TELELI GOLF COURSE RECYCLED WATER PIPELINE

Initial Study/Mitigated Negative Declaration

Prepared for
Tuolumne Utilities District

February 2025

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE TUOLUMNE UTILITIES DISTRICT TELELI GOLF COURSE RECYCLED WATER PROJECT

(Pursuant to CEQA Section 21092 and CEQA Guidelines Section 15072)

In accordance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines, the Tuolumne Utilities District (TUD), has prepared an Initial Study and proposed Mitigated Negative Declaration (IS/MND) for the Teleli Golf Course Recycled Water Pipeline Project (proposed Project). Based on the results of the Initial Study, TUD determined that construction and operation of proposed Project would not have significant impacts on the environment. All potentially significant impacts identified in the Initial Study would be reduced to less than significant levels with implementation of appropriate mitigation measures.

Project Description:
TUD, in conjunction with the Tuolumne Band of Me-Wuk, is proposing to construct and operate the proposed Project on approximately seven-acres near Jamestown, California in unincorporated Tuolumne County. The proposed Teleli Golf Course Recycled Water Pipeline Project involves construction and operation of several thousand feet of new recycled water pipeline from TUD's existing recycled water system through existing agricultural lands, over and across Sullivan Creek, and then underground to Storage Pond 1 prior to irrigation uses on Teleli Golf Course.

Public Comment Period: March 3, 2025, to April 2, 2025.

The IS/MND may be accessed at this website: https://tudwater.com/development- services/environmental-documents/ or in lobby at the Tuolumne Utilities District, 18885 Nugget Blvd, Sonora, CA 95370

NOTICE IS HEREBY GIVEN that the TUD Board of Directors intends to adopt a CEQA Mitigated Negative Declaration in April 2025 for the Teleli Golf Course Recycled Water Pipeline Project in accordance with the CEQA Guidelines.

The public, all interested agencies and stakeholders are invited to review the IS/MND and submit written comments, pursuant to CEQA.

Written comments are due by 5 PM on April 2, 2025, and may be sent via USPS or email to:

Tuolumne Utilities District
Attn. Erik Johnson, District Engineer
18885 Nugget Blvd.
Sonora, CA 95370

Via email to: EJohnson@tudwater.com
In the subject line, please reference:
Teleli Golf Course Recycled Water project

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Initial Study/Mitigated Negative Declaration

Prepared for
Tuolumne Utilities District

February 2025

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Acronyms and Other Abbreviations

Abbreviation	Definition
AB	Assembly Bill
APN	Assessor's Parcel Number
ASCE	American Society of Civil Engineers
BMP	Best Management Practices
BRRG	Tuolumne County Biological Resources Review Guide
CalEEMod	California Emissions Estimator Model
Cal/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CARB	California Air Resources Board
California Register	California Register of Historical Resources
Cal EMA	California Emergency Management Agency
CAL FIRE	California Department of Forestry and Fire Protection
CalGEM	California Geologic Energy Management Division
CAP	Climate Action Plan
CBC	California Building Code
CCIC	Central California Information Center
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CNDDB	Natural Diversity Database
CGP	Construction General Permit
CH_4	methane
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	CO_2 equivalents
CPUC	California Public Utilities Commission
CWA	Clean Water Act
dBA	A-weighted decibels

Abbreviation	Definition
DigAlert	Underground Services Alert of Southern California
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
EFZ	Earthquake Fault Zone
EIR	Environmental Impact Report
EO	Executive Order
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
ESA	Environmental Science Associates
°F	Fahrenheit
FESA	Federal Endangered Species Act
FPD	Fire Protection District
FPP	Fire Prevention Plan
FTA	Federal Transit Administration
FYLF	foothill yellow-legged frog
GHG	greenhouse gas
HDPE	high density polyethylene
HFC	hydrofluorocarbons
HMBP	Hazardous Materials Business Plan
HMP	Hazard Mitigation Plan
in/sec	inches per second
IS	initial study
L_{dn}	Day Night Average Sound Level
L_{eq}	Equivalent Continuous Sound Pressure Level
L_{max}	instantaneous maximum noise level
MBTA	Migratory Bird Treaty Act
MCAB	Mountain Counties Air Basin
$MMTCO_2e$	million metric tons of carbon dioxide equivalents
MND	mitigated negative declaration
MRZ	Mineral Resource Zones
$MTCO_2e$	metric tons of CO_2 equivalents
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NHPA	National Historic Preservation Act

