife resources to the applicant. The SAA is the final proposal mutually agreed upon by CDFW and the Applicant. Projects that

require an SAA often also require a permit from the USACE under Section 404 of the CWA. The conditions of the Section 404 permit and the SAA overlap In these instances.

2.2.2 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect waters of the state" [Water Code 13260(a)]. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050 €]. The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

2.2.3 California Environmental Quality Act

Per CEQA Guidelines Section 15380, a species not protected on a federal or state list may be considered rare or endangered if the species meets certain specified criteria. These criteria follow the definitions in the federal and California ESAs, and Sections 1900-1913 of the California Fish and Game Code, which deal with rare or endangered plants or animals. Section 15380 was included in the CEQA Guidelines primarily to deal with situations where a project under review may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW.

2.2.3.1 California Environmental Quality Act Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant and are particularly relevant to SSC. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant and require lead agencies to prepare an Environmental Impact Report to thoroughly analyze and evaluate the impacts. Assessment of "impact significance" to populations of nonlisted species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- 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 CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on federally protected Waters of the U.S. including wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA because although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.3.2 Species of Special Concern

The CDFW defines SSC as a species, subspecies, or distinct population of an animal native to California that is not legally protected by the California ESA or the California Fish and Game Code, but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role;
- The species is listed as federally (but not state) threatened or endangered, or meets the state definition of threatened or endangered but has not formally been listed;
- The species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status;

- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status; and
- SSC are typically associated with habitats that are threatened.

Depending on the policy of the lead agency, projects that result in substantial impacts to SSC may be considered significant under CEQA.

2.2.4 Sensitive Natural Communities

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. The CDFW maintains the California Natural Community List (CDFW 2018), which provides a list of vegetation alliances, associations, and special stands as defined in the *A Manual of California Vegetation* (Sawyer et al. 2009), along with their respective state and global rarity ranks. Natural communities with a state rarity rank of 1, 2, or 3 are considered sensitive natural communities. Depending on the policy of the lead agency, impacts to sensitive natural communities may be considered significant under CEQA.

2.2.5 California Rare Plant Ranks

The CNPS maintains the Inventory of Rare and Endangered Plants of California (CNPS 2021), which provides a list of plant species native to California that are threatened with extinction or have limited distributions and/or low populations. Plant species meeting one of these criteria are assigned to one of six California Rare Plant Ranks (CRPRs). The rank system was developed in collaboration with government, academia, nongovernmental organizations, and private sector botanists, and is jointly managed by the CDFW and CNPS. The CRPRs are currently recognized in the CNDDB. The following are definitions of the CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere
- Rare Plant Rank 3 – plants about which more information is needed
- Rare Plant Rank 4 – plants of limited distribution

Additionally, CNPS has defined Threat Ranks that are added to the CRPRs as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants with a CRPR of 1B, 2B, or 4, and for the majority of plants with a CRPR of 3. Plant species with a CRPR of 1A and 2A (presumed extirpated in

California), and some species with a CRPR of 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2021).

Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2, and 3 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

3.0 METHODS

3.1 Literature Review

The following resources were reviewed to determine the special-status species that had been documented within or in the vicinity of the Study Area or that otherwise had the potential to occur on-site:

- CDFW California Natural Diversity Database (CNDDB) record search for the "Valley Springs, California" and "Jenny Lind, California" 7.5-minute quadrangles and the ten surrounding USGS quadrangles (CDFW 2022).
- USFWS Information, Planning, and Consultation System Resource Report List for the Study Area (USFWS 2022).
- CNPS electronic Inventory of Rare and Endangered Plants of California was queried for the "Valley Springs, California" and "Jenny Lind, California" 7.5-minute quadrangles and the ten surrounding USGS quadrangles (CNPS 2022).
- NMFS Species List for the "Valley Springs, California" and "Jenny Lind, California" 7.5-minute quadrangles.

3.2 Site Reconnaissance

ECORP Consulting, Inc. biologist Dan Machek conducted the site reconnaissance visit on November 15, 2022. The biologist visually assessed the Study Area while walking meandering transects and noting all representative habitats and vegetation communities present. Special attention was given to identifying

those portions of the Study Area with the potential to support special-status species and sensitive habitats. During the field survey, vegetation communities occurring onsite were characterized and the following biological resource information was collected:

- Potential aquatic features;
- Plant and animal species directly observed;
- Elderberry (*Sambucus nigra* ssp. *caerulea*) shrub locations and characteristics as described in Section 3.4;
- Habitat and vegetation communities;
- Burrows and any other special habitat features; and
- Representative photographs of the Study Area (Appendix B).

3.3 Special-Status Species Considered for the Project

Based on species occurrence information from the literature review and observations in the field, a list of special-status and CNDDB-tracked plant and animal species that have the potential to occur within the Study Area was generated and can be found in Section 4.6. Each of these species' potential to occur onsite was assessed based on the following criteria:

- **Present** – Species was observed during the site visit or is known to occur within the Study Area based on documented occurrences within the CNDDB or other literature
- **Potential to Occur** – Habitat (including soils and elevation requirements) for the species overlaps with the Study Area
- **Low Potential to Occur** – Marginal or limited amounts of habitat occurs or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other available documentation
- **Absent** – No suitable habitat (including soils and elevation requirements) or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other documentation

3.4 Valley Elderberry Longhorn Beetle Survey

Concurrent with the site reconnaissance visit, a determinate-level survey for valley elderberry longhorn beetle (VELB) was conducted throughout the site. The survey was conducted in accordance with the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (USFWS 1999). All elderberry shrubs observed onsite were mapped with a Global Positioning System unit. The biologist searched each shrub for VELB exit holes, estimated height, and documented the general health of the shrub.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The Study Area is located within sloped foothill terrain situated at an elevational range of approximately 545 feet to 905 feet above mean sea level (MSL) in the Northern Sierra Nevada Foothills District Subregion within the Sierra Nevada Region of the of the California Floristic Province (Baldwin et al. 2012). The average winter minimum temperature in Camp Pardee, approximately 5.7 miles north of the Study Area, is 41.1 degrees Fahrenheit (˚F) and the average summer maximum temperature is 92.1 ˚F (National Oceanic and Atmospheric Administration [NOAA] 2022). Average annual precipitation is approximately 22.86 inches (NOAA 2022).

The Study Area is located within the Calaveras County ROW of Hartvickson Lane, Baldwin Street, Usher Drive, Harding Road, and Wind River Drive within the Rancho Calaveras and Jenny Lind communities (Figure 2). The Study Area begins at Tank A, follows the above road alignment, and ends at Tank B. The surrounding land use is low-density residential to rural residential. Descriptions of the vegetation communities are provided in Section 4.3.

4.2 Vegetation Communities

The vegetation communities occurring within the Study Area include developed, ruderal grassland, blue oak woodland, and chamise chaparral. The majority of the Study Area is the developed vegetation community since the majority of the pipeline will be installed in the existing road alignment. The ruderal grassland vegetation community is the second largest vegetation community and is comprised of the road shoulders. A small portion of the Study Area is blue oak woodland and chamise chaparral that overlap the edges of the Study Area. Descriptions of these communities are provided below.

4.2.1 Developed

The developed vegetation community is defined by the absence of vegetation. Developed habitat typically provides very little value to wildlife because there is little to no vegetation structure to provide refuge, forage, or places to rear young. There are few species that use the developed vegetation community. The developed vegetation community is the dominant vegetation community within the Study Area, representing the existing roadway alignments and road shoulders that are regularly controlled for vegetation by ongoing maintenance practices.

4.2.2 Ruderal Grassland

The Ruderal Grassland vegetation community is vegetation that grows on disturbed land, waste ground, or among refuse. Ruderal vegetation occurs on road shoulders throughout the Study Area. This vegetation community includes nonnative annual grasses, forbs, and nonnative ornamental shrubs and trees. The dominant species present in the Ruderal Grassland vegetation community within the Study Area

includes wild oats, (*Avena* sp.), soft brome (*Bromus hordeaceus*), perennial ryegrass (*Festuca perennis*), broadleaf filaree (*Erodium botrys*), and doveweed (*Croton setigerus*).

4.2.3 Blue Oak Woodland

The Blue Oak Woodland vegetation community occurs in small portions of the Study Area along Hartvickson Lane and Baldwin Street. Few blue oak (*Quercus douglasii*) trees are included in the Study Area but are contiguous with Blue Oak Woodlands outside of the Study Area. The herbaceous understory is dominated by nonnative annual grasses including soft brome, and wild oats, consistent with the ruderal grassland community. Blue Oak Woodlands provide high-quality wildlife habitat to many species of nesting birds.

4.2.4 Chamise Chaparral

The Chamise Chaparral vegetation community occurs in small portions of the Study Area along Usher Drive, Harding Road, Wind River Drive, and around Tank B. Chamise (*Adenostoma fasciculatum*) is the dominant species of this chaparral shrubland type vegetation community. California yerba santa (*Eriodictyon californicum*) is the subdominant species within the Chamise Chaparral vegetation community that was observed within the Study Area.

4.3 Soils

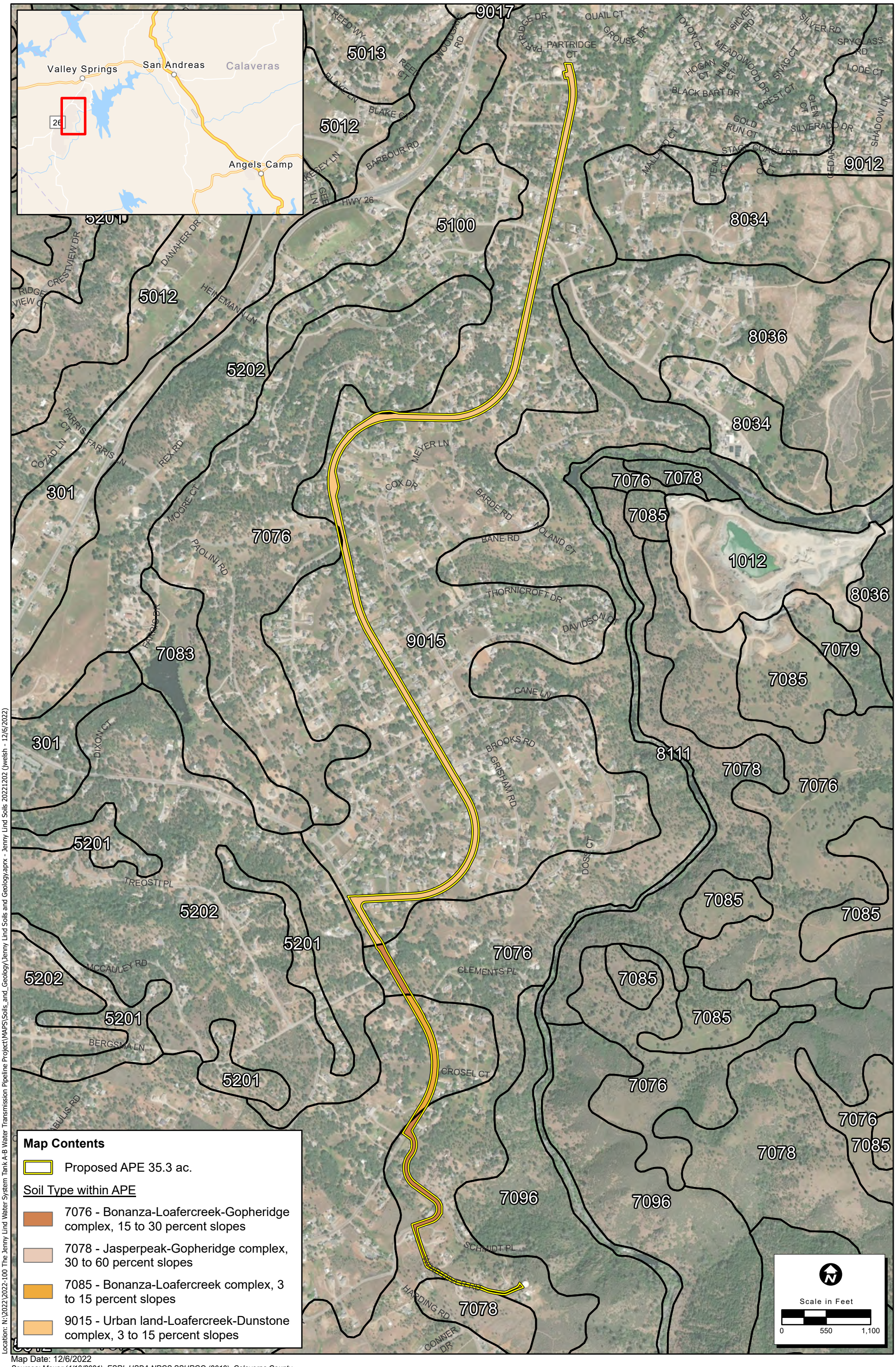
According to the Web Soil Survey (NRCS 2022a), four soil units have been mapped within the Study Area (Figure 3):

- 7076 – Bonanza-Loafercreek-Gopheridge complex, 15 to 30 percent slopes
- 7078 – Jasperpeak-Gopheridge complex, 30 to 60 percent slopes
- 7085 – Bonanza-Loafercreek complex, 3 to 15 percent slopes
- 9015 – Urban land-Loafercreek-Dunstone complex, 3 to 15 percent slopes

A minor component (2 percent of mapped area) of the Dunstone portion of the "9015" soil complex contains "Mollic fluvaquents, cobbly" that is hydric. None of the remaining soil units are considered hydric, as their soil units do not contain hydric components (NRCS 2022b).

4.4 Potential Waters of the U.S.

A preliminary aquatic resources assessment was conducted within the Study Area concurrent with the reconnaissance-level field survey. This reconnaissance-level assessment was not performed in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) or the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008).



Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Soils_and_Geology\Jenny Lind Soils and Geology.aprx - Jenny Lind Soils 20221202 (jwelsh - 12/6/2022)

Map Date: 12/6/2022

Sources: Maxar (4/19/2021), ESRI, USDA NRCS SSURGO (2019), Calaveras County

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Figure 3. NRCS Soils

2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

One ephemeral drainage aquatic resource was identified during the reconnaissance-level field survey (Figure 4) at the northeast corner of Hartvickson Lane and Baldwin Street. This feature flows under Hartvickson Lane through an approximately 3-foot-wide metal culvert, and continues parallel to Baldwin Street on the eastern side of the street and flows outside of the Study Area. This feature is mapped in the National Wetlands Inventory data (USFWS 2022b; Figure 5). Based on the USFWS Cowardin classification system, the aquatic feature is classified as Riverine Intermittent Streambed (R4SBC; Cowardin et al. 1979). Based on aquatic resource terminology, *Riverine* features include rivers, streams, creeks, drainages, ditches, and canals.

The ephemeral drainage has not been verified by the USACE or the Central Valley RWQCB and jurisdictional status of waters (Waters of the U.S./State) has not been determined. If the Project proposes to impact the potentially jurisdictional ephemeral drainage, then permitting under Section 404 and 401 of the CWA may be required.

4.5 Wildlife

Habitat within the Study Area is likely to support a variety of common wildlife species. Wildlife species observed onsite during the November 15, 2022 reconnaissance-level site visit include acorn woodpecker (*Melanerpes formicivorus*), white-breasted nuthatch (*Sitta carolinensis*), American crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), western fence lizard (*Sceloporus occidentalis*), California mule deer (*Odocoileus hemionus californicus*), and California ground squirrel (*Otospermophilus beecheyi*).

4.6 Evaluation of Special-Status Species

Special-status species identified during the literature review and database searches with the potential to occur in the region surrounding the Study Area are included in Appendix B. Table 1 evaluates these special-status plant and animal species based on site-specific information to determine their potential to occur. Included in this table are the listing status for each species, a brief habitat description, approximate flowering period for plants and survey period for animals, and a determination on the potential to occur onsite. Following the table provides a brief description of each special-status species with potential to occur onsite.

Map Contents

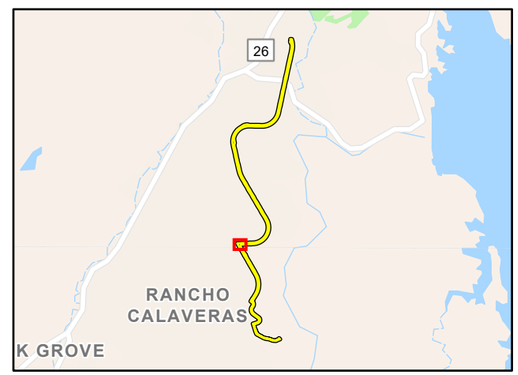
- Proposed APE 35.3 ac.
- Culvert

Aquatic Resource Type

- Ephemeral Drainage - 0.0052 total ac.

Sources: Maxar (4/19/2021), ESRI, Calaveras County

The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Calaveras District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.



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Map Date: 12/6/2022

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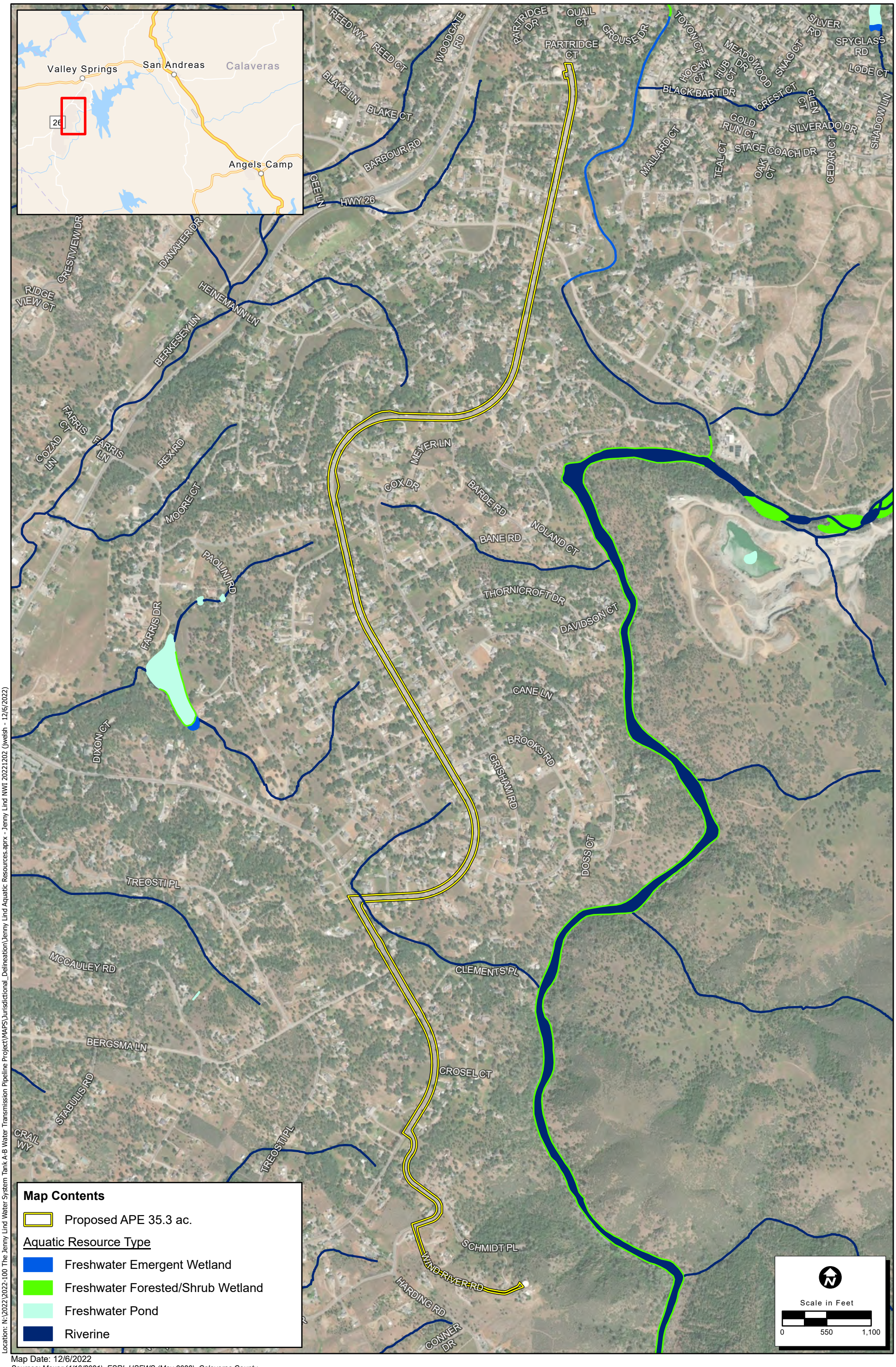
Scale in Feet
0 50

Figure 4. Preliminary Aquatic Resources Assessment
2022-100 The Jenny Lind Water System Tank A-B
Water Transmission Pipeline Project



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Map Date: 12/6/2022

Sources: Maxar (4/19/2021), ESRI, USFWS (May 2022), Calaveras County

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Figure 5. National Wetlands Inventory (NWI)

2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Plants						
Henderson's bent grass (*Agrostis hendersonii*)	–	–	3.2	Vernal pools and mesic areas in valley and foothill grasslands (230'–1,000').	April – June	Absent. The Study Area does not include suitable habitat for this species.
Ione manzanita (*Arctostaphylos myrtifolia*)	FT	–	1B.2	Chaparral and cismontane woodlands associated with very acidic, nutrient-poor, coarse soils typical of the Ione Formation (195'–1,905').	November – March	Absent. The Study Area does not include suitable habitat for this species.
Big-scale balsamroot (*Balsamorhiza macrolepis*)	–	–	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentinite soils (150'–5,100').	March – June	Low potential to occur. The chaparral and oak woodland may provide marginally suitable habitat for this species.
Chinese Camp brodiaea (*Brodiaea pallida*)	FT	CE	1B.1	Vernal streambeds in cismontane woodland and valley and foothill grassland (540'–1,265').	May – June	Absent. The Study Area does not include suitable habitat for this species.
Valley brodiaea (*Brodiaea rosea ssp. vallicola*)	–	–	4.2	Occurs in old alluvial terraces and silt, sandy, or gravelly soils in vernal pools and swales within valley and foothill grassland (35'–1,100').	April – May	Absent. The Study Area does not include suitable habitat for this species.
Hoover's calycadenia (*Calycadenia hooveri*)	–	–	1B.3	Rocky soils in cismontane woodland and valley and foothill grassland (215'–985').	July – September	Absent. The Study Area does not include suitable habitat for this species.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Red Hills soaproot (*Chlorogalum grandiflorum*)	–	–	1B.2	Serpentinite or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest, occasionally on non–ultramafic soils (805'–5,545').	May – June	Absent. The Study Area does not include suitable habitat for this species.
Streambank spring beauty (*Claytonia parviflora* ssp. *grandiflora*)	–	–	4.2	Occurs in rocky cismontane woodland (820'–3,935').	February – May	Absent. The Study Area does not include suitable habitat for this species.
Bisbee Peak rush-rose (*Crocanthemum suffrutescens*)	–	–	3.2	Often gabbroic or Ione soil or in burned or disturbed areas within chaparral (245'–2,200').	April – August	Low potential to occur. The chaparral may provide marginally suitable habitat for this species.
Mariposa cryptantha (*Cryptantha mariposae*)	–	–	1B.3	Serpentine and rocky areas in chaparral (655'–2,135').	April – June	Absent. The Study Area does not include suitable habitat for this species.
Ewan's larkspur (*Delphinium hansenii* ssp. *ewanianum*)	–	–	4.2	Rocky soils in cismontane woodland, and valley and foothill grassland (195'–1,970').	March – May	Absent. The Study Area does not include suitable habitat for this species.
Ione buckwheat (*Eriogonum apricum* var. *apricum*)	FE	CE	1B.1	Openings in chaparral communities found on Ione soils (195'–475').	July – October	Absent. The Study Area does not include suitable habitat for this species.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Tansy-flowered wooly sunflower (*Eriophyllum confertiflorum* var *tanacetiflorum*)	–	–	4.3	Cismontane woodland and lower coniferous forest (1,000'–4,395').	May – July	Absent. The Study Area does not include suitable habitat for this species.
Tuolumne button-celery (*Eryngium pinnatisectum*)	–	–	1B.2	Vernal pools and other mesic conditions in cismontane woodland and lower montane coniferous forests (230'–3,000').	May – August	Absent. The Study Area does not include suitable habitat for this species.
Delta button-celery (*Eryngium racemosum*)	–	CE	1B.1	Vernally mesic clay depressions in riparian scrub communities (10'–100').	June – October	Absent. The Study Area does not include suitable habitat for this species.
Small–flowered monkeyflower (*Erythranthe inconspicua*)	–	–	4.3	Mesic. Chaparral, cismontane woodland and lower montane coniferous forest (900'–2,495').	May – June	Absent. The Study Area does not include suitable habitat for this species.
Stanislaus monkeyflower (*Erythranthe marmorata)*	–	–	1B.1	Cismontane woodland and lower montane coniferous forest (330'–2,955').	March – May	Low potential to occur. The oak woodland may provide marginally suitable habitat for this species.
Parry's horkelia (*Horkelia parryi*)	–	–	1B.2	Ione and other soil formations in chaparral and cismontane woodlands (260'–3,510').	April – September	Low potential to occur. The oak woodland may provide marginally suitable habitat for this species.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Foothill jepsonia *(Jepsonia heterandra)*	–	–	4.3	Rocky, metamorphic soils in cismontane woodland and lower montane coniferous forest (165'–1,640').	August – December	Absent. The Study Area does not include suitable habitat for this species.
Ahart's dwarf rush *(Juncus leiospermus* var. *ahartii)*	–	–	1B.2	Mesic areas in valley and foothill grassland. Species has an affinity for slight disturbance such as farmed fields (USFWS 2005) (100'–750').	March – May	Absent. The Study Area does not include suitable habitat for this species.
Forked hare-leaf *(Lagophylla dichotoma)*	–	–	1B.1	Cismontane woodland or valley and foothill grassland (150'–1,100').	April – May	Low potential to occur. The oak woodland may provide marginally suitable habitat for this species.
Legenere *(Legenere limosa)*	–	–	1B.1	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005) (5'–2,885').	April – June	Absent. The Study Area does not include suitable habitat for this species.
Congdon's lomatium *(Lomatium congdonii)*	–	–	1B.2	Serpentine soils within chaparral and cismontane woodland (985'–6,890').	March – June	Absent. The Study Area does not include suitable habitat for this species.
Pincushion navarretia *(Navarretia myersii* ssp. *myersii)*	–	–	1B.1	Often acidic soils in vernal pools (65'–1,085').	April – May	Absent. The Study Area does not include suitable habitat for this species.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Patterson's navarretia (*Navarretia paradoxiclara*)	–	–	1B.3	Vernally mesic areas, openings, and often drainages within serpentinite substrates, within meadows and seeps (490'–1,410').	May – June	Absent. The Study Area does not include suitable habitat for this species.
Colusa grass *(Neostapfia colusana)*	FT	CE	1B.1	Large vernal pools with adobe soils (15'–655').	May – August	Absent. The Study Area does not include suitable habitat for this species.
Bacigalupi's yampah *(Perideridia bacigalupii)*	–	–	4.2	Serpentinite soils of lower montane coniferous forest and chaparral (1,475'–3,395').	June – August	Absent. The Study Area does not include suitable habitat for this species.
Tongue-leaf copper moss (*Scopelophila cataractae*)	–	–	2B.2	Metamorphic substrates in cismontane woodland (1,310'–1,310').	Any season	Absent. The Study Area does not include suitable habitat for this species.
Prairie wedge grass *(Sphenopholis obtusata)*	–	–	2B.2	Meadows and seeps, and mesic areas in cismontane woodland (985'–6,560').	April – July	Absent. The Study Area does not include suitable habitat for this species.
Greene's tuctoria *(Tuctoria greenei)*	FE	CR	1B.1	Vernal pools (100'–3,510').	May – July	Absent. The Study Area does not include suitable habitat for this species.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Invertebrates						
Crotch bumble bee (*Bombus crotchii*)	–	CC	–	Primarily nests underground in open grassland and scrub habitats from the California coast east to the Sierra Cascade and south to Mexico. Found in areas with food plants in general *Antirrhinum, Asclepias, Chaenactis, Lupins, Medicago, Phacelia, Clarkia, Dendromecon, Salvia, Eschscholzia,* and *Eriogonum.*	March – September	Low potential to occur. Open grassland and scrub habitats are highly disturbed road shoulders.
Monarch butterfly (*Danaus plexippus*)	FC	–	–	Adult monarchs west of the Rocky Mountains typically overwinter in sheltered wooded groves of Monterey pine, Monterey cypress, western sycamore, gum eucalyptus and coast live oaks along coastal California, then disperse in spring throughout California, Nevada, Arizona, and parts of Oregon and Washington. Adults require milkweed and additional nectar sources during the breeding season. Larval caterpillars feed exclusively on milkweed.	Any season	Low potential to occur. No milkweeds or suitable overwintering tree groves were observed in the Study Area, but milkweeds could occur in the disturbed road shoulder during the spring/summer.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	–	–	Elderberry shrubs.	Any season	Low potential to occur. There is one isolated non-riparian shrub within the Study Area.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	–	–	Vernal pools/wetlands.	November – April	Absent. No vernal pools or wetlands are present in the Study Area.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	–	–	Vernal pools/wetlands.	November – April	Absent. No vernal pools or wetlands are present in the Study Area.
Fish						
Delta smelt (*Hypomesus transpacificus*)	FT	CE	–	Sacramento-San Joaquin Delta.	N/A	Absent. No waterways connected to Sacramento-San Joaquin Delta present in Study Area.
Hardhead (*Mylopharodon conocephalus*)	–	–	SSC	Relatively undisturbed streams at low to mid elevations in the Sacramento-San Joaquin and Russian River drainages.	N/A	Absent. No streams present within the Study Area.
Steelhead (CA Central Valley DPS) (*Oncorhynchus mykiss irideus*)	FT	–	–	Fast-flowing, well-oxygenated rivers and streams below dams in the Sacramento and San Joaquin River systems.	N/A	Absent. No rivers or streams present within the Study Area.
Amphibians						
California red-legged frog (*Rana draytonii*)	FT	–	SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1 – November 1	Absent. No aquatic features capable of supporting species present within or adjacent to the Study Area.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Foothill yellow-legged frog East/Southern Sierra Clade (*Rana boylii*)	FC	CE	SSC	Foothill yellow-legged frogs can be active all year in warmer locations but may become inactive or hibernate in colder climates. At lower elevations, foothill yellow-legged frogs likely spend most of the year in or near streams. Adult frogs, primarily males, will gather along main-stem rivers during spring to breed. Amador, Calaveras, Madera, Mariposa, Sacramento, Tulare, and Tuolumne counties. The portion of Kern County within this clade is bounded on the west by the California Aqueduct and by the following subbasins in the east: Middle Kern-Upper Tehachapi-Grapevine, South Fork Kern, and Upper Kern. The following subbasins in El Dorado and Alpine counties are included in this clade: South Fork American, Upper Cosumnes, and Upper Mokelumne. A small area where the estimated historical range spans into Mono County is also included in this clade. The following counties east of the California Aqueduct are included in this clade: Fresno,	May – October	Absent. No streams or rivers within or adjacent to the Study Area capable of supporting species.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
				Kings, Merced, San Joaquin, and Stanislaus.		
Western spadefoot (*Spea hammondii*)	–	–	SSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March – May	Absent. No aquatic features capable of supporting species present within or adjacent to the Study Area.
California tiger salamander (Central California DPS) (*Ambystoma californiense*)	FT	CT	WL	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	March – May	Absent. No aquatic features capable of supporting species present within or adjacent to the Study Area.
Reptiles						
Northwestern pond turtle (*Actinemys marmorata*)	-	-	SSC	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April – September	Absent. No aquatic features capable of supporting species present within or adjacent to the Study Area.
Birds						
Golden eagle (*Aquila chrysaetos*)	–	–	CFP, CDFW WL	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g., windmills, platforms, and	Nest (February – August); winter CV (October – February)	Low potential to occur. Nesting habitat is present; however, the level of human disturbance in the area makes it unlikely that golden eagle would nest

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
				transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during Winter.		within or adjacent to the Study Area.
Bald eagle (*Haliaeetus leucocephalus*)	De-listed	CE	CFP	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands	February – September (nesting); October-March (wintering)	Absent. There is no suitable nesting or foraging habitat within the Study Area.
Swainson's hawk (*Buteo swainsoni*)	–	CT	–	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures	March – August	Low potential to occur. There is marginal nesting habitat and foraging habitat within or adjacent the Study Area.
Prairie falcon (*Falco mexicanus*)	–	–	CDFW WL	Found in open habitat at all elevations up to 3,350 meters (Steenhof 2020). Nests on cliffs and bluffs in arid plains and steppes; In California, nesting throughout state except northwest corner, along immediate coast, and the Central Valley floor. Winters throughout	March – July (breeding); September – February (wintering in Central Valley)	Absent. Study Area is not within open habitats.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
				California, in open habitats, such as grasslands in Central Valley.		
Burrowing owl *(Athene cunicularia)*	–	–	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g. prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February – August	Absent. Study Area is not within open habitats.
Nuttall's woodpecker *(Picoides nuttallii)*	–	–	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April – July	Potential to occur. There is suitable nesting habitat within the Study Area.
Yellow-billed magpie (*Pica nuttalli*)	–	–	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings.	April – June	Potential to occur. There is potential nesting habitat within the Study Area.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Oak titmouse (*Baeolophus inornatus*)	–	–	BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree)	March – July	Potential to occur. There is potential nesting habitat within the Study Area.
Wrentit (*Chamaea fasciata*)	–	–	BCC	Coastal sage scrub, northern coastal scrub, chaparral, dense understory of riparian woodlands, riparian scrub, coyote brush and blackberry thickets, and dense thickets in suburban parks and gardens.	March – August	Potential to occur. There is suitable nesting habitat within the woodlands of the Study Area.
Lawrence's goldfinch (*Spinus lawrencei*)	–	–	BCC	Breeds in Sierra Nevada and inner Coast Range foothills surrounding the Central Valley and the southern Coast Range to Santa Barbara County east through southern California to the Mojave Desert and Colorado Desert into the Peninsular Range. Nests in arid and open woodlands with chaparral or other brushy areas, tall annual weed fields, and a water source (e.g. small stream, pond, lake), and to a lesser extent riparian woodland, coastal scrub, evergreen forests, pinyon-juniper woodland, planted conifers, and ranches or	March – September	Potential to occur. There is suitable nesting habitat within the woodlands and chaparral of the Study Area.

Table 1. Special-Status Species Evaluated for the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description[1]**	**Survey Period**	**Potential to Occur Onsite**
	FESA	**CESA**	**Other**			
				rural residences near weedy fields and water.		
Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)	–	CE	BCC	Resident coastally from Point Conception south into Baja California; coastal salt marsh.	March – August	Absent. No marshes present within or adjacent to the Study Area.
Tricolored blackbird (*Agelaius tricolor*)	–	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta Cos south to San Bernardino, Riverside and San Diego Counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen Counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.	March – August	Absent. No nesting or foraging habitat within or adjacent to the Study Area.
Bullock's Oriole (*Icterus bullockii*)	–	–	BCC	Nests in mature oak woodlands and riparian woodlands.	March – July	Potential to occur. The oak woodlands provide suitable nesting habitat.

Table 1. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Mammals						
Pallid bat (*Antrozous pallidus*)	–	–	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (Western Bat Working Group [WBWG] 2019).	April – September	Low potential to occur. There is potential suitable roosting habitat within cavities of oak trees within the Study Area.
Townsend's big-eared bat (*Corynorhinus townsendii*)	–	–	SSC	Caves, mines, buildings, rock crevices, trees.	April – September	Low potential to occur. There is potential suitable roosting habitat within cavities of oak trees within the Study Area.

[1]Habitat descriptions for plant species are from the CNPS Rare Plant Inventory (CNPS 2022b), unless otherwise stated.

Status Codes:

FESA	Federal Endangered Species Act
CESA	California Endangered Species Act
Delisted	Formally Delisted (delisted species are monitored for 5 years)
FC	Candidate for FESA listing as Threatened or Endangered
FE	ESA listed, Endangered.
FT	ESA listed, Threatened.
CFP	California Fish and Game Code Fully Protected Species
CC	Candidate for CESA listing as Threatened or Endangered
CE	CESA or NPPA listed, Endangered.
CR	CESA- or NPPA-listed, Rare.
CT	CESA or NPPA listed, Threatened.
BCC	USFWS Bird of Conservation Concern (USFWS 2021)
SSC	CDFW Species of Special Concern
CDFW WL	CDFW Watch List
PCCP	Placer County Conservation Program Covered Species
1B	California Rare Plant Ranks (CRPRs)/Rare or Endangered in California and elsewhere.
2B	CRPR /Rare or Endangered in California, more common elsewhere.

Table 1. Special-Status Species Evaluated for the Study Area						
Common Name (Scientific Name)	Status			Habitat Description[1]	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			

3	CRPR/Plants About Which More Information is Needed – A Review List
4	CRPR/Plants of Limited Distribution – A Watch List
0.1	Threat Rank/Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Descriptions of species that have at least at low potential to occur in the Study Area are provided in the following sections. Species that were considered to be absent from the Study Area due to the lack of suitable habitat, or because the known distribution of the species does not include the Study Area vicinity, are not discussed further in this document.

4.6.1 Special-Status Plants

Thirty-one special-status plant species were identified as having the potential to occur in the region surrounding the Study Area based on the database queries and literature review (Table 1). However, upon further analysis and after the site visit, 26 species were determined to be absent from the Study Area due to the lack of suitable habitat. No further discussion of these species is provided in this analysis. Brief descriptions of the remaining five species that have the potential to occur within the Study Area are presented below.

4.6.1.1 Big-Scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in chaparral, cismontane woodlands, valley and foothill grassland, and sometimes on serpentinite soils. Big-scale balsamroot blooms from March through June and is known to occur at elevations ranging from 150 to 5,100 feet above MSL. Big-scale balsamroot is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties (CNPS 2022).

There are no CNDDB documented occurrences of big-scale balsamroot within 5 miles of the Study Area (CDFW 2022). The Chamise Chaparral and Blue Oak Woodland vegetation communities may provide marginally suitable habitat for this species. Big-scale balsamroot has a low potential to occur within the Study Area.

4.6.1.2 Bisbee Peak Rush-Rose

Bisbee Peak rush-rose (*Crocanthemum suffrutescens*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 3.2 species. This species is a perennial evergreen shrub that occurs often in gabbroic or Ione soil, often in burned or disturbed areas within chaparral. Bisbee Peak rush-rose blooms from April through August and is known to occur at elevations ranging from 245 to 2,200 feet above MSL. Bisbee Peak rush-rose is endemic to California; its current range includes Amador, Calaveras, and El Dorado counties (CNPS 2022).

There are no CNDDB documented occurrences of Bisbee Peak rush-rose within 5 miles of the Study Area (CDFW 2022). The Chamise Chaparral vegetation community may provide marginally suitable habitat for this species. Bisbee Peak rush-rose has a low potential to occur within the Study Area.

4.6.1.3 Stanislaus Monkeyflower

Stanislaus monkeyflower (*Erythranthe marmorata*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in cismontane woodland and lower montane coniferous forests. Stanislaus monkeyflower blooms from March through May and is known to occur at elevations ranging from 330 to 2,955 feet above MSL. Stanislaus monkeyflower is endemic to California; its current range includes Amador, Calaveras, Fresno, Stanislaus, and Tuolumne counties. It is believed to be extirpated from Amador, Stanislaus, and Tuolumne counties (CNPS 2022).

There are no CNDDB documented occurrences of Stanislaus monkeyflower within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland vegetation community may provide marginally suitable habitat for this species. Stanislaus monkeyflower has a low potential to occur within the Study Area.

4.6.1.4 Parry's Horkelia

Parry's horkelia (*Horkelia parryi*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.2 species. This species is a small, herbaceous perennial that occurs in chaparral and cismontane woodlands and is associated with very acidic, nutrient-poor, coarse soils typical of the Ione Formation. Parry's horkelia blooms from April through September and is known to occur at elevations ranging from 260 to 3,510 feet above MSL. Parry's horkelia is endemic to California; the current range for this species includes Amador, Calaveras, El Dorado, Mariposa, Sonoma, and Tuolumne counties (CNPS 2022).

There are no CNDDB documented occurrences of Parry's horkelia within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland and Chamise Chaparral vegetation communities may provide marginally suitable habitat for this species. Parry's horkelia has a low potential to occur within the Study Area.

4.6.1.5 Forked Hare-Leaf

Forked hare-leaf (*Lagophylla dichotoma*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs sometimes in clay in cismontane woodland and valley and foothill grassland. Forked hare-leaf blooms from April through May and is known to occur at elevations from 150 to 1,100 feet above MSL. Forked hare-leaf is endemic to California; the current range of this species includes Calaveras, Fresno, Merced, and Stanislaus counties. It is believed to possibly be extirpated from Merced County (CNPS 2022).

There are no CNDDB documented occurrences of forked hare-leaf within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland vegetation community may provide marginally suitable habitat for this species. Forked hare-leaf has a low potential to occur within the Study Area.

4.6.2 Invertebrates

Five special-status invertebrate species were identified as having potential to occur in the region surrounding the Study Area based on the database queries and literature review (Table 1); however, upon further analysis and after the site visit, two species were determined to be absent from the Study Area due to the lack of suitable habitat. No further discussion of these species is provided in this analysis. Brief descriptions of the remaining three species that have the potential to occur within the Study Area are presented below.

4.6.2.1 Crotch Bumble Bee

The Crotch bumble bee (*Bombus crotchii*) inhabits open grassland and scrub habitats (Williams et al. 2014). The species visits a wide variety of flowering plants, although its very short tongue makes it best suited to forage at open flowers with short corollas (Xerxes Society 2018). Plant families most commonly associated with Crotch bumble bee include Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae (Xerxes Society 2018). The species primarily nests underground (Williams et al. 2014). Little is known about overwintering sites for the species, but bumble bees generally overwinter in soft, disturbed soils or under leaf litter or other debris (Goulson 2010; Williams et al. 2014). The flight period for Crotch bumble bee queens in California is from late February to late October, peaking in early April with a second pulse in July (Thorp et al. 1983). The flight period for workers and males is California is from late March through September with peak abundance in early July (Thorp et al. 1983).

Crotch bumble bee has not been reported within 5 miles of the Study Area (CDFW 2022). The blue oak woodland and ruderal grasslands throughout the Study Area provide low quality habitat for this species since the road shoulders are disturbed and managed using herbicides.

4.6.2.2 Monarch Butterfly

The monarch butterfly (*Danaus plexippus*) is a candidate for listing under the federal ESA. This butterfly occurs throughout a variety of habitats and requires blooming nectar resources for adults to feed on during breeding and migration and milkweed (*Asclepias* spp.) for oviposition and larval feeding. During

the breeding season, monarchs lay their eggs on their obligate milkweed host plant (primarily *Asclepias* spp.). Larvae emerge after 2 to 5 days and then develop through five larval instars over a period of 9 to 18 days, feeding on milkweed and sequestering toxic cardenolides as a defense against predators. The larvae then pupate into chrysalis before closing 6 to 14 days later as an adult butterfly. Multiple generations of monarchs are produced during the breeding season, with most adult butterflies living approximately 2 to 5 weeks. Overwintering adults enter into reproductive diapause and live 6 to 9 months (USFWS 2020).

In many regions where monarchs are present, monarchs breed year-round. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration. Monarchs may use a variety of roosting trees along fall migration routes. Migratory individuals of eastern and western North America require a specific microclimate at overwintering sites that provides protection from the elements and moderate temperatures. Migratory monarchs in the western population primarily overwinter in groves of a variety of tree species along the coast of California and Baja California (USFWS 2020).

There are no CNDDB documented occurrences of monarch butterfly within 5 miles of the Study Area (CDFW 2002). The Blue Oak Woodland and Ruderal Grassland vegetation communities throughout the Study Area provide low quality habitat for this species since the road shoulders are disturbed and managed using herbicides.

4.6.2.3 Valley Elderberry Longhorn Beetle

The VELB (*Desmocerus californicus dimorphus*) is listed as threatened pursuant to the federal Endangered Species Act (USFWS 1980). The VELB is completely dependent on its larval host plant, elderberry (*Sambucus* species), which occurs in riparian and other woodland and scrub communities (USFWS 1999; USFWS 2017). Elderberry plants, located within the range of the beetle, with one or more stems measuring 1.0 inch or greater in diameter at ground level are considered to be habitat for the species (USFWS 1999). The adult flight season extends from late March through July (USFWS 2017). During that time the adults feed on foliage and perhaps flowers, mate, and females lay eggs on living elderberry plants (Barr 1991). The first instar larvae bore into live elderberry stems, where they develop for one to two years feeding on the pith. The fifth instar larvae create exit holes in the stems and then plug the holes and remain in the stems through pupation (Talley et al. 2007). The VELB occurs in metapopulations throughout the Central Valley (Collinge et. al 2001 as cited in USFWS 2017). These metapopulations (subpopulations) occur throughout contiguous riparian habitat which shift temporarily and spatially based on changing environmental conditions. This temporal and spatial shifting of the metapopulations results in a patchy and ever-changing distribution of the species. Research indicates that dense elderberry shrub clumps in healthy riparian habitat is the primary habitat for the VELB (USFWS 2017). The beetle's current distribution extends from Shasta County in the north to Fresno County in the south and includes everything from the valley floor up into the lower foothills (USFWS 2017). The vast majority of VELB occurrences have been recorded below 500 feet (152 meters); however, rare occurrences have been recorded up to approximately 3,000 feet (USFWS 1999, 2017).

The VELB has not been reported within 5 miles of the Study Area (CDFW 2022). The one blue elderberry shrub on Usher Drive provides low-quality habitat because it is isolated in a nonriparian habitat with no exit holes observed during the November 15, 2022 site visit (Figure 6.).

4.6.3 Fish

Three special-status fish species were identified as having potential to occur in the region surrounding the Study Area based on the database queries and literature review (Table 1). However, upon further analysis and after the site visit, the three species were determined to be absent from the Study Area due to the lack of suitable habitat. No further discussion of these species is provided in this analysis.

4.6.4 Amphibians

Four special-status amphibian species were identified as having potential to occur in the region surrounding the Study Area based on the database queries and literature review (Table 1). However, upon further analysis and after the site visit, the four species were determined to be absent from the Study Area due to the lack of suitable habitat. No further discussion of this species is provided in this analysis.

4.6.5 Reptiles

One special-status reptile species was identified as having potential to occur in the region surrounding the Study Area based on the database queries and literature review (Table 1). However, upon further analysis and after the site visit, the one species was determined to be absent from the Study Area due to the lack of suitable habitat. No further discussion of this species is provided in this analysis.

4.6.6 Birds

13 special-status bird species were identified as having potential to occur in the region surrounding the Study Area based on the database queries and literature review (Table 1). However, upon further analysis and after the site visit, five species were determined to be absent from the Study Area due to the lack of suitable habitat. No further discussion of this species is provided in this analysis. Brief descriptions of the remaining eight species that have the potential to occur within the Study Area are presented below.

4.6.6.1 Golden Eagle

The golden eagle (*Aquila chrysaetos*) is not listed pursuant to either the California or federal ESAs. However, it is fully protected according to Section 3511 of the Fish and Game Code of California and the federal Bald and Golden Eagle Protection Act. Golden eagles generally nest on cliff ledges and/or large lone trees in rolling to mountainous terrain. Golden eagles nest throughout California except the flat portions of the Central Valley, the immediate coast, and portions of southeastern California (Katzner et al. 2020). Occurrences within the Central Valley are usually dispersing post-breeding birds, nonbreeding subadults, or migrants. Foraging habitat includes open grassland and savannah. Nesting occurs during February through August.

Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Biological_Resources\Jenny Lind Biological Resources.aprx - Jenny Lind Elderberry 20221205 (jwelsh - 12/6/2022)

Map Date: 12/6/2022

Sources: Maxar (4/19/2021), ESRI, Calaveras County

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ENVIRONMENTAL CONSULTANTS

Figure 6. Elderberry Shrub Locations

2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

Golden eagle has not been reported within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland vegetation community within and adjacent to the Study Area provides marginally suitable nesting habitat; however, the moderate level of human disturbance in the area makes it unlikely that golden eagle would nest within or adjacent to the Study Area. Therefore, golden eagle has a low potential to occur within or adjacent to the Study Area.

4.6.6.2 Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species and is protected pursuant to the California ESA. This species nests in North America (Canada, western U.S., and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard et al. 2020). In California, the nesting season for Swainson's hawk ranges from mid-March to late August. Swainson's hawk nest within tall trees in a variety of settings including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures.

Swainson's hawk has not been reported within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland and Ruderal Grassland vegetation communities within and adjacent to the Study Area provide marginal nesting and foraging habitat. Swainson's hawk has a low potential to occur within or adjacent to the Study Area.

4.6.6.3 Nuttall's Woodpecker

The Nuttall's woodpecker (*Dryobates nuttallii*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. Nuttall's woodpeckers are resident from Siskiyou County south to Baja California. They nest in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands (Lowther et al. 2020). Breeding occurs during April through July.

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland vegetation community within the Study Area provides suitable nesting habitat. Nuttall's woodpecker has potential to occur within the Study Area.

4.6.6.4 Yellow-Billed Magpie

The yellow-billed magpie *(Pica nuttalli*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures or cropland. Nest building begins in late January to mid-February and may take up to 6 to 8 weeks to complete, with eggs laid during April through May and fledging occurring from May through June (Koenig and Reynolds 2020). The young leave the nest at about 30 days after hatching (Koenig and Reynolds 2020). Yellow-billed

magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004-2006 (Koenig and Reynolds 2020).

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland vegetation community within the Study Area provides potential nesting habitat for this species. Yellow-billed magpie has potential to occur within the Study Area.

4.6.6.5 Oak Titmouse

Oak titmouse (*Baeolophus inornatus*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. Oak titmouse breeding range includes southwestern Oregon south through California's Coast, Transverse, and Peninsular ranges, western foothills of the Sierra Nevada, into Baja California; they are absent from the humid northwestern coastal region and the San Joaquin Valley (Cicero et al. 2020). They are found in dry oak or oak-pine woodlands but may also use scrub oaks or other brush near woodlands (Cicero et al. 2020). Nesting occurs during March through July.

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland vegetation community within the Study Area provides potential nesting habitat for this species. Oak titmouse has potential to occur within the Study Area.

4.6.6.6 Wrentit

The wrentit (*Chamaea fasciata*) is not listed in accordance with either the California or federal ESAs but is designated as a BCC by the USFWS. Wrentit are a sedentary resident along the west coast of North America from the Columbia River south to Baja California (Geupel and Ballard 2020). Wrentit are found in coastal sage scrub, northern coastal scrub, and coastal hard and montane chaparral, and breed in the dense understory of valley oak riparian, Douglas-fir and redwood forests, early-successional forests, riparian scrub, coyote bush and blackberry thickets, suburban parks, and larger gardens (Geupel and Ballard 2020). Nesting occurs during March through August.

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland and Chamise Chaparral vegetation communities within the Study Area provide potential nesting habitat for this species. Wrentit has potential to occur within the Study Area.

4.6.6.7 Lawrence's Goldfinch

The Lawrence's goldfinch (*Spinus lawrencei*) is not listed pursuant to either the California or federal ESAs but is currently a BCC according to the USFWS. Lawrence's goldfinch breed west of the Sierra Nevada-Cascade axis from Tehama, Shasta, and Trinity counties south into the foothills surrounding the Central Valley to Kern County; and on the Coast Range from Contra Costa County to Santa Barbara County (Watt et al. 2020). Lawrence's goldfinch nest in arid woodlands usually with brushy areas, tall annual weeds and a local water source (Watt et al. 2020). Nesting occurs during March through September.

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland and Chamise Chaparral vegetation communities within the Study Area provide potential nesting habitat for this species. Lawrence's goldfinch has potential to occur within the Study Area.

4.6.6.8 Bullock's Oriole

The Bullock's oriole (*Icterus bullockii*) is not listed pursuant to either the California or federal ESAs but is currently a BCC according to the USFWS. In California, Bullock's orioles are found throughout the state except the higher elevations of mountain ranges and the eastern deserts (Small 1994). They are found in riparian and oak woodlands where nests are built in deciduous trees, but may also use orchards, conifers, and eucalyptus trees (Flood et al. 2020). Nesting occurs from March through July.

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022). The Blue Oak Woodland vegetation community within the Study Area provide potential nesting habitat for this species. Bullock's oriole has potential to occur within the Study Area.

4.6.7 Mammals

Two special-status mammal species were identified as having potential to occur in the region surrounding the Study Area based on the database queries and literature review (Table 1). Brief descriptions of the two species that have the potential to occur within the Study Area are presented below.

4.6.7.1 Pallid Bat

Pallid bat (*Antrozous pallidus*) is not listed pursuant to either the California or federal ESAs; however, it is designated as a SSC by the CDFW and a U.S. Forest Service (USFS) sensitive species. Their range extends from British Columbia to central Mexico. Pallid bat has a strong association with arid regions with rocky outcrops near water. Roosting usually occurs in rock crevices and buildings, but is also found in tree cavities, caves, mines, and piles of rocks. Pallid bat roosts in small colonies of 20 or more individuals. This species will give birth to one to two offspring in May or June (Harvey et al. 2011).

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022). Trees with cavities or crevices within the Study Area provide potential suitable day-roosting habitat for this species. Pallid bat has a low potential to occur because few trees occur within the Study Area.

4.6.7.2 Townsend's Big-eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*) is not listed pursuant to either the California or federal ESAs; however, it is designated as a SSC by the CDFW and a USFS sensitive species. This species is found in all alpine and subalpine habitats throughout California and may be found any season throughout its range (Zeiner et al. 1990). Roosting habitat includes caves, tunnels, mines, buildings, bridges, and other manmade structures (Zeiner et al. 1990). Maternity roosts are found in caves, tunnels, mines, and buildings in small groups (usually fewer than 100 individuals) of females and young (Zeiner et al. 1990).

This species will also roost in tree cavities such as basal tree hollows. Maternity colonies are in warmer parts of caves with males apparently solitary during the maternity period (Harvey et al. 2011). Townsend's big-eared bat will return each year to roosting sites (Harvey et al. 2011). Mating occurs during autumn and continues into winter with one offspring born in June (Harvey et al. 2011).

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022). Trees with cavities within the Study Area provide potential suitable day-roosting habitat for this species. Townsend's big-eared bat has a low potential to occur because few trees occur within the Study Area.

4.7 Sensitive Natural Communities

Two sensitive natural communities were identified as having the potential to occur within the Study Area based on the literature review (CDFW 2022). These include northern hardpan vernal pool and Ione Chaparral. According to the CNDDB/BIOS, no sensitive natural communities were mapped within the Study Area (CDFW 2022), and none were observed during the November 2022 site visit.

4.8 Wildlife Movement/Corridors and Nursery Sites

The Study Area is located within a rural residential to developed portion of Rancho Calaveras and Jenny Lind communities. The majority of the Study Area is within the ROW of Calaveras County roads. The Study Area is within an Essential Habitat Connectivity area mapped by the CDFW (CDFW 2022). Since the majority of the Project is restricted to existing roadways, the Project will not impede with habitat connectivity any more than the existing road already affects habitat connectivity.

Wildlife nursery sites were not observed within the Study Area during the 2022 site visit.

5.0 RECOMMENDATIONS

The following Mitigation Measures are recommended prior to Project implementation in order to mitigate impacts on aquatic and biological resources.

5.1 Aquatic Resources

During the preliminary aquatic resources assessment, ECORP identified one potentially jurisdictional aquatic feature (Figure 4). The following Mitigation Measures are recommended to minimize effects to aquatic resources.

BIO-1. Formal Evaluation of Potential Waters

Prior to Project initiation, if the Project proposes to directly impact potentially jurisdictional aquatic features, then ECORP recommends that any potentially jurisdictional aquatic features be delineated in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region

(USACE 2008a). As necessary, the delineation should be submitted to the appropriate regulatory agencies for verification and permitting purposes.

BIO-2. Erosion and Sedimentation Controls

To minimize indirect effects on water quality, if the Project will disturb at least 1 acre of land, the Project applicant shall obtain coverage under the General Construction Storm Water Permit from the Central Valley RWQCB by preparing a SWPPP and implementing Best Management Practices to reduce water quality effects during construction.

If the Project proposes to impact the one potentially jurisdictional aquatic feature, then ECORP recommends the Project implement the following measures (BIO-2 and BIO-3):

BIO-3. Obtain and Implement CDFW 1602 Streambed Alteration Agreement

If required by CDFW, the Project applicant shall obtain a 1602 SAA before any groundbreaking activity associated with the Project. The construction contractor shall adhere to all conditions outlined in the SAA.

BIO-4. Obtain CWA Section 404 Permit and Section 401 Permit and Implement All Permit Conditions

Before any groundbreaking activity associated with the Project, the Project applicant shall obtain authorization pursuant to CWA Section 404 from the USACE and CWA Section 401 from the Central Valley RWQCB. The construction contractor shall adhere to all conditions outlined in the permits. The Project applicant shall ensure that the Project replaces, restores, or enhances on a "no net loss" basis (in accordance with the USACE and the Central Valley RWQCB) the acreage of all wetlands and other Waters of the U.S. that would be removed, lost, and/or degraded due to Project implementation, either through purchasing credits from a mitigation bank, permittee-responsible mitigation, or other methods agreeable to the USACE, the Central Valley RWQCB, and Calaveras County, and as determined during the Section 401 and Section 404 permitting processes.

5.2 Special-Status Plants

The Study Area may support potential habitat for several special-status plants (Section 4.6). No special-status plants were observed during the November 15, 2022; however, protocol-level surveys have not been conducted. The following mitigation measures are recommended to avoid or minimize potential impacts to special-status plants:

BIO-5: Special-Status Plant Surveys

Perform focused special-status plant surveys of the Study Area according to CDFW, CNPS, and USFWS protocols (CDFG 2009; CNPS 2014; USFWS 1996). Surveys will be timed according to the blooming period for target species and known reference populations will be visited prior to surveys to confirm the species is blooming where known to occur.

No further measures pertaining to special-status plants are necessary if no special-status plants are found.

Avoidance zones may be established around plant populations to clearly demarcate areas for avoidance if special-status plant species are found within the Study Area. Avoidance measures and buffer distances may vary between species; the specific avoidance zone distance will be determined in coordination with CDFW.

Additional measures such as seed collection and/or transplantation may be developed in consultation with CDFW and the CEQA lead agency if special-status plant species are found within the Study Area and avoidance of the species is not possible.

5.3 Special-Status Wildlife

5.3.1 Invertebrates

5.3.1.1 Crotch Bumble Bee

BIO-6: Crotch Bumble Bee

Surveys should be performed by a qualified biologist familiar with the species behavior and life history to conduct a survey of areas that may provide habitat for this species. The qualified biologist shall contact the CDFW to request the agency-approved survey protocol for Crotch bumble bee and shall follow the agency-accepted protocol when conducting the surveys. Surveys should be conducted during flying season when the species is most likely to be detected above ground, between March 1 to September 1 (Thorp et al. 1983). Within 30 days of completing the survey, the Calaveras County-approved qualified biologist shall prepare a Crotch Bumble Bee Survey Report and submit it to the County. The report shall include a description of the methods to conduct the surveys, a description of suitable habitat areas, and a map of the locations where Crotch bumble bee and any other special-status species were observed. The County-approved qualified biologist shall submit CNDDB forms for any Crotch bumble bees or other special-status species observed during the surveys. The survey report shall also include measures sufficient to avoid "take" or other adverse impacts to Crotch bumble bee, if found during the surveys.

If surveys confirm the presence of Crotch bumble bee, and if adverse impacts or "take" of the species cannot be avoided, then the Permittee shall obtain an Incidental Take Permit from the CDFW.

5.3.1.2 Monarch Butterfly

BIO-7: Monarch Butterfly

Surveys should be performed by a qualified biologist familiar with the species behavior and life history to conduct a survey of areas that may provide habitat for this species. The qualified biologist shall contact the USFWS to request the agency-approved survey protocol for monarch butterfly and shall follow the agency-accepted protocol when conducting the surveys. Within 30 days of completing the survey, the Calaveras County-approved qualified biologist shall prepare a Monarch Butterfly Survey Report and

submit it to the County. The report shall include a description of the methods to conduct the surveys, a description of suitable habitat areas, and a map of the locations where monarch butterflies and any other special-status species were observed. The County-approved qualified biologist shall submit CNDDB forms for any monarch butterflies or other special-status species observed during the surveys. The survey report shall also include measures sufficient to avoid "take" or other adverse impacts to monarch butterfly, if found during the surveys.

If surveys confirm the presence of monarch butterfly, and if adverse impacts or "take" of the species cannot be avoided, then the Permittee shall consult with the USFWS to develop measures to minimize or mitigate impacts.

5.3.1.3 Valley Elderberry Longhorn Beetle

ECORP biologist Dan Machek located one elderberry shrub with potential habitat for the VELB within the Study Area. Any ground-disturbing activities within the vicinity of the elderberry shrub shall conform to the following avoidance measures.

BIO-8: Valley Elderberry Longhorn Beetle

Trenching and paving may damage or kill an elderberry shrub. A minimum setback of at least 20 feet from the drip line of each elderberry shrub containing stems measuring 1.0 inch or greater in diameter at ground level or at the edge of pavement shall be provided. The setbacks shall be fenced and flagged to identify equipment and materials encroachment into the setback zone.

Trimming may remove or destroy VELB eggs and/or larvae and may reduce the health and vigor of the elderberry shrub. In order to avoid and minimize adverse effects to VELB when trimming, trimming will occur between November and February and will avoid the removal of any branches or stems that are greater than or equal to 1 inch in diameter.

5.3.2 Birds

Many different species of nesting birds or raptors have the potential to occur within the Study Area. If the Project proposes to remove vegetation, then ECORP recommends implementation of the following avoidance and minimization measure.

BIO-9. Nesting Birds and Raptors

Retain a qualified biologist to conduct a preconstruction nesting raptor and bird survey of all suitable habitat on the Study Area within 14 days of the commencement of construction during the nesting season (February 1 through August 31). Surveys should be conducted in accessible areas within 500 feet of the Study Area for nesting raptors and 100 feet of the Study Area for nesting birds. Preconstruction nesting surveys are not required for construction activity outside the nesting season.

If active nests are not found during the preconstruction survey, the biologist shall document the findings in a letter report for CDFW and the lead agency, and no further mitigation shall be required.

If active nests are found, a no-disturbance buffer shall be established around the nest. The buffer distances shall be established by a qualified biologist in consultation with CDFW and are generally recommended to be 250-500 feet for raptors and 50-100 feet for other nonraptor birds. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.

5.3.3 Mammals

Both pallid bat and Townsend's big-eared bat have a low potential to occur in cavities of the trees within the Study Area. If the Project proposes to remove any trees, then ECORP recommends the following mitigation measures are implemented:

BIO-10: Day-Roosting Bats

Retain a qualified biologist to conduct a bat habitat assessment to identify any potential day-roosting bat habitat.

If no day-roosting bat habitat is observed, the biologist shall document the findings in a letter report for CDFW and no further mitigation shall be required.

If potential day-roosting bat habitat is observed, then the biologist will conduct an evening emergence survey during the active period of bats (typically March through October, or when evening air temperatures are above 45 degrees °F) to determine if bats are occupying the habitat. If roosting bats are determined to be present within the Study Area, consultation with CDFW prior to initiation of construction activities and/or preparation of a Bat Management Plan outlining avoidance and minimization measures specific to the roost(s) potentially affected may be required.

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LIST OF APPENDICES

APPENDIX A

Representative Site Photographs

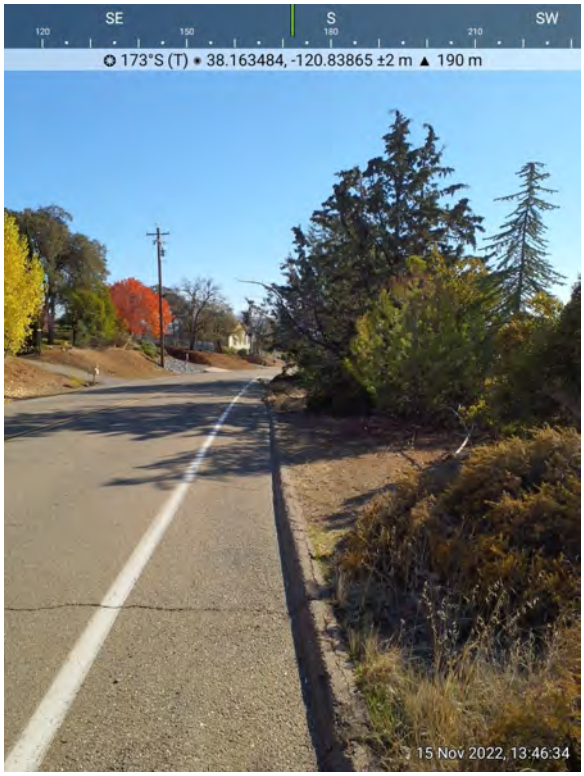

Photo 1. Hartvickson Lane near Tank A.
Photo taken November 15, 2022.

Photo 2. Blue Oak Woodland along Hartvickson Lane. Photo taken November 15, 2022.

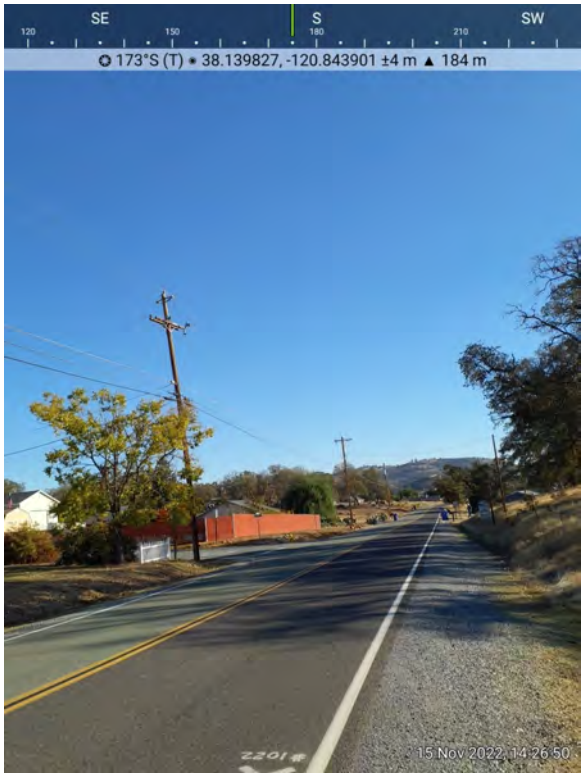

Photo 3. Hartvickson Lane looking south.
Photo taken November 15, 2022.

Photo 4. Downstream portion of ephemeral drainage near Baldwin St.
Photo taken November 15, 2022.

Photo 5. Upstream portion of ephemeral drainage on east side of Baldwin St. Photo taken November 15, 2022.

Photo 6. Elderberry shrub on southwest side of Usher Dr. Photo taken November 15, 2022.

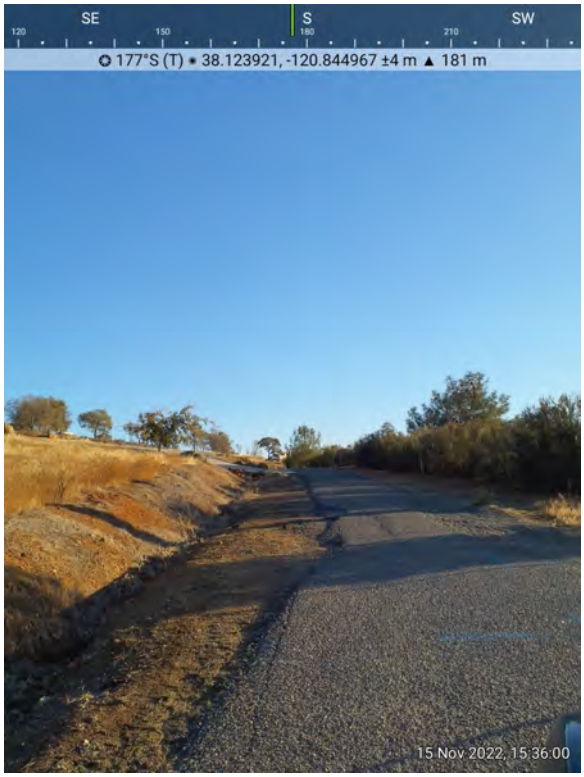

Photo 7. Harding Rd. looking east. Photo taken November 15, 2022.

Photo 8. Tank B on Wind River Dr. Photo taken November 15, 2022.

APPENDIX B

Special-Status Species Evaluated for the Study Area

California Native Plant Society

Search Results

30 matches found. Click on scientific name for details

Search Criteria: Quad is one of [**3812027:3812017:3812038:3812037:3812036:3812026:3812016:3712086:3712087:3712088:3812018:3812028**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Agrostis hendersonii	Henderson's bent grass	Poaceae	annual herb	Apr-Jun	None	None	G2Q	S2	3.2	 ©2005 Steve Matson
Arctostaphylos myrtifolia	Ione manzanita	Ericaceae	perennial evergreen shrub	Nov-Mar	FT	None	G1	S1	1B.2	 © 2006 Steve Matson
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	 ©1998 Dean Wm. Taylor
Brodiaea pallida	Chinese Camp brodiaea	Themidaceae	perennial bulbiferous herb	May-Jun	FT	CE	G1	S1	1B.1	 © 2014 Robert E. Preston, Ph.D.
Brodiaea rosea ssp. *vallicola*	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	None	None	G5T3	S3	4.2	 © 2011 Steven Perry
Calycadenia hooveri	Hoover's calycadenia	Asteraceae	annual herb	Jul-Sep	None	None	G2	S2	1B.3	No Photo Available
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	May-Jun	None	None	G3	S3	1B.2	No Photo Available
Claytonia parviflora ssp. *grandiflora*	streambank spring beauty	Montiaceae	annual herb	Feb-May	None	None	G5T3	S3	4.2	No Photo Available
Crocanthemum suffrutescens	Bisbee Peak rush-rose	Cistaceae	perennial evergreen shrub	Apr-Aug	None	None	G2?Q	S2?	3.2	No Photo Available
Cryptantha mariposae	Mariposa cryptantha	Boraginaceae	annual herb	Apr-Jun	None	None	G2G3	S2S3	1B.3	No Photo

										Available
Delphinium hansenii ssp. *ewanianum*	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	None	None	G4T3	S3	4.2	No Photo Available
Eriogonum apricum var. *apricum*	Ione buckwheat	Polygonaceae	perennial herb	Jul-Oct	FE	CE	G2T1	S1	1B.1	No Photo Available
Eriophyllum confertiflorum var. *tanacetiflorum*	tansy-flowered woolly sunflower	Asteraceae	perennial shrub	May-Jul	None	None	G5T2?Q	S2?	4.3	No Photo Available
Eryngium pinnatisectum	Tuolumne button-celery	Apiaceae	annual/perennial herb	May-Aug	None	None	G2	S2	1B.2	 © 2007 Robert E. Preston, Ph.D.
Eryngium racemosum	Delta button-celery	Apiaceae	annual/perennial herb	(May)Jun-Oct	None	CE	G1	S1	1B.1	No Photo Available
Erythranthe inconspicua	small-flowered monkeyflower	Phrymaceae	annual herb	May-Jun	None	None	G4	S4	4.3	 © 2017 Debra L. Cook
Erythranthe marmorata	Stanislaus monkeyflower	Phrymaceae	annual herb	Mar-May	None	None	G2?	S2?	1B.1	No Photo Available
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	Apr-Sep	None	None	G2	S2	1B.2	 © 2009 Barry Breckling
Jepsonia heterandra	foothill jepsonia	Saxifragaceae	perennial herb	Aug-Dec	None	None	G3	S3	4.3	 © 2014 Belinda Lo
Juncus leiospermus var. *ahartii*	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	None	None	G2T1	S1	1B.2	 © 2004 Carol W. Witham
Lagophylla dichotoma	forked hare-leaf	Asteraceae	annual herb	Apr-May	None	None	G2	S2	1B.1	 © 2010

										Chris Winchell
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.1	 ©2000 John Game
Lomatium congdonii	Congdon's lomatium	Apiaceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	No Photo Available
Navarretia myersii ssp. *myersii*	pincushion navarretia	Polemoniaceae	annual herb	Apr-May	None	None	G2T2	S2	1B.1	 © 2020 Leigh Johnson
Navarretia paradoxiclara	Patterson's navarretia	Polemoniaceae	annual herb	May-Jun(Jul)	None	None	G2	S2	1B.3	No Photo Available
Neostapfia colusana	Colusa grass	Poaceae	annual herb	May-Aug	FT	CE	G1	S1	1B.1	No Photo Available
Perideridia bacigalupii	Bacigalupi's yampah	Apiaceae	perennial herb	Jun-Aug	None	None	G3	S3	4.2	No Photo Available
Scopelophila cataractae	tongue-leaf copper moss	Pottiaceae	moss		None	None	G3G4	S1	2B.2	No Photo Available
Sphenopholis obtusata	prairie wedge grass	Poaceae	perennial herb	Apr-Jul	None	None	G5	S2	2B.2	No Photo Available
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1	 ©2008 F. Gauna

Showing 1 to 30 of 30 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 15 November 2022].

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Valley Springs (3812027) OR Jenny Lind (3812017) OR Bachelor Valley (3712087) OR Farmington (3712088) OR Valley Springs SW (3812018) OR Wallace (3812028) OR Ione (3812038) OR Jackson (3812037) OR Mokelumne Hill (3812036) OR San Andreas (3812026) OR Salt Spring Valley (3812016) OR Copperopolis (3712086))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01181	***Ambystoma californiense pop. 1*** California tiger salamander - central California DPS	Threatened	Threatened	G2G3T3	S3	WL
AAABF02020	***Spea hammondii*** western spadefoot	None	None	G2G3	S3	SSC
AAABH01022	***Rana draytonii*** California red-legged frog	Threatened	None	G2G3	S2S3	SSC
AAABH01055	***Rana boylii pop. 5*** foothill yellow-legged frog - south Sierra DPS	Proposed Endangered	Endangered	G3T2	S2	
ABNKC10010	***Haliaeetus leucocephalus*** bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC19070	***Buteo swainsoni*** Swainson's hawk	None	Threatened	G5	S3	
ABNKD06090	***Falco mexicanus*** prairie falcon	None	None	G5	S4	WL
ABNSB10010	***Athene cunicularia*** burrowing owl	None	None	G4	S3	SSC
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Threatened	G1G2	S1S2	SSC
AFCHA0209K	***Oncorhynchus mykiss irideus pop. 11*** steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	
AFCJB25010	***Mylopharodon conocephalus*** hardhead	None	None	G3	S3	SSC
AMACC08010	***Corynorhinus townsendii*** Townsend's big-eared bat	None	None	G4	S2	SSC
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G4	S3	SSC
AMAFJ01010	***Erethizon dorsatum*** North American porcupine	None	None	G5	S3	
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
CTT37D00CA	***Ione Chaparral*** Ione Chaparral	None	None	G1	S1.1	
CTT44110CA	***Northern Hardpan Vernal Pool*** Northern Hardpan Vernal Pool	None	None	G3	S3.1	
ICBRA03030	***Branchinecta lynchi*** vernal pool fairy shrimp	Threatened	None	G3	S3	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ICBRA06010	***Linderiella occidentalis*** California linderiella	None	None	G2G3	S2S3	
IICOL48011	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	Threatened	None	G3T2T3	S3	
IICOL55040	***Hydroporus leechi*** Leech's skyline diving beetle	None	None	G1?	S1?	
IIHYM24480	***Bombus crotchii*** Crotch bumble bee	None	Candidate Endangered	G2	S1S2	
IIHYM35030	***Andrena blennospermatis*** Blennosperma vernal pool andrenid bee	None	None	G2	S2	
ILARA14080	***Banksula rudolphi*** Rudolph's cave harvestman	None	None	G1	S1	
IMGASC7071	***Monadenia mormonum buttoni*** Button's Sierra sideband	None	None	G2T1	S1S2	
NBMUS6U010	***Scopelophila cataractae*** tongue-leaf copper moss	None	None	G3G4	S1	2B.2
PDAPI0Z0P0	***Eryngium pinnatisectum*** Tuolumne button-celery	None	None	G2	S2	1B.2
PDAPI0Z0S0	***Eryngium racemosum*** Delta button-celery	None	Endangered	G1	S1	1B.1
PDAPI1B0B0	***Lomatium congdonii*** Congdon's lomatium	None	None	G2	S2	1B.2
PDAST11061	***Balsamorhiza macrolepis*** big-scale balsamroot	None	None	G2	S2	1B.2
PDAST1P040	***Calycadenia hooveri*** Hoover's calycadenia	None	None	G2	S2	1B.3
PDAST5J070	***Lagophylla dichotoma*** forked hare-leaf	None	None	G2	S2	1B.1
PDBOR0A1Q0	***Cryptantha mariposae*** Mariposa cryptantha	None	None	G2G3	S2S3	1B.3
PDCAM0C010	***Legenere limosa*** legenere	None	None	G2	S2	1B.1
PDCIS020F0	***Crocanthemum suffrutescens*** Bisbee Peak rush-rose	None	None	G2?Q	S2?	3.2
PDERI04240	***Arctostaphylos myrtifolia*** Ione manzanita	Threatened	None	G1	S1	1B.2
PDPGN080F1	***Eriogonum apricum var. apricum*** Ione buckwheat	Endangered	Endangered	G2T1	S1	1B.1
PDPHR01130	***Erythranthe marmorata*** Stanislaus monkeyflower	None	None	G2?	S2?	1B.1
PDPLM0C0X1	***Navarretia myersii ssp. myersii*** pincushion navarretia	None	None	G2T2	S2	1B.1

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDPLM0C150	***Navarretia paradoxiclara*** Patterson's navarretia	None	None	G2	S2	1B.3
PDROS0W0C0	***Horkelia parryi*** Parry's horkelia	None	None	G2	S2	1B.2
PMJUN011L1	***Juncus leiospermus var. ahartii*** Ahart's dwarf rush	None	None	G2T1	S1	1B.2
PMLIL0C0C0	***Brodiaea pallida*** Chinese Camp brodiaea	Threatened	Endangered	G1	S1	1B.1
PMLIL0G020	***Chlorogalum grandiflorum*** Red Hills soaproot	None	None	G3	S3	1B.2
PMPOA040K0	***Agrostis hendersonii*** Henderson's bent grass	None	None	G2Q	S2	3.2
PMPOA4C010	***Neostapfia colusana*** Colusa grass	Threatened	Endangered	G1	S1	1B.1
PMPOA5T030	***Sphenopholis obtusata*** prairie wedge grass	None	None	G5	S2	2B.2
PMPOA6N010	***Tuctoria greenei*** Greene's tuctoria	Endangered	Rare	G1	S1	1B.1

Record Count: 48

IPaC resource list

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

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

Location

Calaveras County, California

Local office

Sacramento Fish And Wildlife Office

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

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

Endangered species

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

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

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

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

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

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

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

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

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

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

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Ione Manzanita Arctostaphylos myrtifolia Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1806	Threatened

Critical habitats

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

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.

2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15

Bullock's Oriole *Icterus bullockii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch *Carduelis lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Nuttall's Woodpecker *Picoides nuttallii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse *Baeolophus inornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Wrentit *Chamaea fasciata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10
Yellow-billed Magpie *Pica nuttalli* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

Breeding Season (■)

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

Survey Effort (|)

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

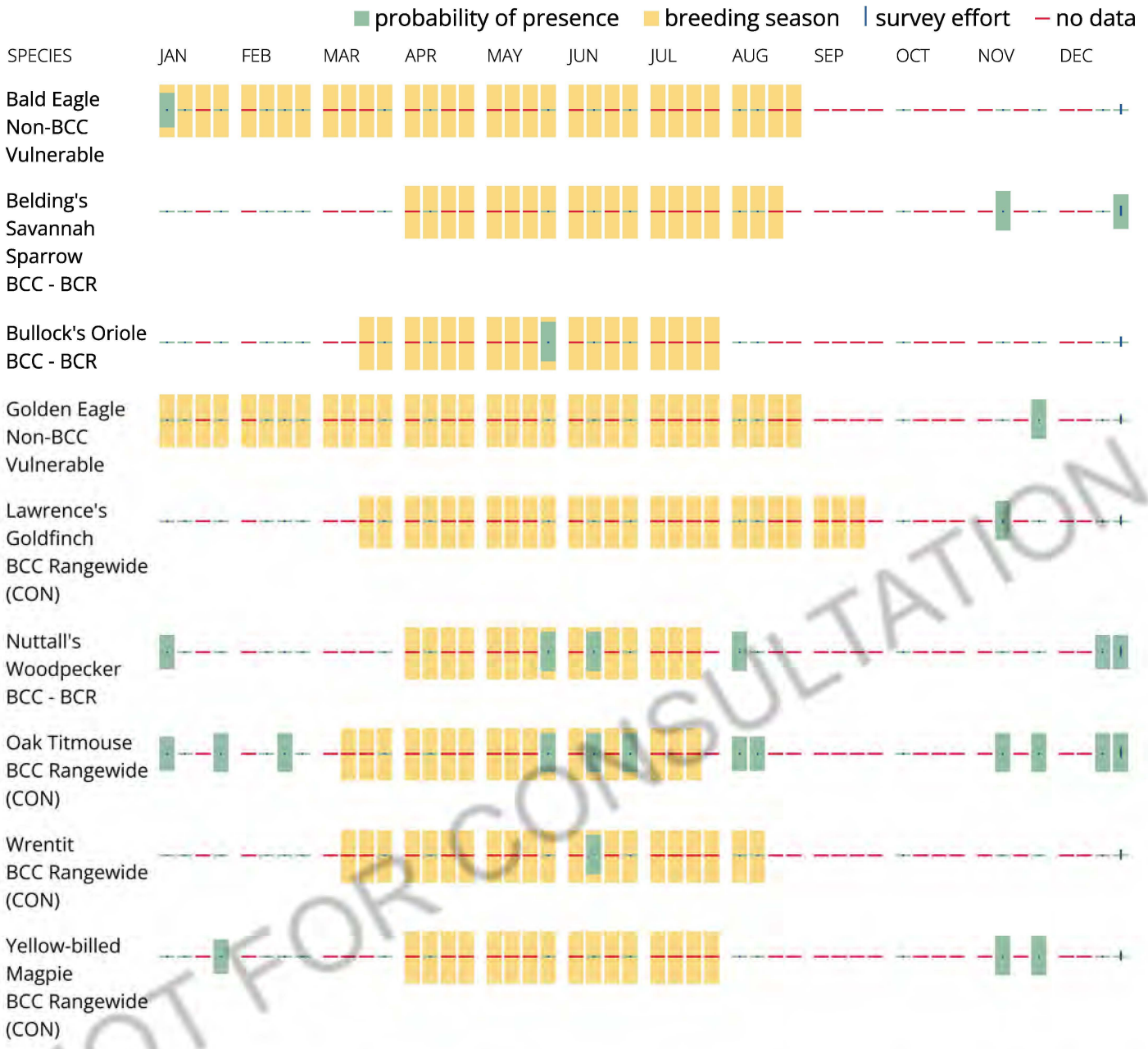
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

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

Survey Timeframe

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



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

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

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

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

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

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

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

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

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

Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA

Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

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

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

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

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

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

Data exclusions

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

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local

government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Quad Name **Valley Springs**
Quad Number **38120-B7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Jenny Lind**
Quad Number **38120-A7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

APPENDIX C

Cultural Resources Inventory Report

CONFIDENTIAL

Cultural Resources Inventory Report for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

Calaveras County, California

Prepared For:

Weber, Ghio and Associates, Inc.
394 East St. Charles Street
San Andreas, California 95249

Prepared By:

2525 Warren Drive
Rocklin, California 95677

January 16, 2023

MANAGEMENT SUMMARY

Weber, Ghio and Associates, Inc. retained ECORP Consulting, Inc. in 2022 to conduct a cultural resources inventory for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project in Calaveras County, California. The Calaveras County Water District proposes to install a new water transmission pipeline to transport water from Tank A to Tank B. The alignment of the proposed pipeline is along approximately 3.8 miles of roadway. The proposed work is restricted to within the limits of the roadways. The Project begins at Tank A, located at 2296 Heinemann Drive, and terminates at Tank B, located at 6444 Schmidt Place in Valley Springs, Calaveras County.

The inventory included a records search, literature review, and field survey. The records search results indicated that four previous cultural resources studies have been conducted within the Project Area. As a result of those studies, two pre-contact sites have been recorded within the 0.5-mile radius, but no cultural resources have previously been recorded in the Project Area.

ECORP did not identify any cultural resources during the survey. Recommendations for the management of unanticipated discoveries are provided.

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LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
BLM	Bureau of Land Management
BP	Before present
CCIC	Central California Information Center
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR	California Register of Historic Resources
DPR	Department of Parks and Recreation
ECORP	ECORP Consulting, Inc.
GLO	General Land Office
MLD	Most likely descendant
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OHP	California Office of Historic Preservation
PG&E	Pacific Gas & Electric Company
PRC	Public Resources Code
RPA	Registered Professional Archaeologist
USGS	United States Geological Survey
Caltrans	California Department of Transportation
TCR	Tribal Cultural Resource
US	United States of America

1.0 INTRODUCTION

Weber, Ghio and Associates, Inc. retained ECORP Consulting, Inc. in 2022 to conduct a cultural resources inventory for the Jenny Lind Water System Tank A-B Water Transmission Pipeline Project in the town of Valley Springs, Calaveras County, California. A survey of the Project Area was required to identify potentially eligible cultural resources (i.e., archaeological sites and historic buildings, structures, and objects) that could be affected by the Project.

1.1 Project Location and Project Description

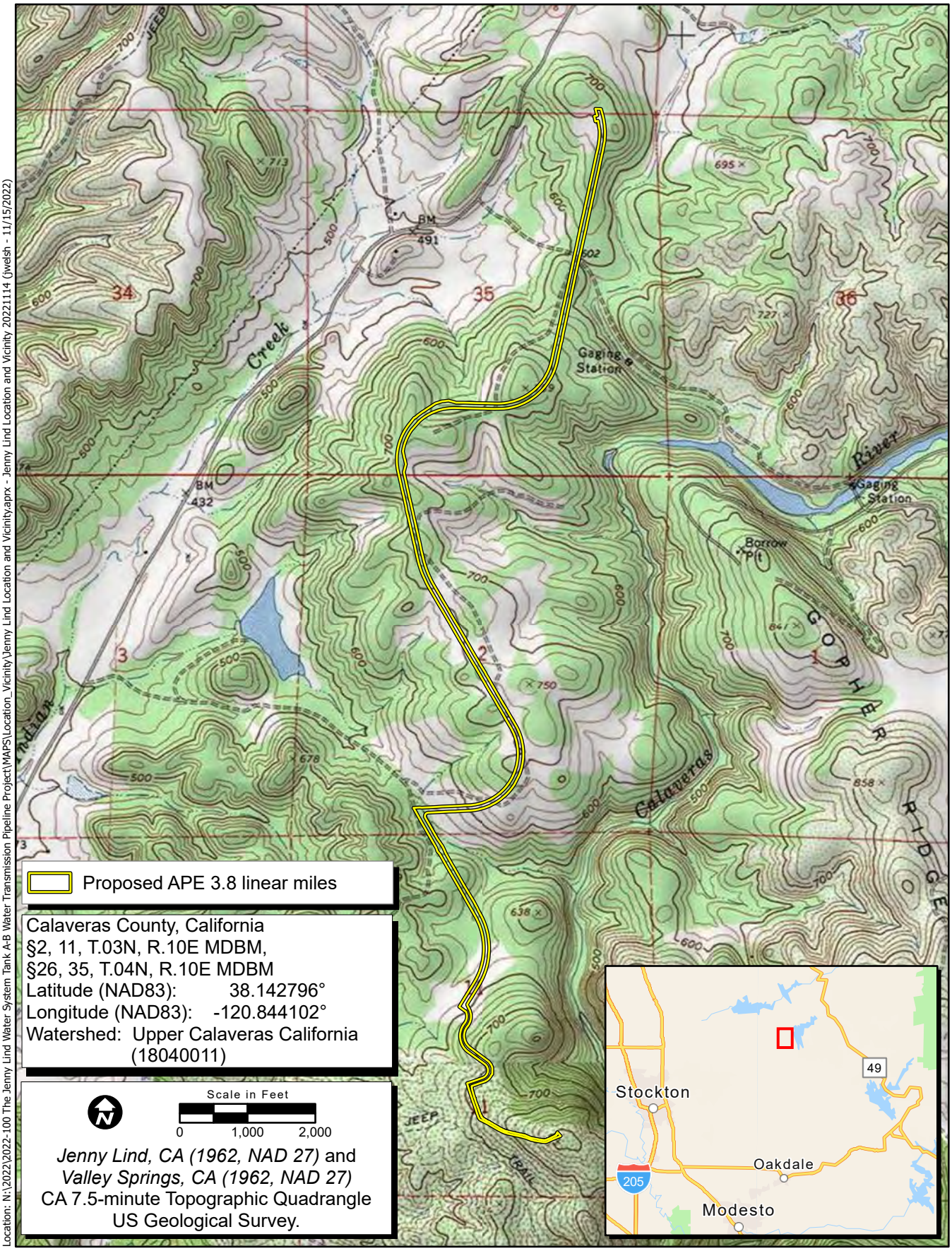
The Project Area consists of approximately 3.8 miles of property located in Sections 2 and 11 of Township 3 North, Range 10 East, and Sections 26 and 35 of Township 4 North, Range 10 East, Mount Diablo Base and Meridian, as depicted on the 1962 Jenny Lind and the 1962 Valley Springs, California United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps (Figure 1). The Project Area is generally oriented in a north-to-south direction along approximately 3.8 miles of roadway within a semi-rural residential community. The Project Area begins at Tank A and terminates at Tank B. Tank A is located at 2296 Heinemann Drive and is bounded by Hartvickson Lane to the east and residences to the north, west, and south; however, the replacement pipeline will connect to Tank A on the eastern side of the tank and will be installed within Hartvickson Lane. The proposed water pipeline route follows the alignment of Hartvickson Lane south toward Baldwin Street, continues to Usher Drive, and winds uphill along Wind River and Harding Road where it terminates and connects to Tank B, which is located at 6444 Schmidt Place in Valley Springs.

The Calaveras County Water District proposes to replace the existing 1970s-era, 8-inch-diameter asbestos cement pipe between Tanks A and B with a combination of 12-inch- and 14-inch-diameter iron pipe. The new pipe will eliminate the added pumping pressures, aid in stabilizing the hydraulic functions, and provide proper water transmission between Tanks A and B.

1.2 Area of Potential Effects

The Area of Potential Effects (APE) consists of the horizontal and vertical limits of the Project and includes the area within which significant impacts or adverse effects to Historical Resources or Historic Properties could occur as a result of the Project. The APE is defined for projects subject to regulations implementing Section 106 (federal law and regulations). For projects subject to the California Environmental Quality Act (CEQA) review, the term *Project Area* is used rather than *APE*. The terms *Project Area* and *APE* are interchangeable for the purpose of this document.

The horizontal APE consists of all areas where activities associated with a project are proposed and, in the case of this project, equals the Project Area subject to environmental review under the National Environmental Policy Act (NEPA) and CEQA. This includes areas proposed for pipe removal or installation, trenching, paving, and other elements in the official Project Description. The horizontal APE is illustrated in Figure 1 and represents the survey coverage area. It measures approximately 3.8 miles in length; however, work is restricted to within the roadway limits and no shoulder or right-of-way work is proposed. Additionally, no work is proposed at either tank location.



Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Location_Vicinity\Jenny Lind Location and Vicinity.aprx - Jenny Lind Location and Vicinity 20221114 (jwelsh - 11/15/2022)

Map Date: 11/14/2022
Sources: ESRI, USGS

Figure 1. Project Location and Vicinity

The vertical APE is described as the maximum depth below the surface to which excavations for project foundations and facilities will extend. Therefore, the vertical APE for the Project includes all subsurface areas where archaeological deposits could be affected. This study assumes the depth of ground disturbance will not exceed 10 feet below the current surface, and therefore, a review of geologic and soils maps was necessary to determine the potential for buried archaeological sites that cannot be seen on the surface.

The vertical APE is also described as the maximum height of structures that could impact the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. However, because the Project consists entirely of underground pipeline, there is no aboveground vertical APE.

1.3 Regulatory Context

A review of the regulatory context is provided below; however, the inclusion of any of these laws and regulations in this report does not make a law or regulation apply when it otherwise would not. Similarly, the omission of any other laws and regulations from this section does not mean that they do not apply. Rather, the purpose of this section is to provide context in explaining why the study was carried out in the manner documented herein.

1.3.1 National Environmental Policy Act

NEPA establishes national policy for the protection and enhancement of the environment. Part of the function of the federal government in protecting the environment is to "preserve important historic, cultural, and natural aspects of our national heritage." Cultural resources need not be determined eligible for the National Register of Historic Places (NRHP) through the National Historic Preservation Act (NHPA) of 1966 (as amended) to receive consideration under NEPA. NEPA is implemented by regulations of the Council on Environmental Quality (40 Code of Federal Regulations [CFR] 1500-1508).

The definition of *effects* in the NEPA regulations includes adverse and beneficial effects on historic and cultural resources (40 CFR 1508.8). Therefore, the *Environmental Consequences* section of an Environmental Impact Statement [see 40 CFR 1502.16(f)] must analyze potential effects to historic or cultural resources that could result from the proposed action and each alternative. In considering whether an alternative may "significantly affect the quality of the human environment," a federal agency must consider, among other things:

- Unique characteristics of the geographic area, such as proximity to historic or cultural resources (40 CFR 1508.27(b)(3)), and
- The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP (40 CFR 1508.27(b)(8)).

Therefore, because historic properties are a subset of *cultural resources*, they are one aspect of the *human environment* defined by NEPA regulations.

1.3.2 National Historic Preservation Act

The federal law that covers cultural resources that could be affected by federal undertakings is the NHPA of 1966, as amended. Section 106 of the NHPA requires that federal agencies consider the effects of a federal undertaking on properties listed in or eligible for the NRHP. The agencies must afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on the undertaking. A federal undertaking is defined in 36 CFR 800.16(y):

> "A federal undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval."

The regulations that stipulate the procedures for complying with Section 106 are in 36 CFR 800. The Section 106 regulations require:

- definition of the APE;
- identification of cultural resources within the APE;
- evaluation of the identified resources in the APE using NRHP eligibility criteria;
- determination of whether the effects of the undertaking or project on eligible resources will be adverse; and
- agreement on and implementation of efforts to resolve adverse effects, if necessary.

The federal agency must seek comment from the State Historic Preservation Office (SHPO) and, in some cases, the ACHP, for its determinations of eligibility, effects, and proposed mitigation measures. Section 106 procedures for a specific project can be modified by negotiation of a Memorandum of Agreement or Programmatic Agreement between the federal agency, the SHPO, and, in some cases, the project proponent.

Effects to a cultural resource are potentially adverse if the lead federal agency, with the SHPO's concurrence, determines the resource eligible for the NRHP, making it a Historic Property, and if application of the Criteria of Adverse Effects (36 CFR 800.5[a][2] et seq.) results in the conclusion that the effects will be adverse. The NRHP eligibility criteria, contained in 36 CFR 63, are as follows:

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and
>
> A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> B. that are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to yield, information important in prehistory.

In addition, the resource must be at least 50 years old, barring exceptional circumstances (36 CFR 60.4). Resources that are eligible for, or listed on, the NRHP are *historic properties*.

Regulations implementing Section 106 of the NHPA (36 CFR 800.5) require that the federal agency, in consultation with the SHPO, apply the Criteria of Adverse Effect to historic properties within the APE. According to 36 CFR 800.5(a)(1):

> "An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association."

1.3.3 California Environmental Quality Act

CEQA is the state law that applies to a project's impacts on cultural resources. A project is an activity that may cause a direct or indirect physical change in the environment and that is undertaken or funded by a state or local agency, or requires a permit, license, or lease from a state or local agency. CEQA requires that impacts to Historical Resources be identified and, if the impacts will be significant, then apply mitigation measures to reduce the impacts.

A Historical Resource is a resource that 1) is listed in or has been determined eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR, 2) is included in a local register of historical resources, as defined in Public Resources Code (PRC) 5020.1(k), or 3), and has been identified as significant in a historical resources survey, as defined in PRC 5024.1(g) (California Code of Regulations [CCR] Title 14, Section 15064.5(a)).

The eligibility criteria for the CRHR are as follows (CCR Title 14, Section 4852(b)):

(1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States (US);

(2) It is associated with the lives of persons important to local, California, or national history;

(3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or

(4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity, which is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (CCR Title 14, Section 4852(c)). Resources that have been determined eligible for the NRHP are automatically eligible for the CRHR.

Impacts to a Historical Resource, as defined by CEQA (listed in an official historic inventory or survey or eligible for the CRHR), are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired (CCR Title 14, Section 15064.5(b)). Demolition or alteration of eligible buildings, structures, and features that they would no longer be eligible would result in a significant impact. Whole or partial destruction of eligible archaeological sites would result in a significant impact. In addition to impacts from construction resulting in destruction or physical alteration of an eligible resource, impacts to the integrity of setting (sometimes termed *visual impacts*) of physical features in the Project Area could also result in significant impacts.

Tribal Cultural Resources (TCRs) are defined in Section 21074 of the California PRC as sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either included in or determined to be eligible for inclusion in the CRHR, or are included in a local register of historical resources as defined in subdivision (k) of Section 5020.1, or are 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 Section 5024.1. Section 1(b)(4) of Assembly Bill (AB) 52 established that only California Native American tribes, as defined in Section 21073 of the California PRC, are experts in the identification of TCRs and impacts thereto. Because ECORP does not meet the definition of a California Native American tribe, it only addresses information in this report for which it is qualified to identify and evaluate, and that which is needed to inform the cultural resources section of CEQA documents. This report, therefore, does not identify or evaluate TCRs. Should California Native American tribes ascribe additional importance to or interpretation of archaeological resources described herein, or provide information about non-archeological TCRs, that information is documented separately in the AB 52 tribal consultation record between the tribe(s) and lead agency and summarized in the TCRs section of the CEQA document, if applicable.

1.4 Report Organization

The following report documents the study and its findings and was prepared in conformance with the California Office of Historic Preservation's (OHP) *Archaeological Resource Management Reports: Recommended Contents and Format*. Appendix A includes a confirmation of the records search with the California Historical Resources Information System (CHRIS) and historical society coordination. Appendix B contains documentation of a search of the Sacred Lands File. Appendix C presents photographs of the Project Area.

Sections 6253, 6254, and 6254.10 of the California Code authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (Government Code Section 6250 et seq.) and California's open meeting laws (The Brown Act, Government Code Section 54950 et seq.) protect the confidentiality of Native American

cultural place information. Because the disclosure of information about the location of cultural resources is prohibited by the Archaeological Resources Protection Act of 1979 (16 US Code 552 470hh) and Section 307103 of the NHPA, it is exempted from disclosure under Exemption 3 of the federal Freedom of Information Act (5 US Code 552) Likewise, the Information Centers of the CHRIS maintained by the OHP prohibit public dissemination of records search information. In compliance with these requirements, the results of this cultural resource investigation were prepared as a confidential document, which is not intended for public distribution in either paper or electronic format.

2.0 SETTING

2.1 Environmental Setting

The Project Area is in the lower Sierra Nevada foothills in western Calaveras County. The surrounding land is characterized by rolling terrain with deep canyons incised by the Calaveras River and various creeks and streams. The hillsides are dotted with a variety of hardwood and coniferous trees. Elevations within the Project Area range from 545 to 905 feet above mean sea level. The Project Area is located on active, medium-density roadways (Hartvickson Lane, Baldwin Street, Usher Drive, and Wind River/Harding Road) and consists of both graded and paved areas within a residential community. The Project Area abuts residential yards consisting of paved driveways, grass, gravel, and decorative landscaped vegetation. The immediate surrounding land is mostly rural residences with commercial development to the north. Calaveras River and Cosgrove Creek are located less than 0.5 mile to the east of the Project Area. There are multiple unnamed drainages, some with modern culverts along the Project Area roadways, as well as several tributaries of Calaveras River that have been disturbed and impacted by the surrounding residential development.

2.2 Geology and Soils

The geology of the southern end of the Project Area rests on the Pliocene-Pleistocene non-marine sedimentary deposits (California Department of Conservation 2019). It consists of arroyo seco gravel, which is a gravel deposit that includes surficial deposits of well-rounded cobbles and boulders set in a matrix of a deep red to reddish-brown soil (Strand and Koenig 1965). On the northern end of the Project Area, the geology is comprised of a combination of Jurassic and Triassic metavolcanic rocks derived from Gopher Ridge, a mountain formation located approximately 1 mile east of the Project Area (California Department of Conservation 2019).

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2022), there are four soil types located within the Project Area: Bonanza-Loafercreek-Gopheridge complex (7076), Jasperpeak-Gopheridge complex (7078), Bonanza-Loafercreek complex (7085), and Urban Land-Loafercreek-Dunstone complex (9015). Bonanza-Loafercreek-Gopheridge complex, 15 to 30 percent slopes, is a well-drained soil with a parent material of colluvium over residuum derived from metavolcanics. The depth to restrictive feature is 10 to 20 inches to paralithic bedrock and 14 to 30 inches to lithic bedrock. Jasperpeak-Gopheridge complex, 30 to 60 percent slopes, is a well-drained soil with a parent material of colluvium over residuum derived from metavolcanics. The depth to restrictive features

is 10 to 20 inches to lithic bedrock. Bonanza-Loafercreek complex, 3 to 15 percent slopes, is a well-drained soil with a parent material of residuum weathered from metavolcanics. The depth to restrictive feature is 10 to 20 inches to paralithic bedrock and 14 to 30 inches to lithic bedrock. Urban Land-Loafercreek-Dunstone complex, 3 to 15 percent slopes, is a well-drained soil with a parent material of colluvium over residuum derived from metavolcanics. The depth to restrictive features varies from 20 to 39 inches to paralithic bedrock and 20 to 49 inches to lithic bedrock.

There exists a low-to-moderate potential for buried pre-contact archaeological sites in the Project Area due to the shallow depth of bedrock, which restricts the depth of cultural deposits; if any subsurface deposits are present, they would likely be visible on the surface and detectable through surface survey. The potential increases slightly in areas closer to the Calaveras River and Cosgrove Creek, both of which are located less than 1 mile east of the Project Area, and due to the likelihood of pre-contact archaeological sites located along tributaries and perennial waterways.

2.3 Vegetation and Wildlife

Prior to the arrival of European-American ranching and farming activities, the Project Area would have been an oak and pine woodland comprised of various oak tree species such as blue oak, black oak, valley oak, and live oak, as well as other deciduous species like California buckeye. Evergreen trees and shrubs consisted of grey pine and sugar pine, as well as incense cedar, toyon, and a variety of manzanitas (Küchler 1977).

Prior to the arrival of European-Americans, fauna in the Project Area would have included mule deer, tule elk, pronghorn antelope, black bears, grizzly bears, black-tailed jackrabbit, cottontail rabbits, beavers, ground squirrels, and woodrats. Avifauna that would have been present in the Project Area include valley quail, mountain quail, band-tailed pigeon, red-shafted flickers, jays, and woodpeckers. The Calaveras River and its tributaries would have contained steelhead trout, rainbow trout, chinook salmon, and lamprey.

3.0 CULTURAL CONTEXT

3.1 Regional Pre-Contact History

It is generally believed that human occupation of California began at least 10,000 years before present (BP). The archaeological record indicates that between approximately 10,000 and 8,000 BP, a predominantly hunting economy existed, characterized by archaeological sites containing numerous projectile points and butchered large animal bones. Animals that were hunted probably consisted mostly of large species still alive today. Bones of extinct species have been found but cannot be associated with human artifacts. Although small animal bones and plant grinding tools are rarely found within archaeological sites of this period, small game and floral foods were probably exploited on a limited basis. A lack of deep cultural deposits from this period suggests that groups included only small numbers of individuals who did not often stay in one place for extended periods (Wallace 1978).

Around 8,000 BP, there was a shift in focus from hunting towards a greater reliance on plant resources. Archaeological evidence of this trend consists of a much greater number of milling tools (e.g., metates

and manos) for processing seeds and other vegetable matter. This period, which extended until around 5,000 years BP, is sometimes referred to as the Millingstone Horizon (Wallace 1978). Projectile points are found in archaeological sites from this period, but they are far fewer in number than from sites dating to before 8,000 BP. An increase in the size of groups and the stability of settlements is indicated by deep, extensive middens at some sites from this period (Wallace 1978).

Archaeological evidence indicates that reliance on both plant gathering and hunting continued as in the previous period, with more specialized adaptation to particular environments in sites dating to after about 5,000 BP. Mortars and pestles were added to metates and manos for grinding seeds and other vegetable material. Flaked-stone tools became more refined and specialized, and bone tools were more common. New peoples from the Great Basin began entering southern California during this period. These immigrants, who spoke a language of the Uto-Aztecan linguistic stock, seem to have displaced or absorbed the earlier population of Hokan-speaking peoples. During this period, known as the Late Horizon, population densities were higher than before, and settlement became concentrated in villages and communities along the coast and interior valleys (Erlandson 1994; McCawley 1996). Regional subcultures also started to develop, each with its own geographical territory and language or dialect (Kroeber 1925; McCawley 1996; Moratto 1984). These were most likely the basis for the groups that the first Europeans encountered during the 18th century (Wallace 1978). Despite the regional differences, many material culture traits were shared among groups, indicating a great deal of interaction (Erlandson 1994). The presence of small projectile points indicates the introduction of the bow and arrow into the region sometime around 2,000 BP (Wallace 1978; Moratto 1984).

3.2 Local Pre-Contact History

The pre-contact history of the lower Sierra Nevada foothills is somewhat fragmentary and not well understood. The following discussion will draw upon the surrounding region in an effort to illustrate the range of pre-contact cultural adaptations in the area.

The most extensive data set for the western slope of the Sierra Nevada in Calaveras County comes from archaeological studies carried out on the North Fork of the Stanislaus River for the New Melones Archaeological Project between 1969 and 1990. Several decades of work conducted in the area resulted in the identification of at least eight distinct periods of occupation, dated to between 9,600 BP and AD 1848 (Fitting et al. 1979; Moratto et al. 1988; Peak and Crew 1990).

3.2.1 Clarks Flat Phase

The earliest evidence of human use of the area comes from the Clarks Flat locality (CA-CAL-275 and CA-CAL-342), which produced a large cultural assemblage (Moratto et al. 1988; Peak and Crew 1990). Artifacts collected from Clarks Flat include a variety of large stemmed projectile points (Western Stemmed Series), a transverse point (crescent), utilized flakes, gravers, and large scrapers. Assemblages of this type, dated to between 9,600 and 6,800 BP, are representative of the Clarks Flat Phase.

3.2.2 Stanislaus Phase

A second period of occupation identified at site CA-CAL-342, known as the Stanislaus Phase, is marked by the appearance of Pinto-like projectile points sometime around 6550 BP. Named the Stanislaus Broad-Stemmed by Peak and Crew (1990), the point style was in use for an apparently short period of time, perhaps only 300 years. Other artifacts in use during this phase include a variety of steatite objects, net weights, atlatl weights, manos, and other groundstone implements (Peak and Crew 1990).

3.2.3 Texas Charley Phase

The period between 5,500 and 4,500 BP is represented at another site within the North Fork Stanislaus River Drainage, CA-CAL-286. Designated the Texas Charley Phase, this period of occupation is characterized by the existence of a distinctive, percussion flaked stone industry with little evidence of habitation. Artifacts attributed to the phase include choppers, large lanceolate bifaces, possible manos, scrapers, and contracting stem biface fragments. This period is not well represented in the archaeological record and coincides with a warming and drying trend in the West known as the Altithermal (Antevs 1948). Most lithic material identified at the site is locally available chert from the Vallecito area (Moratto 1984; Pacific Gas & Electric Company [PG&E] 1999).

3.2.4 Calaveras Phase

The Calaveras Phase (5,500 to3,000 BP) within the Stanislaus River Drainage encompasses several cultural components and appears to be partially coeval with the Texas Charley Phase, albeit technologically (and possibly culturally) distinct. The phase is marked by the presence of Humboldt and Pinto series projectile points and abundant groundstone. Human occupation of the area during this period was widespread, although ephemeral in nature (Peak and Crew 1990).

3.2.5 Sierra Phase

The period between 3,000 to 1,500 BP witnessed a sharp increase in use of the area by prehistoric Native Americans. Designated the Sierra Phase, this period of occupation in the New Melones area is represented at several sites, many of which contain midden deposits suggesting a much greater degree of sedentism (Peak and Crew 1990). Groundstone artifacts are abundant, and it is during this time that mortar and pestle technology, which could be used for processing acorns, first appears in the area (Moratto et al. 1988). Projectile points documented in Sierra Phase components include Elko Eared, Elko Corner Notched, Sierra Concave Base, and a variety of side notched, triangular, and contracting stem points (PG&E 1999). Well established trade networks are evident in this period based on the presence of large quantities of obsidian that came from the western Great Basin (mostly from the Bodie Hills source), and haliotis and Olivella beads and ornaments traded in from the coast (PG&E 1999).

3.2.6 Redbud Phase

Redbud Phase components (1,500 to 700 BP) are represented in at least 24 sites in the New Melones area (Peak and Crew 1990). Human occupation of the area during this time is thought to be ephemeral and of low intensity. Settlement patterns are strikingly different from the preceding period and marked by a high

degree of residential mobility with small group sizes. Peak and Crew (1990) remark that this phase does not seem to reflect cultural continuity with antecedent or subsequent phases in the study area. Bolstering support for the hypothesized break in cultural continuity with preceding phases is the apparent breakdown in trade networks as indicated by the near absence of obsidian artifacts. Furthermore, it is during the Redbud Phase that Rosegate and small barbed projectile points appear, marking the introduction of the bow and arrow into the area (PG&E 1999).

3.2.7 Horseshoe Bend Phase

The Horseshoe Bend Phase, (700 BP to 1848 AD), is marked by architectural remains, cemeteries, the reappearance of midden deposits, and the widespread use of bedrock mortars. Sedentism was on the rise during this phase, and very intensive use of the North Fork Stanislaus Drainage by people ancestral to the Miwok is evident (Peak and Crew 1990). The material culture of the Horseshoe Bend Phase mirrors that of the ethnographic Sierra Miwok and includes Desert Side Notched, Cottonwood Triangular, and Gunther Barbed projectile points, Olivella beads, Saxidomus beads and steatite, a variety of flaked stone tool types, as well as a sophisticated groundstone technology including milling artifacts and pestles used in bedrock mortars (PG&E 1999). The period of Miwok acculturation and eventual loss of traditional life ways, after the Gold Rush, is represented by the Peoria Basin Phase. Occupation of the North Fork Stanislaus region became much more ephemeral during this period and several European-American artifacts appear in assemblages attributed to this phase (Peak and Crew 1990; PG&E 1999).

3.3 Ethnography

Ethnographically, the Project Area is in the nuclear territory occupied by the Northern Sierra Miwok. Prior to the arrival of the Spanish, the Miwok were one of the largest native groups in California, stretching from the crest of the Sierra, across the Great Valley and Delta Region, into the Coast Range north of San Francisco. The Northern Sierra Miwok lived within the foothills and mountains of the Cosumnes and Mokelumne River drainages. They belong to the Sierra Miwok language group, which is a subset of the Utian language family. Lexicostatistical chronologies suggest that the Miwok ancestors inhabited California's Delta Region for millennia, with expansion into the foothills occurring in the more recent past (Levy 1978).

The tribelet was the primary political unit among the Miwok. The tribelet controlled a defined territory and all the resources within it. Tribelets were composed of several lineages that were each tied to geographical locations. Levy (1978:402) suggests that the population of Sierra Miwok settlements averaged 25 persons. The village of *Apautawilü*, located near the Calaveras River in the vicinity of Valley Springs, was the primary Northern Sierra Miwok settlement near the Project Area (Levy 1978).

Based on mission records, the accounts of early explores and initial attempts at censuses, it has been estimated that the total Miwok population was around 19,500 prior to 1800. In 1904, Special Indian Agent C.E. Kelsey estimated the total population at less than 800 (Slagle 2004).

Subsistence activities of the Northern Sierra Miwok closely resembled that of other inhabitants of the Sierra Foothills. As winter snows thawed, small groups moved out of the village, following deer into higher

elevations. At the same time, spring greens were gathered to supplement the stored foods and meat. Seeds of many different plants, particularly grasses, were collected between May and August. Following the annual burning of the underbrush in August, the highly prized Digger pine nuts were collected. Digger pine nuts were also occasionally collected before they were ripe in the spring. Fall and early winter were when families would set out to collect and stockpile acorns (Levy 1978:402). Hunting was a year-round activity for the Northern Sierra Miwok.

Acorns from at least seven species of oak were collected and eaten by Native Americans. While acorns from the valley oak were most important to the Plains Miwok, Sierra Miwok made the most extensive use of acorns from the interior live oak, blue oak, and black oak. They were usually collected from the ground after they had fallen from the tree, although long sticks were sometimes used to collect acorns that had yet to be released (Levy 1978:402).

Nuts were also an important element of the Miwok diet and included buckeye, laurel, hazelnut, digger pine, and sugar pine. They also harvested roots like wild onion and "Indian potato," which were eaten raw, steamed, baked, or dried and processed into flour cakes to be stored for winter use. Berries were eaten, although they did not comprise a substantial portion of the diet.

Animals taken by the Northern Sierra Miwok included mule deer, black bear, grizzly bear, black tailed jackrabbits, cottontails, beavers, grey and ground squirrels, wood rats, valley quail, and mountain quail. Occasional forays were made down to the valley floor to hunt antelope and tule elk, which were not available in the Sierra Foothills (Levy 1978). Fishing was undertaken by the Sierra Miwok, yet it was not a central part of the diet. Salmon was available in the lower stretches of Sierran rivers, and trout was taken at higher elevations.

Other foods exploited by the Northern Sierra Miwok included insects such as grasshoppers and yellow jacket larvae, and shellfish such as river mussels and freshwater clam (Levy 1978). Food taboos were observed by the Sierra Miwok and, as a result, they did not consume dogs, coyotes, skunks, eagles, great-horned owls, roadrunners, snakes, or frogs (Levy 1978:402).

The Sierra Miwok constructed a variety of structures for different purposes. The primary house used by the Miwok living in the foothills was the conical bark-slab house. More substantial semi-subterranean houses were occupied during the winter months by those wealthy enough to afford such a structure. A circular brush structure was used in the summer during times of mourning. Semi-subterranean earth lodges, measuring 40 to 50 feet in diameter were used for social or communal gatherings. The Miwok also made use of sweathouses that varied in size from 6 to 15 feet in diameter.

Trade was important with goods generally traveling east to west and vice versa. Items such as Olivella and Haliotis shells, salmon, and salt traveled east from the coast and valley into the Sierra and beyond. Digger pine nuts, bows, arrows, deer skins, and sugar pine nuts came down from the Sierra to the Great Valley. Precious goods such as salt and obsidian were also traded in from the Great Basin. Basketry moved in both directions in the prehistoric trade networks (Wilson and Towne 1978; Levy 1978).

Unfortunately, by the time ethnographers began interviewing and recording aspects of traditional Sierra Miwok life, it had been all but destroyed.

The Spanish made occasional forays into the Central Valley beginning around 1769, with the first written description composed by Pedro Fages in 1772. By 1776, Miwok territory had been explored by José Canizares. In 1808, Miwok territory was again crossed by Gabriel Moraga while he led an expedition to identify appropriate sites for the establishment of new missions and to capture Native Americans who had fled missionary life. In 1813, a major battle was fought between the Miwok and the Spaniards near the mouth of the Cosumnes River.

3.4 Regional History

Although the Spanish had made forays into the Central Valley since about 1769, it was not until 1808 that Captain Gabriel Moraga explored, and named, the Sacramento area (Lawson 2001). Other than fighting with the Native Americans, as in 1813 when Luis A. Arguello fought a major battle with the Miwok near the mouth of the American River, the Spanish took little interest in the area (Wilson and Towne 1978). In 1827, American trapper Jedidiah Smith traveled up the Sacramento River and into the San Joaquin Valley to meet other trappers from his company he had left encamped there, but no permanent settlements were established (Peak & Associates 1997).

In 1839, John Augustus Sutter, a Swiss émigré, set foot on the banks of the American and Sacramento rivers' confluence with expectations of building an agricultural empire. Mexican Governor Juan Bautista Alvarado assisted in this dream by granting Sutter a 48,000-acre tract of land known as the New Helvetia Land Grant, the present-day site of Sutter's Fort (Owens 1994). The Spanish had traveled into the Central Valley as early as 1769, fur trappers traversed the Sacramento River, but it remained for Sutter to establish the first permanent settlement. Sutter engaged hundreds of Native Americans for labor in the fields and in construction, many of them former residents of the Spanish Missions to the south. Sutter's Fort became a mecca for thousands of immigrants traveling the Overland Emigrant Trail, in need of rest and fresh supplies after the arduous trek across Carson Pass. However, the future of California changed dramatically when John Marshall discovered gold in a flume at Sutter's lumber mill on the South Fork of the American River near the Nisenan village of Culloma (Coloma) in 1848.

As a direct result of the gold rush, numerous mining towns arose seemingly overnight within the foothills. Although many of these claims and towns were short-lived, some attracted long-term settlement. Especially attractive was a 120-mile-long belt of gold mineralization called the Mother Lode. Gold seekers from a variety of ethnic backgrounds and social classes prospected along this corridor that ran through western Calaveras County. In 1854, the largest gold nugget discovered in the US was unearthed at the Morgan Hill Mine near Carson Hill.

Calaveras County was created during the 1849 to 1850 session of the California Legislature, as one of the original 27 counties. As originally laid out, the county encompassed parts of modern Amador, Alpine, and Mono counties. Originally, the county seat was Pleasant Valley (also known as Double Springs) but was subsequently moved to Jackson in 1850, then to Mokelumne Hill in 1852, and finally to San Andreas in 1866 (Hoover et al. 2002). The county derives its name from the nearby river that was named by Spanish Royal Army Lieutenant Gabriel Moraga in 1808 (Hoover et al. 2002). Moraga called it El Rio de Las Calaveras because a great number of human skulls were eroding out of the river's bank.

Like in so many other regions of the Gold Country, many early settlers of Calaveras County quickly became tired of the grueling work and minimal rewards that went hand in hand with gold mining. As a result, many people turned to more traditional trades such as ranching, farming, shop keeping, and timber harvesting. The town of Arnold, approximately 41 miles northeast of Valley Springs, developed as a ranching and timber center in the county. Copperopolis, located approximately 26 miles south of Valley Springs, became a center for copper mining. Over the years, Copperopolis has produced more than 19 million pounds of copper ore, making it the second largest copper production center in the US (Calaveras Enterprise 2002).

Since the Gold Rush, Calaveras County's economy has substantially diversified. Today, major industries in the county include education, government, healthcare, recreation and tourism, forestry, agriculture, and energy production (Calaveras County Chamber of Commerce 2004). The fastest growing segment of the local economy is tourism, which is driven in large part by the region's numerous wineries, state recreation areas, and campgrounds administered by the US Forest Service.

3.5 Local History

The history of Calaveras County is directly connected to the Gold Rush of the 1850s, because this county is situated within the California Mother Lode. The area that became the town of Valley Springs was first settled by George Late, who arrived in 1849 after a voyage around Cape Horn (Buckbee 1996). In 1854 he erected a limestone house quarried from local stone.

Valley Springs developed primarily as a logistical stop for goods and people moving in and out of the nearby gold fields. As early as 1849, thousands of people sought the opportunity to mine for gold and other natural resources along the waterways of the Sierra Nevada foothills, and western Calaveras County was considered the gateway to the Mother Lode (Manna 2010a). Due to the economic development of the various industries in Calaveras County, there were three railroads that served as a commercial connection to nearby railways and throughout the Western US. The Stockton and Copperopolis Railroad and the San Joaquín and Sierra Nevada Railroad served the communities near and within the Project Area. The Stockton and Copperopolis Railroad's western terminus was in Milton, which is 9 miles south of the Project Area. It was originally intended to be a connection to the copper mines, but it became a stage line for several boomtowns throughout Calaveras County (Calaveras Heritage Council 2022). The San Joaquin and Sierra Nevada railroad's eastern terminus was in Valley Springs. Valley Springs served as a supply town and access point to the mines and other industries (Calaveras Heritage Council 2022).

In the early years of the Gold Rush, placer mining was the method many used along the Calaveras River and, later, hydraulic mining was incorporated at the tail end of the 19th century. Gold dredging became the method of mining from 1903 until 1940, with the start of the US involvement with WWII (Calaveras Heritage Council 2022).

The Project Area lies closest to the Campo Seco Valley Springs Mining District. Mining within the district used several methods, including hydraulicking, ground sluicing, drift mining, and dragline dredging. The most productive mine in the district, the Penn Mine, produced over 60,000 ounces of gold, primarily as a byproduct of copper and zinc sulfide mining operations (Clark 1963).

By the 1950s, the town of Jenny Lind became an unincorporated community. In the 1960s, Pacific Cascade Land Company purchased 1,200 acres from the Lombardi Family and 4,000 acres from the Dennis Family and developed the area into a residential subdivision called Rancho Calaveras (Manna 2010b). The Project Area is located within the Rancho Calaveras residential subdivision.

Jenny Lind was a famous Swedish opera singer known as the Swedish nightingale in the 19th century (UMGÅS Magazine 2022). She made her first debut in the US by going on tour with P.T. Barnum in the 1850s. Her tour was primarily on the eastern US, and she never visited California. The origins of the town's namesake are based on two functioning theories: 1) occupants of the town renamed their town after Jenny Lind as an attempt for her to extend her tour westward; or 2) the name of the town could be in honor of an early pioneer, Dr. John Y. Lind (UMGÅS Magazine 2022). Dr. Lind was the founder of the Jenny Lind community (Calaveras History 2022). He was a local store owner in the community that made supply deliveries using pack mules. The story is rumored that the community got its name from a mule that loudly brayed as it trudged up a steep hill while on a delivery. A townsperson joked that the mule sounded like the noted singer Jenny Lind and the name remained (Lodi News 2009).

4.0 METHODS

4.1 Personnel Qualifications

Registered Professional Archaeologist (RPA) Brian S. Marks, Ph.D., who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historical archaeology, supervised this cultural resource investigation. Staff Archaeologist Christa Westphal, RPA and Associate Archaeologist Shannon Joy conducted the field work. Associate Archaeologists Shannon Joy and Erica Ramirez prepared the technical report. Lisa Westwood, RPA provided technical report review and quality assurance.

Dr. Marks, RPA is the Principal Investigator and has been an archaeologist since 1997. He has been working in cultural resources management in California since 2010 following eight years of archaeological work in the southeast US. Dr. Marks holds a Ph.D. and an M.S. in Anthropology. He has participated in or supervised more than 200 survey, testing, and data recovery excavations, and has recorded and mapped a multitude of pre-contact and historical sites, including Civil War battlefields, Gold Rush boom towns, submerged pre-contact sites, and others. He has conducted evaluations of cultural resources for eligibility to the NRHP and CRHR and is well-versed in impact assessment and development of mitigation measures for CEQA and Section 106 (NHPA) projects.

Shannon Joy is an Associate Archaeologist with more than 6 months of archaeological fieldwork experience and over 3 years of experience in cultural resources management in California. She holds a B.A. in Anthropology (Archaeology) and has assisted efforts in documentation of all aspects of archaeological fieldwork, including survey, test excavation, data recovery, and archaeological laboratory and curation experience.

Erica Ramirez is an Associate Archaeologist with 4 years of experience in California cultural resources management. She has experience in many aspects of archaeological fieldwork, laboratory, and reporting. These include archaeological survey, monitoring, artifact collection management, artifact analysis, CHRIS

record searches, preparation of DPR forms, and ground penetrating radar. She holds a B.A. in History and is currently completing her M.A. in Cultural Resources Management.

Christa Westphal, RPA is a Staff Archaeologist with more than 10 years of experience in California cultural resources management. She has experience in many aspects of archaeological fieldwork, laboratory, and reporting. These include archaeological survey, excavation, monitoring, artifact analysis, artifact collections management, graphics production, Geographic Information System analysis, CHRIS records searches, Native American Heritage Commission (NAHC) requests, preparation of Department of Parks and Recreation (DPR) forms and author and contributor of technical reports. She holds a B.A. and an M.A. in Anthropology.

Lisa Westwood, RPA has 27 years of experience and meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historical archaeology. She holds a B.A. in Anthropology and an M.A. in Anthropology (Archaeology). She is the Director of Cultural Resources for ECORP.

4.2 Records Search Methods

ECORP requested a records search for the Project Area at the Central California Information Center (CCIC) of the CHRIS at California State University-Stanislaus on November 16, 2022 (CCIC search #12367J; Appendix A). The purpose of the records search was to determine the extent of previous surveys within a 0.5-mile (800-meter) radius of the Proposed Project location, and whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within the area. CCIC staff completed and returned the records search to ECORP on November 18, 2022.

In addition to the official records and maps for archaeological sites and surveys in Calaveras County, the following historic references were also reviewed: Built Environment Resource Directory (OHP 2022); Historic Property Data File for Calaveras County (OHP 2012); the National Register Information System (National Park Service [NPS] 2022); Office of Historic Preservation, California Historical Landmarks (CHL; OHP 2022); CHL (OHP 1996 and updates); California Points of Historical Interest (OHP 1992 and updates); Directory of Properties in the Historical Resources Inventory (OHP 1999); Caltrans Local Bridge Survey (California Department of Transportation [Caltrans] 2019); Caltrans State Bridge Survey (Caltrans 2018); and *Historic Spots in California* (Kyle 2002).

Additionally, ECORP reviewed the following historical General Land Office (GLO) land patent records (Bureau of Land Management [BLM] 2022) and historical topographic maps:

- 1889 USGS Jackson, California topographic quadrangle map (1:125,000 scale);
- 1897 USGS Jackson, California topographic quadrangle map (1:125,000 scale);
- 1902 USGS Jackson, California topographic quadrangle map (1:125,000 scale);
- 1944 USGS Valley Springs, California topographic quadrangle map (1:62,500 scale);
- 1962 USGS Jenny Lind, California topographic quadrangle map (1:24,000 scale); and
- 1962 USGS Valley Springs, California topographic quadrangle map (1:24,000 scale).

ECORP reviewed historic aerial photos taken in 1937, 1941, 1944, 1959, 1962, 1984, 1998, and 2002 to present for any indications of property usage and built environment.

4.3 Sacred Lands File Coordination Methods

In addition to the records search, ECORP contacted the NAHC on November 16, 2022 to request a search of the Sacred Lands File for the Project Area (Appendix B). This search will determine whether the California Native American tribes within the Project Area have recorded Sacred Lands because the Sacred Lands File is populated by members of the Native American community with knowledge about the locations of tribal resources. In requesting a search of the Sacred Lands File, ECORP solicited information from the Native American community regarding TCRs, but the responsibility to formally consult with the Native American community lies exclusively with the federal and local agencies under applicable state and federal laws. The lead agencies have not delegated authority to ECORP to conduct tribal consultation.

4.4 Other Interested Party Consultation Methods

ECORP emailed a letter to the Calaveras County Historical Society on November 16, 2022 to solicit comments or obtain historical information regarding events, people, or resources of historical significance in the area (Appendix A).

4.5 Field Methods

ECORP subjected the Project Area to a survey on November 17, 2022 (Figure 2), under the general guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (NPS 1983). The Project Area is located on active arterial roadways that did not have sidewalks or shoulders that could be safely walked; therefore, ECORP archaeologists drove these portions of the Project Area and pulled over to conduct pedestrian inspections, where possible, and surveyed on foot when it was safe to do so.

ECORP spent one person-day in the field. ECORP archaeologists examined the ground surface for indications of surface or subsurface cultural resources. The general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, ECORP examined the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances for artifacts or for indications of buried deposits. The archaeologists did not perform subsurface investigations or artifact collections during the pedestrian survey.

Standard professional practice requires that any cultural resources encountered during the survey be recorded using DPR 523-series forms approved by the California OHP. The resources are usually photographed, mapped using a handheld Global Positioning System receiver, and sketched to document their presence using appropriate DPR forms.

Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Cultural_Resources\Jenny Lind Cultural Resources.aprx - Jenny Lind Survey Coverage 20230105 (jwelsh - 1/5/2023)

Map Date: 1/5/2023

Sources: Maxar (4/19/2021), ESRI, Calaveras County

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2. Survey Coverage

2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

5.0 RESULTS

5.1 Records Search

The records search consisted of a review of previous research and literature, including records on file with the CCIC for previously recorded resources, and historical aerial photographs and maps of the vicinity.

5.1.1 Previous Research

Twenty previous cultural resource investigations have been conducted in or within 0.5 mile of the Project Area, covering approximately 40 percent of the total area surrounding the study area within the records search radius (Table 1). Of the 20 studies, four studies were conducted within the Project Area; the remaining 16 studies were within the 0.5-mile radius. These studies revealed the presence of two pre-contact sites, a bedrock milling site and a possible Native American ceremonial site with a historic-era refuse scatter, located outside the Project Area but within the 0.5-mile radius. The previous studies were conducted between 1979 and 2020 and vary in size from 0.5 acre to 3,782 acres.

Table 1. Previous Cultural Studies in or within 0.5 mile of the Project Area

Report Number	Author(s)	Report Title	Year	Includes Portion of the Project Area?
CA-123	E.H.L Decater	Archaeological Survey Reports for Pacific Telephone Company, Underground Cable Project (UE 1383 T). Highway 26 Valley Spring (P.M. 10.23) to Jenny Lind Boundary (P.M. 4.46), Calaveras County, California	1981	No
CA-177	Peter M. Jensen	Archaeological Reconnaissance of the Sliver Rapids Road Power Transmission Line Project, Calaveras County, California	1984	Yes
CA-260	Kyle L. Napton	Archaeological Survey of the Proposed Quail Oaks Subdivision, Vicinity of Valley Springs, Calaveras County, California.	1979	No
CA-390	R.H Werner, P. Farrell, and C. Johnson	Cultural Resources Survey of the Proposed Thousand Hills Development, Near Valley Springs, Calaveras County, California	1990	Yes
CA-1963	M. Clark	Letter: Re: Thousand Hills Project Archaeological Status Report	1991	Yes
CA-2755	Roger Werner	Historic Property Survey Report-Negative Findings; Resurfacing and Widening of Portions of State Route 26 South of Valley Springs	1996	No
CA-2953	Kyle L. Napton	Archaeological and Historical Cultural Resources Investigations of the Proposed Alpine Natural Gas Operating Company, Calaveras County Natural Gas Distribution Project, A.96-08-15 (Phase I: La Contenta/Rancho Calaveras), vicinity of Valley Springs, Calaveras County, California.	1997	Yes
CA-3435	C. Hibbard	Negative Archaeological Survey Report; 10- CAL-26; P.M. 5.3 and 6.8; 10-170; 5C5000	1998	No

Table 1. Previous Cultural Studies in or within 0.5 mile of the Project Area				
Report Number	**Author(s)**	**Report Title**	**Year**	**Includes Portion of the Project Area?**
CA-3561	S.A. Overly	An Archaeological Survey Report for Proposed AC Overlay and Shoulder Backing of State Route 26, Calaveras County, California.	1999	No
CA-4865	Lillard Thorpe and J. Costello	Cultural Resource Survey on a 9.01-Acre Parcel of Land Owned by Joe Roy, Valley Springs, Calaveras County, CA APN# 70-001- 012.	2003	No
CA-6298	Pacific Municipal Consultants	Archaeological and Historical Investigations for the CA-531 Route A, Valley Springs Meet Point P135C to Jenny Lind Meet Point	2006	No
CA-6442	Lisa Westwood	Cultural Resources Survey Report, The Courtyard at La Contenta, Calaveras County, California, Project 2006-238	2006	No
CA-7152	D.M. Meyer	Jenny Lind Water Treatment Plant Project HMGP 1628-12-13 Finding of No Historic Properties	2009	No
CA-8431	N.E Sikes, D. Stapleton, and C.J. Arrington	Cultural Resources Inventory for the 6901 Conner Drive Project Calaveras County, California	2016	No
CA-8528	Trish Fernandez	Cultural Resources Survey Report for Cannabis Cultivation Waste Discharge Regulatory Program Central Valley Regional Water Quality Control Board Cultivator: Cherie Schaeffer Parcel 070-009-009	2016	No
CA-8737	A. Green	Submission Packet, FCC Form 620, for Proposed New Tower Project, 6360 Schmidt Place, Valley Springs, Calaveras County, California; SF90XCQYCB/9CAX002413B, EBI Project Number: 6117000816	2017	No
CA-8988	A. Parker and A. Whitaker	Archaeological Survey Report for Director's Orders Hazard Tree Removal in District 10, Amador, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus and Tuolumne Counties, California	2019	No
CA-9028	Natural Investigations Company	Cultural Resources Inventory and Effects Assessment for the Calaveras Unified School District Jenny Lind Elementary School Project, Calaveras County, California	2019	No
CA-9258	S.A. Waechter	Historic Property Survey Report for Director's Orders Hazard Tree Removal Project District 10, Amador, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus and Tuolumne Counties, California, State Routes 4, 5, 12, 26, 49, 88, 108, 120 and 140; E-FIS 10-1600- 0133, EA 10-1F6403, Contract 06A2312, Task Order 11	2019	No
CA-9285	Gary Whitson	An Archaeological Survey Report for the New Hogan VMP Calaveras, County	2020	No

The results of the records search indicate that most of the Project Area has been previously surveyed for cultural resources; however, these studies were conducted in smaller and larger segments, at different times, by different consultants, as many as 43 years ago, and under obsolete standards; therefore, ECORP conducted a pedestrian survey of the Project Area under current protocols.

The records search also determined that two previously recorded pre-contact cultural resources, one also recorded with a historic-era refuse scatter, are located within 0.5 mile of the Project Area (Table 2). The pre-contact cultural resources are believed to be associated with Native American occupation of the vicinity.

Table 2. Previously Recorded Cultural Resources within 0.5 mile of the Project Area

Site Number	Primary Number	Recorder and Year	Age/ Period	Site Description
–	P-05-336	L. Kyle Napton and 1997	Pre-contact	Bedrock milling site
CA-CAL-959H	P-05-1275	P. Ryan Farrell and C. Johnson and 1990	Pre-contact/ Historic	Ceremonial Site and historic-era refuse scatter

5.1.2 Records

The OHP's Built Environment Resource Directory for Calaveras County (dated March 3, 2020; OHP 2020) did not include any resources within 0.5 mile of the Project Area (OHP 2022). The nearest resource is the Jenny Lind Building located at 11780 Main Street, approximately 3.6 miles southwest of Tank B in Valley Springs, California.

The National Register Information System (NPS 2022) failed to reveal any eligible or listed properties within the Project Area. The nearest National Register properties are located approximately 12 miles northeast of the Project Area in San Andreas, California.

ECORP reviewed resources listed as *California Historical Landmarks* (OHP 1996) by the OHP (2022) on December 7, 2022. The nearest listed landmark is #266: Jenny Lind Building. The plaque is located 3.6 miles southwest of the Project Area.

A review of *Historic Spots in California* (Kyle 2002) mentions that the community of Jenny Lind is located on the northern bank of the Calaveras River and became a center for mining operations in the Lower Calaveras. Kyle also mentions that a town called Milton, 6 miles south of Jenny Lind, was the first town in Calaveras County to connect to the Southern Pacific Railroad.

The Caltrans Bridge Local and State Inventories (Caltrans 2018, 2019) did not list any historic bridges in or within 0.5 mile of the Project Area.

The *Handbook of North American Indians* (Levy 1978) lists the nearest Native American village as *Apautawilü.* This village is located on the northern bank of the Calaveras River near Valley Springs, California.

Historic GLO land patent records from the BLM's patent information database (BLM 2022) revealed portions of the land that are within the Project Area had been granted to several individuals in the 1870s, 1880s, and 1890s (Table 3). The Project Area centrally bifurcates Sections 2 and 11 of Township 3 North and Sections 26 and 35 of Township 4 North, in a generally north-to-south orientation; therefore, various segments of the Project Area are located on the periphery of these land patents.

Table 3. GLO Land Patent Records

Patentee	Patent Date	Serial Number	Patent Type/Authority	Location
Theodore F.B. Brown	September 10, 1875	CACAAA 053355	Sale-Cash Entry (3 Statute 566)	160 acres of the southern half of the southwestern quarter of Section 2; and the northern half of the northwestern quarter of Section 11
James Gorman & Samuel Sherman	September 13, 1876	CACAAA 053396	Scrip or Nature of Scrip (5 Statute 607)	120 acres of the southern half of the northwestern quarter; and the northeastern quarter of the southwestern quarter of Section 2
James Gorman	December 13, 1876	CACAAA 053400	Sale-Cash Entry (3 Statute 566)	40 acres of the northwestern quarter of the southwestern quarter of Section 2
Charles V. Marsh	August 14, 1893	CACAAA 053682	Homestead Entry Original (12 Statute 392)	79.41 acres of the southeastern quarter of the northeastern quarter of Section 2
Tracy Stroud & Elijah Swinford	June 30, 1880	CACAAA 053420	Mineral Patent-Placer (15 Statute 251)	155.95 acres of the southwestern quarter of the northeastern quarter and Lots/Tracts 2, 3, and 4 of Section 2
Elijah Swinford	September 4, 1879	CACAAA 053415	Sale-Sec 203 and 209 Flpma (90 Statute 2743)	160 acres of the southeastern quarter
Clarence A. Bewley	December 20, 1889	CACAAA 053668	Sale-Cash Entry (3 Statute 566)	160 acres of the southwestern quarter of the southeastern quarter of Section 11
Grant Celaya	November 28, 1896	CACAAA 053936	Homestead Entry Original (12 Statute 392)	160 acres of the southeastern quarter of Section 35
Allen Willits	February 10, 1881	CACAAA 053746	Homestead Entry Original (12 Statute 392)	160 acres of the northeastern quarter of Section 35
Cyrus A. Willits	September 9, 1881	CACAAA 053756	Sale-Cash Entry (3 Statute 566)	160 acres of the southwestern quarter of Section 35

A review of the Calaveras County local inventory provided by the CCIC did not reveal any resources in the vicinity.

5.1.3 Map Review and Aerial Photographs

The review of historical aerial photographs and maps of the Project Area provides information on the past land uses of the Project Area and potential for buried archaeological sites. This information shows the

Project Area has been primarily undeveloped and used for agricultural and farming purposes. Following is a summary of the review of historical maps and photographs.

- The 1889 USGS Jackson, California (1:125,000) map depicts the Project Area as undeveloped land consisting of rolling foothills. The communities of Valley Springs and Jenny Lind are depicted to the north and south of the Project Area, respectively. To the west is a road that corresponds to today's State Highway 26. The San Joaquin and Sierra Nevada Railroad is to the north and Cosgrove Creek and Calaveras River are depicted to the east of the Project Area. There are several unnamed waterways surrounding the Project Area.
- The 1897 USGS Jackson, California (1:125,000) map does not depict any changes from the 1889 map.
- The 1902 USGS Jackson, California (1:125,000) map does not depict any changes from the 1889 or 1897 maps.
- The 1944 USGS Valley Springs, California (1:24,000) map depicts State Highway 26 as a two-lane improved road. Segments of arterial roads within the vicinity of the Project Area are depicted as unimproved roads. It is unclear whether any of the depicted roads are within the Project Area.
- The 1962 USGS Valley Springs, California (1:24,000) map depicts the Project Area as mostly undeveloped. Segments of Hartvickson Lane and Baldwin Street are depicted as dirt roads in what appear to be in similar alignments as they are routed today.
- 1962 USGS Jenny Lind, California (1:24,000) map depicts a "jeep trail" near the southern terminus of the Project Area. An unnamed waterway is also illustrated immediately west of the Project Area.
- An aerial photograph from 1962 shows a majority of the Project Area as undeveloped rolling terrain. Calaveras River and Cosgrove Creek are both located to the east of the Project Area. A short segment of a dirt road that corresponds to today's Hartvickson Lane is visible near the northern terminus of the Project Area.
- An aerial photograph from 1962 near the southern terminus of the Project Area shows it as undeveloped rolling terrain. Dirt roads that correspond to today's Usher Drive and Wind River Road are visible in similar alignments as they are today.

In sum, the property has been undeveloped since at least the 1890s, with the exception of a few short arterial dirt roads that appear on maps from the 1940s. There is a gap in the photographic and historical map record from 1962 to 1984 when residential development appears; therefore, it is presumed that the residential development and the roadways that comprise the Project Area, were constructed between 1962 and 1984.

5.2 Sacred Lands File Results

A search of the Sacred Lands File by the NAHC failed to indicate the presence of Native American cultural resources or sacred lands in the Project Area. A record of all correspondence is provided in Appendix B.

5.3 Other Interested Party Consultation Results

ECORP has not received a response to the letter emailed to the Calaveras County Historical Society as of the date of the preparation of this document.

5.4 Field Survey Results

ECORP conducted a survey of the Project Area on November 17, 2022. Most of the Project Area consists of both graded and paved areas along semi-rural residential streets that abut residential yards, which contain impervious surfaces such as paved driveways and retaining walls, or surfaces such as grasses, gravel, and decorative landscaped vegetation that impeded ground surface visibility (Figures 3 and 4). Though the project description indicates all pipeline will be within paved roadway, ECORP archaeologists inspected all areas of original ground and any exposed soil, cut banks, and drainages along the alignment of the Project Area (Figure 5). As a result of the survey, ECORP did not identify any cultural material or surface manifestations indicating subsurface cultural deposits.

Figure 3. Overview of Hartvickson Lane (view east, November 17, 2022).

Figure 4. Overview of Hartvickson Lane (view northwest, November 17, 2022).

Figure 5. Overview of Wind River Road from Tank B (view southwest, November 17, 2022).

6.0 MANAGEMENT CONSIDERATIONS

6.1 Conclusions

Based on the results of the records search presented in Section 5.1.1, and the results of the field survey as stated in Section 5.4, there are no known cultural resources in the Project Area. Therefore, no Historic Properties under Section 106 of the NHPA or Historical Resources under CEQA will be affected by the Proposed Project. Until the lead agencies concur with the findings, no project activity should occur.

6.2 Likelihood for Subsurface Cultural Resources

The potential for buried pre-contact archaeological sites varies throughout the Project Area from low to moderate. There exists a low potential for buried archaeological sites due to the presence and shallow depth of bedrock beneath the soil, which restricts the depth of cultural deposits. Additionally, there are no previously recorded cultural resources in the Project Area as a result of previously conducted investigations prior to the construction of the residences and roadways. As a result of those studies, there are two previously recorded pre-contact sites within the 0.5-mile radius on the eastern side of the Project Area. One site is located on the western bank of Cosgrove Creek, near the northern terminus of the Project Area, and the other site is on the eastern bank of the Calaveras River, near the southern terminus of the Project Area. Therefore, the potential for buried pre-contact archaeological sites increases to moderate as the Project Area nears the proximity of the two previously recorded sites, as well as the Calaveras River and Cosgrove Creek. ECORP did not conduct subsurface testing due to low likelihood of buried archaeological sites, and the impervious surfaces within the Project Area.

6.3 Post-Review Discoveries

There always remains the potential for ground-disturbing activities to expose previously unrecorded cultural resources. Both CEQA and Section 106 of the NHPA require the lead agency to address any unanticipated cultural resource discoveries during Project construction. Therefore, ECORP recommends the lead agency adopt and implement the following mitigation measures to reduce potential adverse impacts to Less than Significant:

- If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius, as appropriate and using professional judgment. The following notifications shall apply, depending on the nature of the find:
    - If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
    - If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead

agencies. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.

- If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Calaveras County Coroner (per Section 7050.5 of the Health and Safety Code). The provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (Section 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

The Lead Agency is responsible for ensuring compliance with these mitigation measures. Section 15097 of Title 14, Chapter 3, Article 7 of CEQA, *Mitigation Monitoring or Reporting*, "The public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program."

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LIST OF APPENDICES

APPENDIX A

Records Search Confirmation and Historical Society Coordination

CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System
Department of Anthropology – California State University, Stanislaus
One University Circle, Turlock, California 95382
(209) 667-3307

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: 11/18/2022

Records Search File No.: 12367J
Access Agreement: #34
Project: Jenny Lind Water Transmission Pipeline

Brian Marks
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677
916-782-9100 bmarks@ecorpconsulting.com

Dear Dr. Marks:

The Central California Information Center received your record search request for the project area referenced above, located on the Jenny Lind and Valley Springs 7.5' quadrangles in Calaveras County. The following reflects the results of the records search for the project study area and radius:

As per data currently available at the CCaIC, the locations of resources/reports are provided in the following format: ☒ custom GIS maps ☒ GIS Data/shape files

Summary Data:

Resources within the project area:	None formally reported to the Information Center.
Resources within the 1/2-mile radius:	2: P-05-000336, 1587
Reports within the project area:	4: CA-00177, 390, 1963, 2953
Reports within the 1/2-mile radius:	16: CA-00123, 260, 2755, 3435, 3561, 4865, 6298, 6442, 7152, 8431, 8528, 8737, 8988, 9028, 9258, 9285

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☒ enclosed	☐ not requested	☐ nothing listed

OHP Historic Properties Directory: New Excel File: Built Environment Resource Directory (BERD) Dated 9/23/2022

Not all resources listed in the BERD are mapped in GIS, nor do we have records on file for; if you identify additional resources in the BERD that you need copies of, contact the IC.

	☐ enclosed	☒ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☐ not requested	☒ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☐ not requested	☒ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Shipwreck Inventory:	☒ not available at CCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp		
Soil Survey Maps:	☒ not available at CCIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx		

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Note: Billing will be transmitted separately via email by our Financial Services office* ($433.00), payable within 60 days of receipt of the invoice.

If you wish to include payment by Credit Card, you must wait to receive the official invoice from Financial Services so that you can reference the CMP # (Invoice Number), and then contact the link below:

https://commerce.cashnet.com/ANTHROPOLOGY

Sincerely,

E. A. Greathouse

E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System

* Invoice Request sent to: ARBilling@csustan.edu, CSU Stanislaus Financial Services

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

November 16, 2022

Calaveras County Historical Society
30 N. Main Street
San Andreas, CA 95249
Sent via email: cchs@goldrush.com

RE: Cultural Resources Identification Effort for the Jenny Lind Water Transmission Pipeline Project, Calaveras County, California

Dear Calaveras County Historical Society:

ECORP Consulting, Inc. has been retained to assist in the planning on the project indicated above. The proposed project area consists of approximately 4 miles, or 35.26 linear acres of water pipeline installation. The purpose of the project is to connect waterlines from Tank A located at 2296 Heinemann Drive to Tank B located at 6444 Schmidt Place, in Valley Springs, California. The proposed water line alignment is depicted on the enclosed map. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

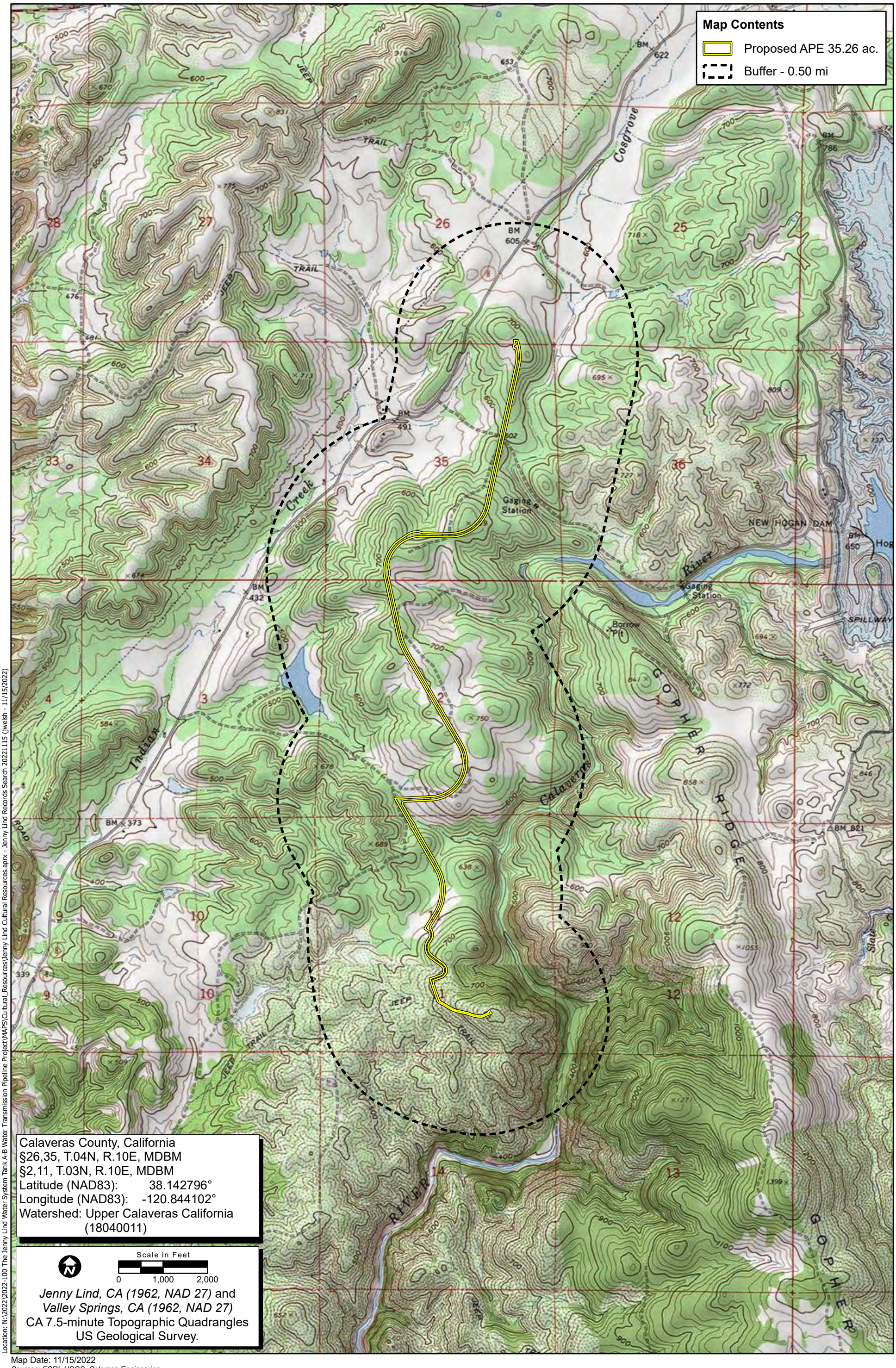
We would appreciate input on this undertaking from the historical society with concerns about possible cultural properties or potential impacts within or adjacent to the area of potential effect. If possible, please email your response to my attention at sjoy@ecorpconsulting.com. If you have any questions, please contact me at (916) 782-9100.

Thank you in advance for your assistance in our cultural resource management study.

Sincerely,

Shannon Joy
Associate Archaeologist

Attachment(s)
Project Location and Vicinity Map



Calaveras County, California
§26,35, T.04N, R.10E, MDBM
§2,11, T.03N, R.10E, MDBM
Latitude (NAD83): 38.142796°
Longitude (NAD83): -120.844102°
Watershed: Upper Calaveras California (18040011)

Scale in Feet
0 1,000 2,000

Jenny Lind, CA (1962, NAD 27) and *Valley Springs, CA (1962, NAD 27)*
CA 7.5-minute Topographic Quadrangles
US Geological Survey.

Map Date: 11/15/2022
Sources: ESRI, USGS, Coleman Engineering

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Cultural_Resources\Jenny Lind Cultural Resources.aprx - Jenny Lind Records Search 20221115 (jwelsh - 11/15/2022)

Records Search

2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project

APPENDIX B

Sacred Lands File Coordination

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

11/16/2022

Project: Jenny Lind Water Transmission Pipeline Project

County: Calaveras

USGS Quadrangle: Jenny Lind & Valley Springs, California

Township: Range: Section(s): see enclosed map

Company/Firm/Agency: ECORP Consulting, Inc.

Contact Person: Shannon Joy

Street Address: 2525 Warren Drive

City: Rocklin Zip: 95677

Phone: (916) 782-9100

Fax: (916) 782-9134

Email: sjoy@ecorpconsulting.com

Project Description:

See attached letter and map.

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

November 16, 2022

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
nahc@nahc.ca.gov

RE: Cultural Resources Identification Effort for the Jenny Lind Water Transmission Pipeline Project, Calaveras County, California

Dear NAHC Staff:

ECORP Consulting, Inc. has been retained to assist in the planning of the development on the project indicated above. The proposed project area consists of approximately 4 miles, or 35.26 linear acres of water pipeline installation within the limits of the roadway only. The purpose of the project is to connect waterlines from Tank A located at 2296 Heinemann Drive to Tank B located at 6444 Schmidt Place, in Valley Springs, Calaveras County, California. The proposed water line alignment is depicted on the enclosed map. As part of the identification effort, we are seeking information from all parties that may have knowledge of or concerns with historic properties or cultural resources in the area of potential effect.

Included is a map showing the project area outlined. We would appreciate the results of your search of the Sacred Lands File and list of tribal contacts who can be contacted to provide input on this undertaking.

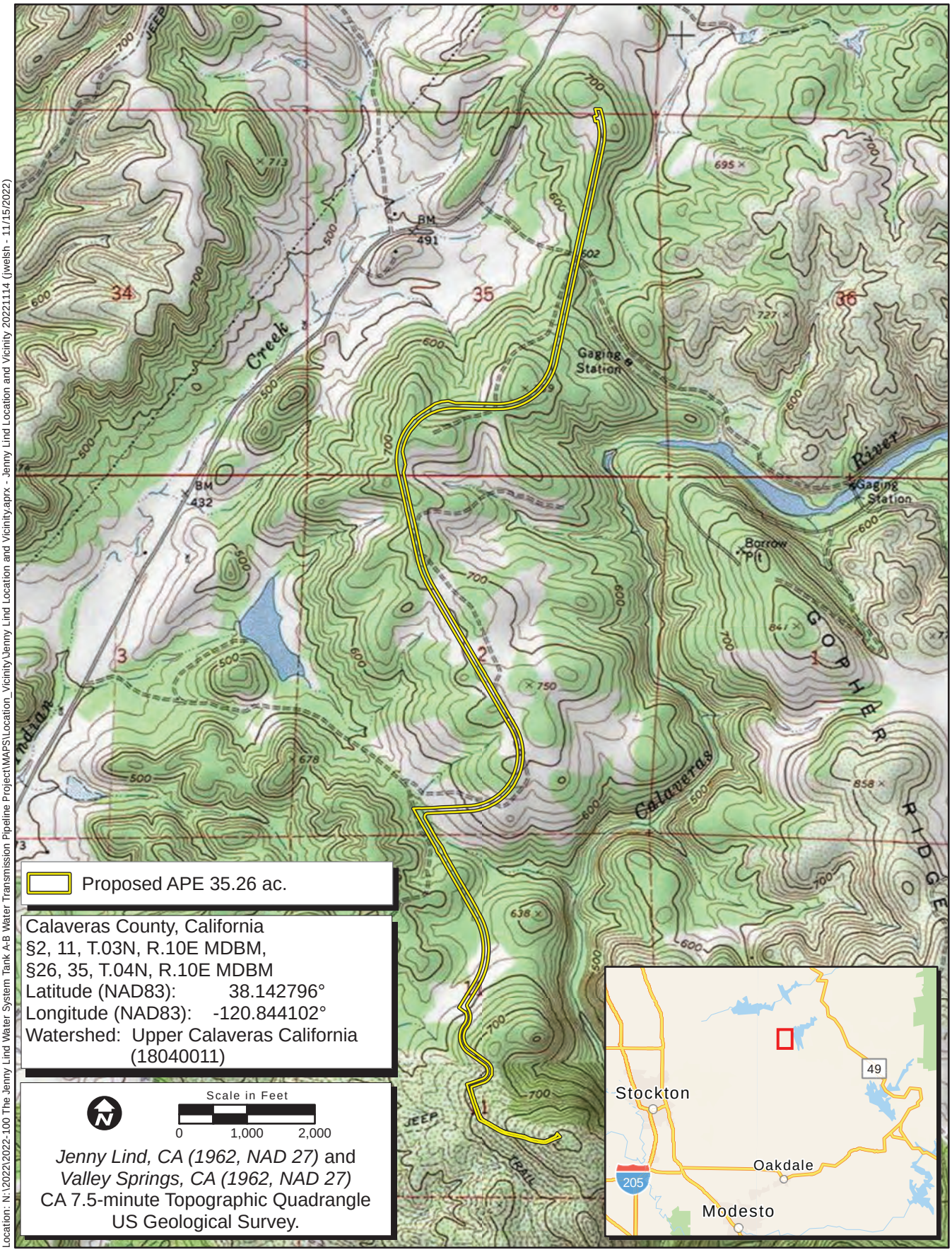
Please email your response to my attention at sjoy@ecorpconsulting.com. If you have any questions, please contact me at (916) 782-9100.

Thank you in advance for your assistance.

Sincerely,

Shannon Joy
Associate Archaeologist

Attachment(s)
Project Location and Vicinity Map



Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Location_Vicinity\Jenny Lind Location and Vicinity.aprx - Jenny Lind Location and Vicinity 20221114 (jwelsh - 11/15/2022)

Map Date: 11/14/2022
Sources: ESRI, USGS

Figure 1. Project Location and Vicinity

Shannon Joy

From: Campagne, Cody@NAHC <Cody.Campagne@nahc.ca.gov>
Sent: Tuesday, December 13, 2022 10:07 AM
To: Shannon Joy
Subject: Jenny Lind Water Transmission Pipeline Project
Attachments: SLF No Jenny Lind Water Transmission Pipeline Project 12.13.2022.pdf; Jenny Lind Water Transmission Pipeline Project 12.13.2022.pdf

Good Morning,

Attached is the response to the project referenced above. If you have any additional questions, please feel free to contact our office email at nahc@nahc.ca.gov.

Regards,

Cody Campagne
Native American Heritage Commission
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Cody.Campagne@nahc.ca.gov
Direct Line: (916) 573-1033
Office: (916) 373-3710

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

December 13, 2022

Shannon Joy
ECORP Consulting, Inc.

Via Email to: sjoy@ecorpconsulting.com

Re: Jenny Lind Water Transmission Pipeline Project, Calaveras County

Dear Ms. Joy:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Calaveras County
12/13/2022

Calaveras Band of Mi-Wuk Indians
Gloria Grimes, Chairperson
P.O. Box 899 — Mi-wuk
West Point, CA, 95255
Phone: (209) 419 - 5675
calaverasband.miwukindians@gmail.com

Calaveras Band of Mi-Wuk Indians - Grimes
Debra Grimes, Cultural Resources Specialist
P.O. Box 1015 — Mi-wuk
West Point, CA, 95255
Phone: (209) 470 - 8688
calaverasmiwukpreservation@gmail.com

Calaveras Band of Mi-Wuk Indians
546 Bald Mountain Road — Mi-Wuk
West Point, CA, 95255
Phone: (209) 293 - 2189

California Valley Miwok Tribe
AKA Sheep Rancheria of Me-Wuk Indians of CA,
P.O. Box 395 — Miwok
West Point, CA, 95255
Phone: (209) 293 - 4179
l.ewilson@yahoo.com

California Valley Miwok Tribe
14807 Avenida Central — Miwok
La Grange, CA, 95329
Phone: (209) 931 - 4567
Fax: (209) 931-4333

Chicken Ranch Rancheria of Me-Wuk Indians
Lloyd Mathiesen, Chairperson
P.O. Box 1159 — Me-Wuk
Jamestown, CA, 95327
Phone: (209) 984 - 9066
Fax: (209) 984-9269
lmathiesen@crtribal.com

Ione Band of Miwok Indians
Sara Dutschke, Chairperson
9252 Bush Street — Miwok
Plymouth, CA, 95669
Phone: (209) 245 - 5800
consultation@ionemiwok.net

Nashville Enterprise Miwok-Maidu-Nishinam Tribe
Cosme Valdez, Chairperson
P.O. Box 580986 — Miwok
Elk Grove, CA, 95758-0017
Phone: (916) 429 - 8047
Fax: (916) 429-8047
valdezcome@comcast.net

North Valley Yokuts Tribe
Katherine Perez, Chairperson
P.O. Box 717 — Costanoan
Linden, CA, 95236 — Northern Valley
Phone: (209) 887 - 3415 — Yokut
canutes@verizon.net

North Valley Yokuts Tribe
Timothy Perez,
P.O. Box 717 — Costanoan
Linden, CA, 95236 — Northern Valley
Phone: (209) 662 - 2788 — Yokut
huskanam@gmail.com

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589 — Yokut
Porterville, CA, 93258
Phone: (559) 781 - 4271
Fax: (559) 781-4610
neil.peyron@tulerivertribe-nsn.gov

Tule River Indian Tribe
Kerri Vera, Environmental Department
P. O. Box 589 — Yokut
Porterville, CA, 93258
Phone: (559) 783 - 8892
Fax: (559) 783-8932
kerri.vera@tulerivertribe-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Jenny Lind Water Transmission Pipeline Project, Calaveras County.

Tule River Indian Tribe
Joey Garfield, Tribal Archaeologist
P. O. Box 589 Yokut
Porterville, CA, 93258
Phone: (559) 783 - 8892
Fax: (559) 783-8932
joey.garfield@tulerivertribe-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Jenny Lind Water Transmission Pipeline Project, Calaveras County.

APPENDIX C

Project Area Photographs

State of California — The Resources Agency **Primary #**
DEPARTMENT OF PARKS AND RECREATION **HRI#**

PHOTOGRAPH RECORD

Trinomial

Page 1 of **Resource/Project Name: Jenny Lind Water Transmission Pipeline Project** **Year** 2022
Camera: Lens Size: 35mm
Film Type and Speed: Digital Negatives Kept at: ECORP Consulting, Inc.

Mo.	Day	Time	Subject/Description	View Toward	Accession #
11	17		Overview of water line at Tank A (in background)	NW	_100937
11	17		Overview of Tank A	NW	_100954
11	17		Overview of second water line at Tank A	W	_101036
11	17		Tank A from Hartvickson Ln/Heinemann Dr.	N	_101246
11	17		Gates to Tank B at Wind River Road	E	_102752
11	17		Pumphouse, tank & foundation pad (out of APE but depicted on engineering site plans)	N	_102820
11	17		Tank and pad (out of APE but depicted on engineering site plans)	N	_102830
11	17		Tank, pad and pumphouse (out of APE but depicted on engineering site plans)	SE	_102853
11	17		Overview of Wind River Road from gates	W	_102939
11	17		Overview of Tank B	E	_103616
11	17		Overview of Tank B	E	_103852
11	17		Wind River Road overview from Tank B	SW	_104015
11	17		Overview of Wind River Road	W	_104212
11	17		Overview of intersection of Usher Drive and Wind River Road	NE	_104643
11	17		Modern culvert parallels Usher Drive, bisects Wind River Road, located at intersection of both (western end of culvert)	NE	_104713
11	17		Overview of Usher Drive from Wind River Road	NE	_104724
11	17		Eastern end of culvert at intersection of Usher Dr. and Wind River Rd.	SW	_104753
11	17		Overview of intersection of Hartvickson Ln. and Baldwin Street	E	_105356
11	17		Overview of Hartvickson Lane from Bart Link Drive	E	_105918
11	17		Overview of Hartvickson Lane from Bart Link Drive	E	_105929
11	17		Overview of Hartvickson Lane south of Rippon Road	NW	_110200
11	17		Overview of Hartvickson Lane	N	_110519


20221117_100937.jpg


20221117_100954.jpg


20221117_101036.jpg


20221117_101246.jpg


20221117_102752.jpg


20221117_102820.jpg


20221117_102830.jpg


20221117_102853.jpg


20221117_102939.jpg


20221117_103616.jpg


20221117_103852.jpg


20221117_104015.jpg


20221117_104212.jpg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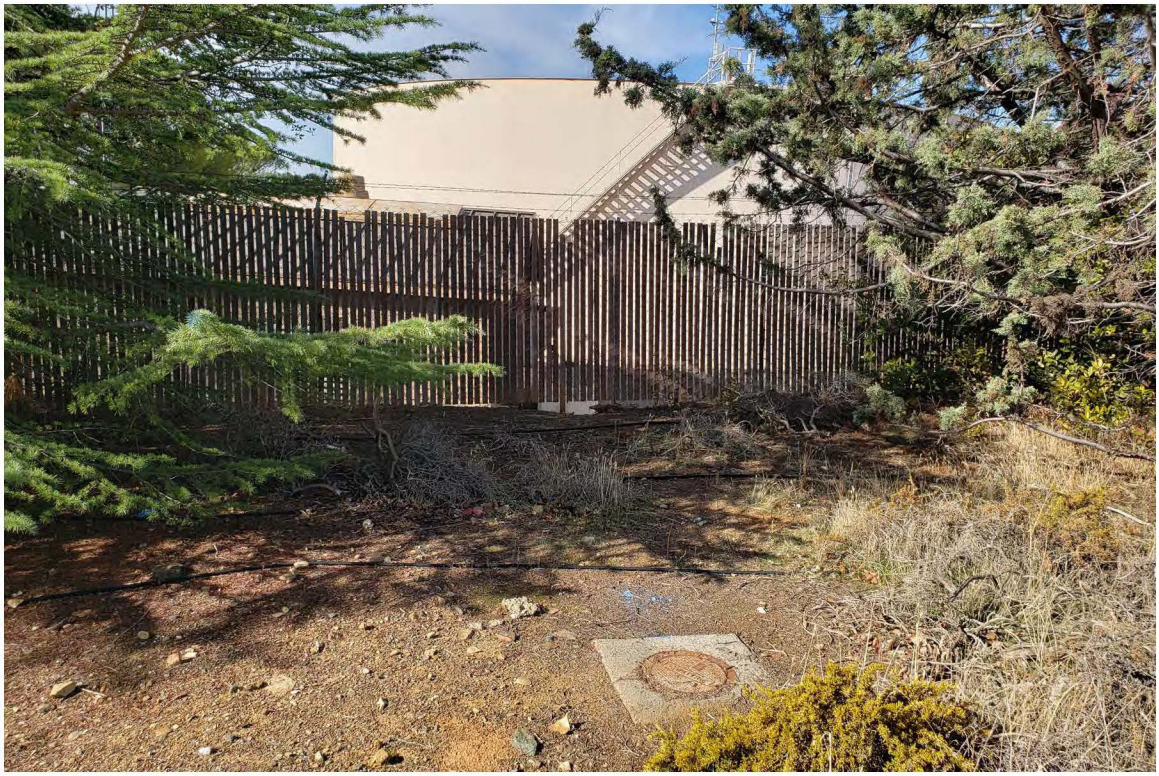
20221117_110519.jpg




HARTVICKSON LN


CAUTION
RAZOR RIBBON
MAY CAUSE SEVERE
BODILY HARM


Wind River


Wind River N


Wind River N

APPENDIX D

Energy Consumption Analysis Memorandum

December 2022

Bill Ostroff, P.E., Senior Civil Engineer
Weber-Ghio and Associates, Inc.
394 E. St. Charles Street
PO Box 251
San Andreas, CA 95249

Subject: Jenny Lind Water System Tank A to B Water Transmission Pipeline Project – Energy Consumption Assessment Memorandum

PURPOSE

This memorandum documents the results of an Air Quality and Greenhouse Gas (GHG) Emissions Impact Assessment completed for the Jenny Lind Water System Tank A to B Water Transmission Pipeline Project (Project). This memorandum was prepared to analyze the potential direct and indirect environmental impacts associated with Project energy consumption, including the depletion of nonrenewable resources (oil, natural gas, coal, etc.). The impact analysis focuses on the one source of energy that is relevant to the Proposed Project: the equipment-fuel necessary for Project construction.

PROJECT BACKGROUND

The Calaveras County Water District (District) was formed in 1949 and has operated continuously since. It includes all of Calaveras County in the Central Sierra Nevada foothills in the northeastern portion of the State. The District provides water service to about 13,000 customers (residential and commercial) in six service areas throughout the County.

The subject Project is part of the Jenny Lind Water System which serves approximately 3,900 customers in the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County adjacent to State Highway 26. The system includes seven water storage tanks: two of which - Tanks A and B – are associated with the Proposed Project. Both tanks were built in 1991 and are connected by a 1970s era 8-inch diameter asbestos cement pipe (ACP) transmission/distribution main routed along Hart Vickson Lane and Baldwin Street. A 1.7 million gallon per day (mgd) pump station at the Tank A site supplies Tank B.

In the summer of 2006, the pump station at Tank A, which is located at the northwest corner of the Hart Vickson Lane / Heinemann Drive intersection 0.3 mile southwest of the La Contenta Golf Course, was unable to meet maximum daily demands (MDD) and consequently Tank B emptied and could not be re-filled for a significant period. (Tank B is located at the terminus of Wind River Road in the community of Rancho Calaveras.) This caused a prolonged service interruption for more than 900 homes within the Rancho Calaveras subdivision.

55 Hanover Lane • Chico, CA 95973 • Tel: (916) 782-9100 • Fax: (916) 782-9134 • Web:www.ecorpconsulting.com

PROJECT DESCRIPTION

To remove the hydraulic bottleneck, the District proposes to construct a new transmission pipeline from the pump station at Tank A to Tank B (approximately 20,000 feet in length). This new transmission pipeline would be sized to reduce headloss and designed to have limited and controlled interconnection with the existing distribution system along its length to assist in stabilizing the hydraulic behavior of the water system. The new transmission pipeline's primary function is to ensure Tank B provides the necessary storage for the distribution system at all times.

The proposed transmission pipeline would follow Hart Vickson Lane from the booster pump at Tank A to its intersection with Baldwin Street, then follow Baldwin Street, Usher Drive and Wind River Road to the existing Tank B site. The new transmission pipeline would be in a separate open-cut trench parallel to the existing distribution system lines. The trench and new transmission pipeline would be located within the existing road right of way and established utility easements. All construction work would be conducted within the travel lanes or within the adjacent right-of-way (where feasible). Partial lane closure would take place during construction activities.

The new transmission pipeline would be isolated from the existing water distribution mains and only connected at four locations along its alignment with tie-in connections being made via pressure-reducing valve (PRV) stations. The transmission main would allow flow in both directions including forward pumping from Tank A to fill Tank B and, when the pump station is idle, gravity flow in the reverse direction allowing Tank B to supply water system demands when peak flow exceeds the pumping capacity.

While the new transmission pipeline is under construction, the existing distribution system would continue to operate in its current configuration and would continue to transfer water from the Tank A pump station to fill Tank B. The existing distribution system would also continue to supply customer water demands along the existing route. However, upon completion of the new transmission pipeline, the existing distribution system would no longer be necessary for Tank A to B transmission and is proposed to be isolated and divided into smaller service zones. Each service zone would be supplied via dedicated PRV stations. Each pressure zone would be served by at least two PRV stations or each zone would be served by looping from multiple directions. A dead-end run (e.g., residential cul-de-sac), would be served by a single dedicated PRV station.

To facilitate construction of the new transmission pipeline, the existing pavement within one traffic lane would be saw-cut along the trench line. Pavement would be replaced upon completion of the underground utility construction in accordance with the County Public Works Requirements. Substantial traffic control signage and flaggers would be deployed for the duration of the Project. Additionally, while existing pavement is being saw-cut, removed and replaced with new pavement for the transmission main, the District would replace old water service laterals (service saddles, corp. stops, service line, and meter valve) from the distribution main to the service box, adding guard valves to or replacing fire hydrants, and making other repairs to the existing water distribution system.

The existing Tank B inlet and outlet pipes are small and will be upsized, replaced and reconfigured. The new transmission main would discharge directly into Tank B, removing the inlet hydraulic constraint. The existing outlet would be retained with valve additions and modifications to allow for flow into the distribution system when the Tank A booster pump station is both operating and not operating (reverse gravity flow).

Temporary staging of construction equipment would occur where the Right-of-Way limits allow. If necessary, lager staging areas may be used. Construction of the Proposed Project is anticipated to start in late spring of 2023 and take approximately 12 to 18 months for final completion ending December 2024. A reduction in site construction activity is normal due to rain events from December 2023 to April 2024. Also, current supply chain issues have increased lead times for some materials (pipe and fittings) and may delay the start date for groundbreaking. See Table 1 below for an anticipated detailed breakdown of construction activities and approximate timeframe to completion.

Table 1 Construction Operations	
Description of Activity	**Duration (approximate)**
Excavation Operations	
Rubber tired backhoe loader(s) (sized up to Cat 450) Trench excavator(s) (likely no larger than Cat 335) Wheel loader(s) (likely no larger than Cat 966), dozer(s) (likely no larger than Cat D8 – for clearing right-of-way and spreading material) Trenching machines (not expected) Rock removal by hydraulic hammer on excavator (not expected to be required or very limited based on geotechnical investigation) Compaction via in-trench hand compaction (wacker, vibraplate) or equipment mounted (sheep's foot roller) Sweeper Air Compressor(s)	Approximately 12 months
Hauling Operations	
Rubber tired dump truck(s) l transfer truck and trailers Semi bottom and end dumps possible but not likely considering narrow and winding access	Approximately 12 months
Final Paving Operations	
Roller compactor(s) Pavers asphalt grinders asphalt cutters concrete saw Sweeper	Approximately 3 months
Striping/Finishing	
Sprayers, air compressor, portable generator	Approximately 3 months
Total Duration:	**12 to 18 months**

*Note: Some of these activities will be done concurrently

ENERGY CONSUMPTION ANALYSIS

Environmental Setting

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear (California Energy Commission [CEC] 2021a). PG&E provides electricity and natural gas to Calaveras County. It generates or buys electricity from hydroelectric, nuclear, renewable, natural gas, and coal facilities. PG&E provides natural gas and electricity to most of the northern two-thirds of California, from Bakersfield and Barstow to near the Oregon, Nevada and Arizona State Line. It provides 5.2 million people with electricity and natural gas across 70,000 square miles. In 2017, PG&E announced that 80 percent of the company's delivered electricity comes from greenhouse gas emission-free sources, including renewables, nuclear, and hydropower.

The California Public Utilities Commission (CPUC) regulates PG&E. The CPUC has developed energy efficiency programs such as smart meters, low-income programs, distribution generation programs, self-generation incentive programs, and a California solar initiative. Additionally, the California Energy Commission (CEC) maintains a power plant database that describes all of the operating power plants in the state by county. Calaveras County, which encompasses the Project Site, contains 4 power plants generating electricity, of which 3 are hydro-powered and one is solar-powered (CEC 2022).

Energy Consumption

Electricity use is measured in kilowatt-hours (kWh). Vehicle fuel use is typically measured in gallons (e.g. of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh. Total automotive fuel consumption in Calaveras County from 2017 to 2021 is shown in Table 2. As shown, automotive consumption has decreased since 2017.

Table 2. Automotive Fuel Consumption in Calaveras County 2017-2021

Year	Fuel Consumption (gallons)
2021	25,979,986
2020	23,413,525
2019	25,901,898
2018	25,953,930
2017	26,300,995

California Air Resources Board 2021

Regulatory Setting

State

Executive Order B-55-18

In September 2018 Governor Jerry Brown Signed Executive Order (EO) B-55-18, which establishing a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Carbon neutrality refers to achieving a net zero carbon dioxide emissions. This can be achieved by reducing or eliminating carbon emissions, balancing carbon emissions with carbon removal, or a combination of the two. This goal is in addition to existing statewide targets for GHG emission reduction. EO B-55-18 requires the California Air Resource Board (CARB) to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law Senate Bill (SB) 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the California Public Utilities Commission (CPUC).

The CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to, publicly owned utilities, of 1,100 pounds carbon dioxide per megawatt hour (MWh). This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of greenhouse gas.
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long term while meeting the State's standards for environmental impact.
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard (EPS) (Perata, Chapter 598, Statutes of 2006).

Renewables Portfolio Standard

Established in 2002 under SB 1078 and accelerated by SB 107 (2006) and SB 2 (2011), California's Renewables Portfolio Standard (RPS) obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent of their electricity from renewable energy sources by 2020. Eligible renewable resources are defined in the 2013 RPS to include biodiesel; biomass; hydroelectric and small hydro (30 megawatts or less); Los Angeles Aqueduct hydro power plants; digester gas; fuel cells; geothermal; landfill gas; municipal solid waste; ocean thermal, ocean wave, and tidal current technologies; renewable derived biogas; multi-fuel facilities using renewable fuels; solar photovoltaic; solar thermal

electric; wind; and other renewables that may be defined later. Governor Jerry Brown signed SB 350 on October 7, 2015, which expands the RPS by establishing a goal of 60 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses upon which an energy efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, establish efficiency targets for electrical and gas corporations consistent with this goal. SB 350 also provides for the transformation of the California Independent System Operator (CAISO) into a regional organization to promote the development of regional electricity transmission markets in the western states and to improve the access of consumers served by the CAISO to those markets, pursuant to a specified process. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

Standards of Significance

The impact analysis provided below considers the California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The significance criteria established by the Office of Planning and Research may be relied upon to make impact determinations; i.e., whether the Project result in the wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources; and, whether the Project would conflict with an applicable plan for renewable energy or energy efficiency. The impact analysis focuses on the one source of energy that is relevant to the Proposed Project: the equipment fuel necessary for Project construction. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed water supply infrastructure project. For the purposes of this analysis, the amount of fuel necessary for Project construction is calculated and compared to that consumed in Calaveras County.

Methodology

The amount of total construction-related fuel used was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1.

Energy Consumption Impact Discussion

Would the Project Result in a Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources?

Operations of the Proposed Project would not result in the consumption of electricity or natural gas at any rate greater than under current conditions and thus, would not contribute to the County wide usage. The one source of energy associated with the Project includes the equipment fuel necessary for construction. For the purpose of this analysis, Project increases in construction fuel consumption are compared with the countywide fuel consumption in 2021, the most recent full year of data. The amount of total construction-

related fuel used was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1.

Table 3. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumed	Percentage Increase Countywide
Vehicular/Equipment Fuel Consumption		
Project Construction	101,576 gallons	0.39%

Source: Climate Registry 2016, see Attachment A.

Notes: The Project increase construction-related fuel consumption is compared with the countywide construction-related fuel consumption in 2021, the most recent full year of data.

As shown in Table 3, the Project's gasoline fuel consumption during the construction period is estimated to be 101,576 gallons of fuel, which would increase the annual construction-related gasoline fuel use in the county by 0.39 percent during Project construction. As such, Project construction would have a nominal effect on local and regional energy supplies, especially over the long-term. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and require recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Operations of the Project would not generate any fuel consumption as it would not be contributing to any mobile sources. As such, fuel consumption associated with vehicle trips generated by the Project during operation would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

Would the Project Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency?

The Project proposes a new water transmission pipeline to ensure necessary water storage for the water distribution system at all times. It does not conflict with or obstruct a plan for renewable energy or energy efficiency.

REFERENCES

CARB. 2021. EMFAC2021 Web Database Emissions Inventory. https://www.arb.ca.gov/emfac/2021/

CEC. 2022. Website: Annual Generation – County. https://ww2.energy.ca.gov/almanac/electricity_data/web_qfer/Annual_Generation-County_cms.php

_____. 2021. 2020 Total System Electric Generations in Gigawatt Hours. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation

ATTACHMENT A

Energy Consumption Modeling Outputs

Proposed Project
Total Construction-Related Gasoline Usage

Table 1. Construction Year One			
Action	**Carbon Dioxide Equivalents (CO_2e) in Metric Tons[1]**	**Conversion of Metric Tons to Kilograms[2]**	**Construction Equipment Emission Factor[2]**
Project Construction	1031	1,031,000	10.15
Total Gallons Consumed During Construction Year One:			**101,576**

Sources:

[1]ECORP Consulting. 2022. Jenny Lind Water System Tank A to B Water Transmission Pipeline Project – Air Quality and Greenhouse Gas Emissions Assessment Memorandum.

[2]Climate Registry. 2016. *General Reporting Protocol for the Voluntary Reporting Program version 2.1.* January 2016. http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pd

APPENDIX E

Paleontological Memorandum

December 21, 2022

Calaveras County Water District
120 Toma Court
San Andreas, California 95249

RE: Paleontological Assessment Memorandum for the Jenny Lind Tank A-B Transmission Pipeline Project, Calaveras County, California

Dear Sir/Madam:

ECORP Consulting, Inc. completed a thorough investigation on the potential to directly impact paleontological resources during the construction of the Jenny Lind Tank A-B Pipeline Project. This investigation included a paleontological record search through the University of California Museum of Paleontology (UCMP) and a desktop study of the geology and paleontology of the Project Area. The Project site is located in Calaveras County, south of Valley Springs in Section 2, Township 03 North, Range 10 East, Mount Diablo Base and Meridian as shown on the 1962 Jenny Lind and Valley Springs U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles map (ECORP 2022).

GEOLOGIC UNITS

The Project site is located within the Sierra Nevada foothills where bedrock consists of north trending technostratigraphic belts of metamorphosed sedimentary, volcanic, and intrusive rocks ranging in age from late Paleozoic to Mesozoic. The structural belts extend approximately 235 miles along the western side of the Sierra and flanked to the east by the Sierra Nevada Batholith and to the west by sedimentary rocks of the Cretaceous and Jurassic Great Valley sequence (Downey and Higgins 2006). Gold-quartz veins within the belts are what's famous for most of the gold produced in the area.

Regionally, the northern Sierra Nevada experienced a long period of Cretaceous to early Tertiary erosion followed by extensive Oligocene to Pliocene volcanism. Widespread intercalated rhyolitic tuffs and intervolcanic channel gravels define the Oligocene-Miocene Valley Springs Formation while the youngest volcanic unit, the Miocene-Pliocene Mehrten Formation, consists largely of andesitic flows overlying the Valley Springs Formation (Downey and Higgins 2006).

More recent uplift of the Sierra Nevada during the Pliocene-Pleistocene caused drainage to cut through the volcanic Valley springs-Mehrten sequence resulting in deep river gorges. During this time, the rivers became rich with placer-gold deposits from both the newly eroded basement rocks and from the eroded Tertiary placers.

The local geology consists of unconsolidated Quaternary gravels in and adjacent to the modern Calaveras River, its floodplain deposits and those of its tributary streams. Secondary deposits include older terrace and Tertiary shoreline gravels associated with the ancestral Calaveras River (Downey and Higgins 2006).

2525 Warren Drive ● Rocklin, CA 95677 ● Tel: (916) 782-9100 ● Fax: (916) 782-9134 ● www.ecorpconsulting.com

RECORD SEARCH RESULTS

A paleontological record search was conducted by ECORP through the UCMP. There were no records of previous finds in or near the Project site (Pers. Comm. P. Holroyd 2022). The nearest finds are recent discoveries of Miocene-aged fossil vertebrates on the north side of the Camanche Reservoir in the Mehrten Formation. In addition to the record search results, ECORP conducted reviews of published and unpublished literature. No fossils have been recovered due to the complexity of the geology in the study area. This holds true for most regions where volcanic and metamorphic rocks dominate. Volcanic rocks are generally void of fossils, unless preserved in ash deposits and rocks that have undergone metamorphism generally do not preserve previously existing fossils.

RECOMMENDATIONS

Given the geologic setting of the Project site, a pedestrian survey is not recommended. A spot check of construction activities should be conducted once ground disturbance begins to determine the subsurface geology. Due to the presence of volcanic and metamorphic rocks within and surrounding the project site, there will likely be no need for full-time monitoring.

Sincerely,

Niranjala Kottachchi
Principal Paleontologist

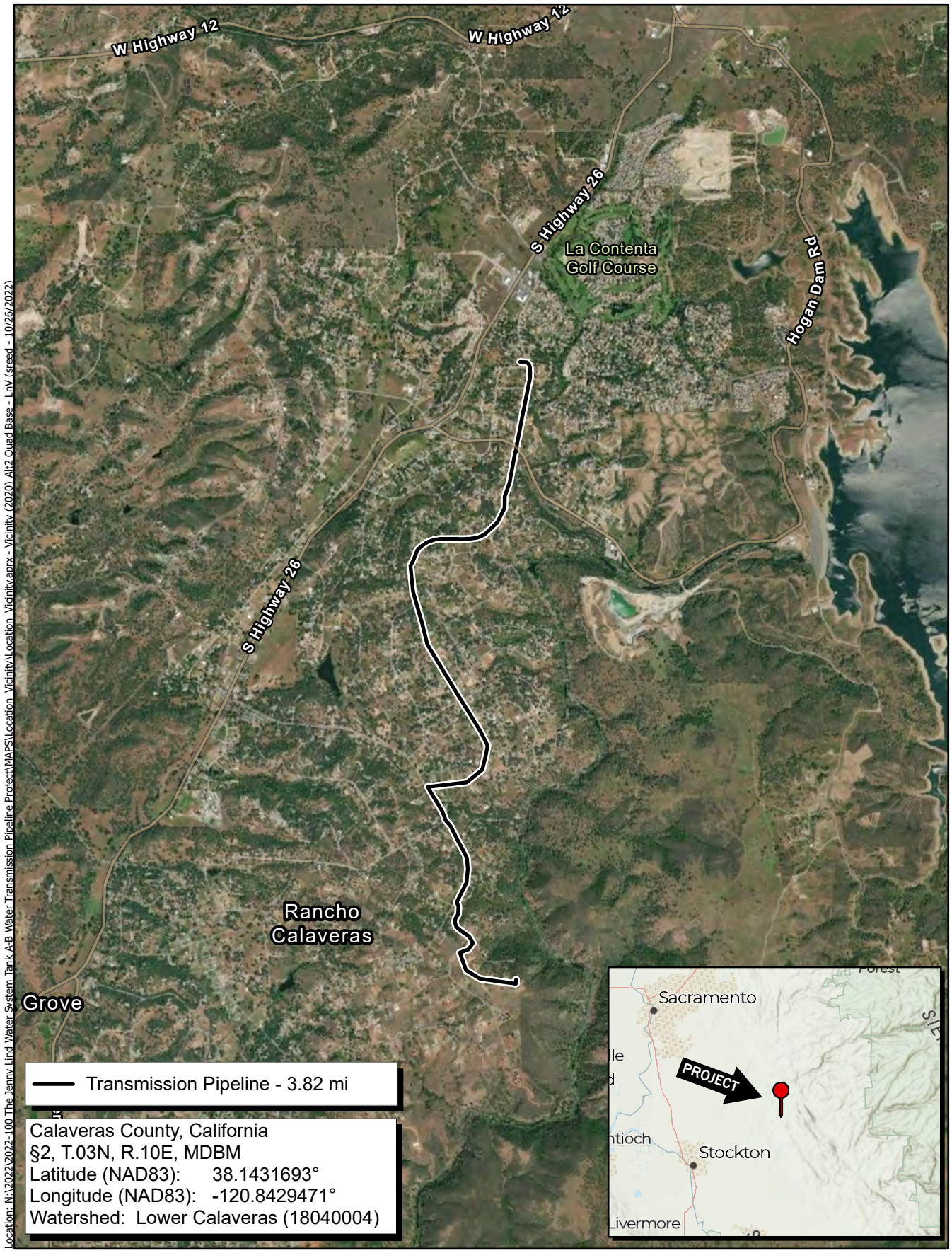
REFERENCES

Downey, C. and Higgins, C.T. 2006. California Geological Survey CGS. Jenny Lind District.

ECORP 2022. Jenny Lind (1962, NAD 27) and Valley Springs (1962, NAD 27) 7.5-minute topographic quadrangles. US Geological Survey.

PERSONAL COMMUNICATION

Email from Patricia Holroyd. December 14, 2022. Paleontological Record Search University of California Museum of Paleontology, Berkeley.



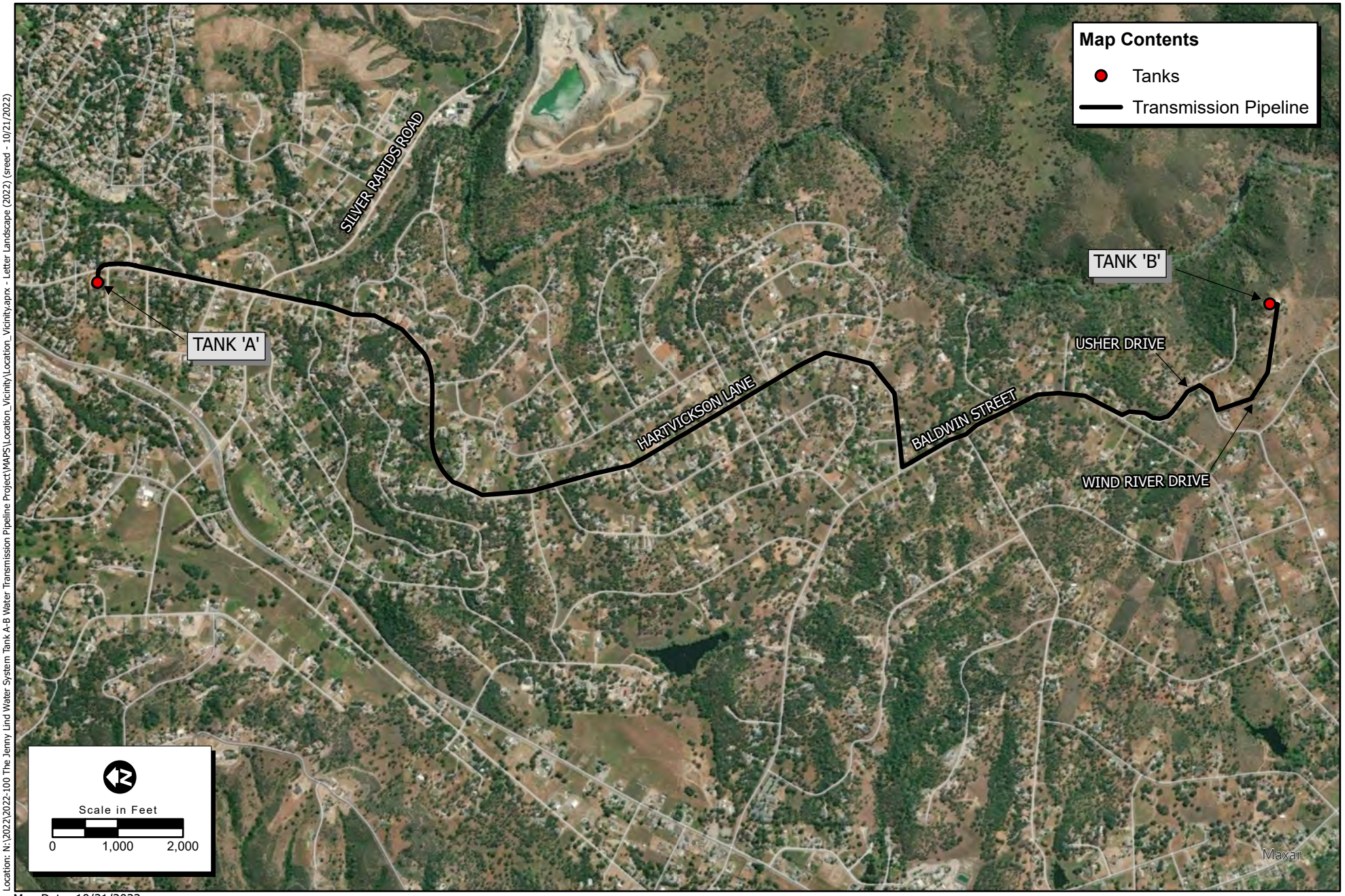
Map Date: 10/24/2022
Sources: ESRI, USGS

Scale in Feet
0 1,000 2,000

Figure 1. Project Location and Vicinity

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project



Location: N:\2022\2022-100 The Jenny Lind Water System Tank A-B Water Transmission Pipeline Project\MAPS\Location_Vicinity\Location_Vicinity.aprx - Letter Landscape (2022) (sreed - 10/21/2022)

Map Date: 10/21/2022

Figure 2: Proposed Project Alignment

APPENDIX F

Noise Impact Memorandum

December 2022

Bill Ostroff, P.E., Senior Civil Engineer
Weber-Ghio and Associates, Inc.
394 E. St. Charles Street
PO Box 251
San Andreas, CA 95249

Subject: Jenny Lind Water System Tank A to B Water Transmission Pipeline Project – Noise Impact Memorandum

PURPOSE

This memorandum documents the results of Noise Impact Assessment completed for the Jenny Lind Water System Tank A to B Water Transmission Pipeline Project (Project). The analysis was prepared as a comparison of predicted Project noise levels to noise standards promulgated by the County of Calaveras Municipal Code Title 9, Chapter 9.02. The purpose of this memorandum is to estimate Project-generated noise and to determine the level of impact the Project would have on the environment.

PROJECT BACKGROUND

The Calaveras County Water District (District) was formed in 1949 and has operated continuously since. It includes all of Calaveras County in the Central Sierra Nevada foothills in the northeastern portion of the State. The District provides water service to about 13,000 customers (residential and commercial) in six service areas throughout the County.

The subject Project is part of the Jenny Lind Water System which serves approximately 3,900 customers in the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County adjacent to State Highway 26. The system includes seven water storage tanks: two of which - Tanks A and B – are associated with the Proposed Project. Both tanks were built in 1991 and are connected by a 1970s era 8-inch diameter asbestos cement pipe (ACP) transmission/distribution main routed along Hart Vickson Lane and Baldwin Street. A 1.7 million gallon per day (mgd) pump station at the Tank A site supplies Tank B.

In the summer of 2006, the pump station at Tank A, which is located at the northwest corner of the Hart Vickson Lane / Heinemann Drive intersection 0.3 mile southwest of the La Contenta Golf Course, was unable to meet maximum daily demands (MDD) and consequently Tank B emptied and could not be re-filled for a significant period. (Tank B is located at the terminus of Wind River Road in the community of Rancho Calaveras.) This caused a prolonged service interruption for more than 900 homes within the Rancho Calaveras subdivision.

PROJECT DESCRIPTION

To remove the hydraulic bottleneck, the District proposes to construct a new transmission pipeline from the pump station at Tank A to Tank B (approximately 20,000 feet in length). This new transmission pipeline would be sized to reduce headloss and designed to have limited and controlled interconnection with the

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existing distribution system along its length to assist in stabilizing the hydraulic behavior of the water system. The new transmission pipeline's primary function is to ensure Tank B provides the necessary storage for the distribution system at all times.

The proposed transmission pipeline would follow Hart Vickson Lane from the booster pump at Tank A to its intersection with Baldwin Street, then follow Baldwin Street, Usher Drive and Wind River Road to the existing Tank B site. The new transmission pipeline would be in a separate open-cut trench parallel to the existing distribution system lines. The trench and new transmission pipeline would be located within the existing road right of way and established utility easements. All construction work would be conducted within the travel lanes or within the adjacent right-of-way (where feasible). Partial lane closure would take place during construction activities.

The new transmission pipeline would be isolated from the existing water distribution mains and only connected at four locations along its alignment with tie-in connections being made via pressure-reducing valve (PRV) stations. The transmission main would allow flow in both directions including forward pumping from Tank A to fill Tank B and, when the pump station is idle, gravity flow in the reverse direction allowing Tank B to supply water system demands when peak flow exceeds the pumping capacity.

While the new transmission pipeline is under construction, the existing distribution system would continue to operate in its current configuration and would continue to transfer water from the Tank A pump station to fill Tank B. The existing distribution system would also continue to supply customer water demands along the existing route. However, upon completion of the new transmission pipeline, the existing distribution system would no longer be necessary for Tank A to B transmission and is proposed to be isolated and divided into smaller service zones. Each service zone would be supplied via dedicated PRV stations. Each pressure zone would be served by at least two PRV stations or each zone would be served by looping from multiple directions. A dead-end run (e.g., residential cul-de-sac), would be served by a single dedicated PRV station.

To facilitate construction of the new transmission pipeline, the existing pavement within one traffic lane would be saw-cut along the trench line. Pavement would be replaced upon completion of the underground utility construction in accordance with the County Public Works Requirements. Substantial traffic control signage and flaggers would be deployed for the duration of the Project. Additionally, while existing pavement is being saw-cut, removed and replaced with new pavement for the transmission main, the District would replace old water service laterals (service saddles, corp. stops, service line, and meter valve) from the distribution main to the service box, adding guard valves to or replacing fire hydrants, and making other repairs to the existing water distribution system.

The existing Tank B inlet and outlet pipes are small and will be upsized, replaced and reconfigured. The new transmission main would discharge directly into Tank B, removing the inlet hydraulic constraint. The existing outlet would be retained with valve additions and modifications to allow for flow into the distribution system when the Tank A booster pump station is both operating and not operating (reverse gravity flow).

Temporary staging of construction equipment would occur where the Right-of-Way limits allow. If necessary, lager staging areas may be used. Construction of the Proposed Project is anticipated to start in

late spring of 2023 and take approximately 12 to 18 months for final completion ending December 2024. A reduction in site construction activity is normal due to rain events from December 2023 to April 2024. Also, current supply chain issues have increased lead times for some materials (pipe and fittings) and may delay the start date for groundbreaking. See Table 1 below for an anticipated detailed breakdown of construction activities and approximate timeframe to completion.

Table 1 Construction Operations

Description of Activity	Duration (approximate)
Excavation Operations	
Rubber tired backhoe loader(s) (sized up to Cat 450) Trench excavator(s) (likely no larger than Cat 335) Wheel loader(s) (likely no larger than Cat 966), dozer(s) (likely no larger than Cat D8 – for clearing right-of-way and spreading material) Trenching machines (not expected) Rock removal by hydraulic hammer on excavator (not expected to be required or very limited based on geotechnical investigation) Compaction via in-trench hand compaction (wacker, vibraplate) or equipment mounted (sheep's foot roller) Sweeper Air Compressor(s)	Approximately 12 months
Hauling Operations	
Rubber tired dump truck(s) l transfer truck and trailers Semi bottom and end dumps possible but not likely considering narrow and winding access	Approximately 12 months
Final Paving Operations	
Roller compactor(s) Pavers asphalt grinders asphalt cutters concrete saw Sweeper	Approximately 3 months
Striping/Finishing	
Sprayers, air compressor, portable generator	Approximately 3 months
Total Duration:	**12 to 18 months**

*Note: Some of these activities will be done concurrently

NOISE ANALYSIS

Fundamentals of Sound and Environmental Noise

Addition of Decibels

The decibel (dB) scale is logarithmic, not linear; therefore, sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted (dBA), an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions (Federal Transit Administration [FTA] 2018). For example, a 65-dB source of sound, such as a truck, when joined by another 65-dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). Under the dB scale, three sources of equal loudness together would produce an increase of 5 dB.

Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB (dBA) for each doubling of distance from a stationary or point source (Federal Highway Administration [FHWA] 2017). Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dBA for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (FHWA 2017). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dBA per doubling of distance is normally assumed.

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about 5 dBA (FHWA 2006), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction of 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the "line of sight" between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend length-wise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the line of sight between the source and the receiver.

The manner in which older structures in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (California Department of

Transportation [Caltrans] 2002). The exterior-to-interior reduction of newer structures is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. [HMMH] 2006).

Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL (Community Noise Equivalent Level) are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

- **Day-Night Average (L_{dn})** is a 24-hour average L_{eq} with a 10-dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.

- **Community Noise Equivalent Level (CNEL)** is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 p.m. to 10:00 p.m. and a 10-dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60- to 70-dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-

commercial areas (60 to 75 dBA), or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA noise levels, the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Vibration Fundamentals

Ground vibration can be measured several ways to quantify the amplitude of vibration produced. This can be through peak particle velocity or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively. Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

Existing Noise Environment

The communities of Jenny Lind, Rancho Calaveras, and La Contenta, which encompasse the Project Site, are impacted by noise sources typical of small, rural environments. It is subject to typical neighborhood noise such as noise generated by traffic, heavy machinery, and day-to-day outdoor activities. Mobile sources of noise, especially cars and trucks, are the most common source of noise in the community.

The American National Standards Institute (ANSI) Standard 12.9-2013/Part 3 "Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-Term Measurements with an Observer Present" provides a table of approximate background sound levels in L_{dn}, daytime L_{eq}, and nighttime L_{eq}, based on land use and population density. The ANSI standard estimation divides land uses into six distinct categories. Descriptions of these land use categories, along with the typical daytime and nighttime levels, are provided in Table 2. At times, one could reasonably expect the occurrence of periods that are both louder and quieter than the levels listed in the table. ANSI notes, "*95% prediction interval [confidence interval] is on the order of +/- 10 dB*." The majority of the Project Area would be considered ambient noise Category 5 or 6.

Table 2. ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density

Category	Land Use	Description	People per Square Mile	Typical L_{dn}	Daytime L_{eq}	Nighttime L_{eq}
1	Noisy Commercial & Industrial Areas and Very Noisy Residential Areas	Very heavy traffic conditions, such as in busy, downtown commercial areas; at intersections for mass transportation or other vehicles, including elevated trains, heavy motor trucks, and other heavy traffic; and at street corners where many motor buses and heavy trucks accelerate.	63,840	67 dBA	66 dBA	58 dBA
2	Moderate Commercial & Industrial Areas and Noisy Residential Areas	Heavy traffic areas with conditions similar to Category 1, but with somewhat less traffic; routes of relatively heavy or fast automobile traffic, but where heavy truck traffic is not extremely dense.	20,000	62 dBA	61 dBA	54 dBA
3	Quiet Commercial, Industrial Areas and Normal Urban & Noisy Suburban Residential Areas	Light traffic conditions where no mass-transportation vehicles and relatively few automobiles and trucks pass, and where these vehicles generally travel at moderate speeds; residential areas and commercial streets, and intersections, with little traffic, compose this category.	6,384	57 dBA	55 dBA	49 dBA
4	Quiet Urban & Normal Suburban Residential Areas	These areas are similar to Category 3, but for this group, the background is either distant traffic or is unidentifiable; typically, the population density is one-third the density of Category 3.	2,000	52 dBA	50 dBA	44 dBA
5	Quiet Residential Areas	These areas are isolated, far from significant sources of sound, and may be situated in shielded areas, such as a small wooded valley.	638	47 dBA	45 dBA	39 dBA
6	Very Quiet Sparse Suburban or rural Residential Areas	These areas are similar to Category 4 but are usually in sparse suburban or rural areas; and, for this group, there are few if any nearby sources of sound.	200	42 dBA	40 dBA	34 dBA

Source: The American National Standards Institute (ANSI) 2013

Noise-Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. The Project Site is linear and traverses many different locations throughout the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County adjacent to State Highway 26, an area primarily made up of sensitive residential receptors. Virtually all aspects of Project implementation would involve construction activity occurring adjacent to these noise-sensitive land uses.

Regulatory Setting

Federal

National Institute of Occupational Safety and Health

A division of the U.S. Department of Health and Human Services, the National Institute for Occupational Safety and Health (NIOSH) has established a construction-related noise level threshold as identified in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998. NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. The intention of these thresholds is to protect people from hearing losses resulting from occupational noise exposure.

Local

Calaveras County Code of Ordinances

The County of Calaveras regulations with respect to noise are included in Title 9, Chapter 9.02, *Noise Control*. Applicable to the Proposed Project, Chapter 9.02, *Noise Control*, states that sound from construction activity is exempt from all County noise standards provided that all construction in or adjacent to residential areas be limited to the daytime hours between 7:00 a.m. and 6:00 p.m., unless otherwise subject to conditions in a valid discretionary land use permit that addresses construction noise associated with the project.

Standards of Significance

For purposes of this analysis, County of Calaveras noise standards were used for evaluation of Project-related noise impacts. As previously stated, Chapter 9.02, *Noise Control*, states that sound from construction activity is exempt from all County noise standards provided that all construction in or adjacent to residential areas be limited to the daytime hours between 7:00 a.m. and 6:00 p.m., unless otherwise subject to

conditions in a valid discretionary land use permit that addresses construction noise associated with the project.

In order to evaluate the potential health-related effects (physical damage to the ear and mental damage from lack of sleep or focus) from construction noise, construction equipment noise levels are calculated and compared against the construction-related noise level threshold established in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998 by NIOSH, described above.

Methodology

This analysis of the existing and future noise environments is based on noise prediction modeling and empirical observations. In order to estimate the worst-case construction noise levels that may occur at the nearest noise-sensitive receptors in the Project vicinity, predicted construction noise levels were calculated utilizing the FHWA's Roadway Construction Model (2006). Operational noise levels are addressed qualitatively. Groundborne vibration levels associated with construction-related activities for the Project were evaluated utilizing typical groundborne vibration levels associated with construction equipment, obtained from California Department of Transportation (Caltrans) guidelines set forth above. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from construction activities to nearby structures.

Noise Impact Discussion

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The significance criteria promulgated by the County's Municipal Code may be relied upon to make impact determinations.

Would the Project Result in the Generation of a Substantial Temporary or Permanent Increase in Ambient Noise Levels in the Vicinity of the Project in Excess of Standards Established in the Local General Plan or Noise Ordinance, or Applicable Standards of other Agencies?

As previously described, noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise sensitive and may warrant unique measures for protection from intruding noise. The Project Site spans many different locations throughout the communities of Jenny Lind, Rancho Calaveras, and La Contenta in western Calaveras County, which is primarily made up of noise-sensitive residential receptors. Virtually all aspects of Project implementation would involve construction activity occurring adjacent to these land uses.

Onsite Construction Noise Impacts

Construction noise associated with the Proposed Project would be temporary and would vary depending on the specific nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., site preparation, excavation, paving). Noise generated by construction

equipment, including earth movers, pile drivers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

As previously described, Chapter 9.02, *Noise Control*, of the County Code of Ordinances states that sound from construction activity is exempt from all County noise standards provided that all construction in or adjacent to residential areas be limited to the daytime hours between 7:00 a.m. and 6:00 p.m., unless otherwise subject to conditions in a valid discretionary land use permit that addresses construction noise associated with the project. The Project would be required to limit construction to the daytime hours between 7:00 a.m. and 6:00 p.m.

To estimate the worst-case onsite construction noise levels that may occur at the nearest noise-sensitive receptors and in order to evaluate the potential health-related effects (physical damage to the ear) from construction noise, the construction equipment noise levels were calculated using the Roadway Noise Construction Model and compared against the construction-related noise level threshold established in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998 by NIOSH. A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby sensitive receptors.

It is acknowledged that the majority of construction equipment is not situated at any one location during construction activities, but rather spread throughout the linear Project Site and at various distances from sensitive receptors. Therefore, this analysis measures construction noise produced by all construction equipment operating simultaneously at a distance of 100 feet. The anticipated short-term construction noise levels generated for the necessary equipment is presented in Table 3.

Table 3. Construction Average (dBA) Noise Levels at Nearest Residential Receptors			
Equipment	**Estimated Exterior Construction Noise Level at Existing Residences (dBA)**	**Construction Noise Standards (dBA L_{eq})**	**Exceeds Standards?**
Excavation and Hauling	79.8 dBA	*85*	**No**
Final Paving	84.3 dBA	*85*	**No**

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Attachment A for Model Data Outputs.

Notes: Construction equipment used during construction derived from the Roadway Construction Emissions Model (RCEM). RCEM contains default construction equipment and usage parameters for typical roadway construction projects.
L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 3, Project onsite construction activities would not exceed the NIOSH threshold of 85 dBA L_{eq} at the nearest noise-sensitive receptors.

Offsite Construction Traffic Noise Impacts

Construction associated with the Project would result in additional traffic (e.g., worker commutes and material hauling) on adjacent roadways over the period that construction occurs. According to the RCEM, which is used to predict the number of on-road Project construction-related trips, construction would not instigate more than 104 trips in a single day (up to 96 construction worker commute trips and up to 8 haul truck/delivery trips). According to the Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). While Project construction workers would instigate their trip to the Project Site from differing locations, the addition of 104 daily trips spread over the various roadway facilities that would be used to reach the Project Site would not result in a doubling of traffic on any of these roadway facilities, and therefore its contribution to existing traffic noise would not be perceptible. Additionally, it is noted that construction is temporary, and construction-related trips would cease upon completion of construction.

Operational Noise Impacts

The Project proposes necessary upgrades to the District's water conveyance system. Specifically, a new transmission pipeline would be sized to reduce headloss and designed to have limited and controlled interconnection with the existing distribution system along its length to assist in stabilizing the hydraulic behavior of the water system. The new transmission pipeline's primary function is to ensure Tank B provides the necessary storage for the distribution system at all times. The Project would not expand its water supply capacity in a manner that would induce population or employment growth. Once upgrades are complete, the Project transmission pipeline would not be a greater source of operational noise beyond current conditions.

Would the Project Result the Generation of Excessive Groundborne Vibration or Groundborne Noise Levels?

Construction Vibration Impacts

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Proposed Project would be primarily associated with short-term construction-related activities. Construction on the Project Site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is not anticipated that pile drivers would be necessary during Project construction. Vibration decreases rapidly with distance, and it is acknowledged that construction activities would occur throughout the Project Site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment are summarized in Table 4.

Table 4. Typical Construction Equipment Vibration Levels

Equipment Type	Peak Particle Velocity at 100 Feet (inches per second)
Vibratory Roller	0.026
Hoe Ram (Rock Breaker)	0.011
Large Bulldozer	0.011
Caisson Drilling	0.011
Loaded Trucks	0.009
Jackhammer	0.004
Small Bulldozer/Tractor	0.000

Source: FTA 2018; Caltrans 2020

The County of Calaveras does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020) recommended standard of 0.3 inch per second peak particle velocity (PPV) with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

As shown in Table 4, groundborne vibrations attenuate rapidly from the source due to geometric spreading and material damping. Geometric spreading occurs because the energy is radiated from the source and spreads over an increasingly large distance while material damping is a property of the friction loss which occurs during the passage of a vibration wave. Vibration as a result of construction activities would not exceed 0.3 PPV. Thus, Project construction would not exceed the recommended threshold.

Operational Vibration Impacts

Project operations would not include the use of any stationary equipment that would result in excessive groundborne vibration levels. Therefore, the Project would result in no groundborne vibration impacts during operations.

Would the Project Expose People Residing or Working in the Project Area to Excessive Airport Noise Levels?

The Project Site is located approximately 10.9 miles west of the Maury Rasmussen Field Airport. The Project Site is located outside of the noise contours of this airport facility. Aircraft noise does not significantly impact the communities of Jenny Lind, Rancho Calaveras, or La Contenta and the Proposed Project would not expose people visiting or working on the Project Site to excess airport noise levels.

REFERENCES

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ATTACHMENT A

Federal Highway Administration Highway Roadway Construction Noise Model – Project Construction Noise

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/2/2022

Case Description: **Jenny Lind Water System - Excavation & Hauling**

Description	**Land Use**
Project Construction	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Compressor (air)	No	40		77.7	100	0
Excavator	No	40		80.7	100	0
All Other Equipment > 5 HP	No	50	85		100	0
Compactor (ground)	No	20		83.2	100	0
Front End Loader	No	40		79.1	100	0
Backhoe	No	40		77.6	100	0
Slurry Trenching Machine	No	50		80.4	100	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Compressor (air)	71.6	67.7
Excavator	74.7	70.7
All Other Equipment > 5 HP	79	76
Compactor (ground)	77.2	70.2
Front End Loader	73.1	69.1
Backhoe	71.5	67.6
Slurry Trenching Machine	74.3	71.3
Total	79	**79.8**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/2/2022
Case Description: **Jenny Lind Water System - Final Paving**

Description	**Land Use**
Project Construction	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	100	0
Compressor (air)	No	40		77.7	100	0
Concrete Saw	No	20		89.6	100	0
Concrete Saw	No	20		89.6	100	0
Concrete Saw	No	20		89.6	100	0
Hydra Break Ram	Yes	10	90		100	0
Hydra Break Ram	Yes	10	90		100	0
Generator (<25KVA, VMS signs)	No	50		72.8	100	0
All Other Equipment > 5 HP	No	50	85		100	0
Paver	No	50		77.2	100	0
Paver	No	50		77.2	100	0
Roller	No	20		80	100	0
Roller	No	20		80	100	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Compressor (air)	71.6	67.7
Compressor (air)	71.6	67.7
Compressor (air)	71.6	67.7
Concrete Saw	83.6	76.6
Concrete Saw	83.6	76.6
Concrete Saw	83.6	76.6
Hydra Break Ram	84	74
Hydra Break Ram	84	74
Generator (<25KVA, VMS signs)	66.8	63.8
All Other Equipment > 5 HP	79	76
Paver	71.2	68.2
Paver	71.2	68.2
Roller	74	67
Roller	74	67
Total	84	**84.3**

*Calculated Lmax is the Loudest value.

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