Abbreviation	Definition
NPDES	National Pollutant Discharge Elimination System
NHTSA	National Highway Traffic Safety Administration
NOx	nitrogen oxides
OSHA	Occupational Safety and Health Administration
PG&E	Pacific Gas and Electric Company
$PM_{2.5}$	PM with a diameter of less than 2.5 microns
PM_{10}	PM with a diameter of less than 10 microns
PPV	peak particle velocity
PRC	Public Resources Code
PVC	polyvinyl chloride
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SB	State Bill
SEMS	Standard Emergency Management System
SF_6	sulfur hexafluoride
SHMA	Seismic Hazards Mapping Act
SR	State Route
SRA	State Responsibility Area
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TCAPCD	Tuolumne County Air Pollution Control District
TCFD	Tuolumne County Fire Department
TCU	Tuolumne-Calaveras Unit
TEDA	Tuolumne Economic Development Authority
TMDL	Total Maximum Daily Loads
TUD	Tuolumne Utilities District
USACE	U.S. Army Corp of Engineers
USC	United States Code
USGS	U.S. Geological Survey

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CHAPTER 1
Introduction

1.1 Introduction

This Initial Study and proposed Mitigated Negative Declaration (IS/MND) was prepared pursuant to Article 6 Section 15070 of the California Environmental Quality Act (CEQA) Guidelines. California Public Resources Code (PRC) Division 13 Section 21050 et seq., describes the CEQA process.

The Tuolumne Utilities District (TUD) and the Tuolumne Economic Development Authority (TEDA), acting on behalf of the Tuolumne Band of Miwuk Indians (Tribe) are proposing to install and operate approximately 1.5 miles of 8- and 10-inch recycled water pipeline from TUD's existing turnout point at the West property continuing underground to Assessor's Parcel Number (APN) boundary 059-070-80, connecting to TEDA's underground pipeline and crossing over Sullivan Creek and continuing to Storage Pond 1 downgradient of the Teleli Golf Course for storage prior to use for irrigation at the Teleli Golf Course. TUD is the Lead Agency for the CEQA environmental review. All proposed construction would occur within utility easements on the West property, over Sullivan Creek and on Teleli Golf Course property.

1.2 Organization of the Document

This document is organized to assist the reader in understanding the potential impacts that the proposed Project may have on the environment and to fulfill the requirements of the CEQA. The initial study (IS) contains the following sections:

Chapter 1, Introduction, describes this document's purpose under CEQA, describes the public participation process, and summarizes the applicable regulatory requirements and CEQA Lead Agency contact information.

Chapter 2, Project Description, provides an introduction, background, needs and objectives, and describes the proposed facilities. This section provides a detailed description of the proposed location, components, and the required entitlements anticipated for implementation of the proposed Project.

Chapter 3, Environmental Checklist, presents the CEQA IS Environmental Checklist and therein analyzes environmental impacts resulting from the proposed Project. The checklist identifies environmental issue areas that could be affected by the proposed Project and lists the determination of whether the proposed Project's potential effects on those resources would be significant, less than significant with mitigation, less than significant, or would have no impact. The checklist also contains the rationale and support for each determination and describes mitigation measures that would avoid or reduce potentially significant impacts on the environment to less-than-significant levels.

Chapter 4, List of Preparers, presents the individuals who have contributed to this Initial Study/ Mitigated Negative Declaration.

1.3 Purpose of the Mitigated Negative Declaration

The purpose of the IS is to provide a basis for deciding whether to prepare an environmental impact report (EIR), a mitigated negative declaration (MND), or a negative declaration. Based on its findings, the TUD determined that a MND would satisfy the requirements of CEQA (PRC §21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, §15000 et seq.), as noted below.

CEQA encourages Lead Agencies and applicants to modify their projects to avoid significant adverse impacts to the environment. It is anticipated that this CEQA document will form the basis of state review for responsible California agencies such as the California Department of Fish and Wildlife (CDFW) and Regional Water Quality Control Board (RWQCB). For more detail regarding agency uses of this IS, refer to Section 1.6, Agency Use of this Document.

Section 15063(d) of the CEQA Guidelines states the content requirements of an IS as follows:

> 15063(d) Contents. An Initial Study shall contain in brief form:
>
> (1) A description of the project including the location of the project;
>
> (2) An identification of the environmental setting;
>
> (3) An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
>
> (4) A discussion of the ways to mitigate the significant effects identified, if any;
>
> (5) An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls;
>
> (6) The name of the person or persons who prepared or participated in the Initial Study.

1.4 Decision to Prepare a Mitigated Negative Declaration for this Project

As noted above, the proposed Project is subject to the requirements of CEQA and TUD is the CEQA Lead Agency for the proposed Project. Prior to making a decision to approve a project, the Lead Agency must identify and document the potential significant environmental effects of the project in accordance with CEQA. This IS/MND has been prepared under the direction of TUD to fulfill these requirements.

The IS analysis indicates that some impacts would be potentially significant, but that Project modifications (such as resource avoidance and impact minimization measures) as well as the recommended mitigation measures would result in the impacts being reduced to less-than-significant

levels. In accordance with CEQA Guidelines Section 15070, an MND is the appropriate document for the proposed Project because the IS identifies potentially significant effects; however:

a. Revisions to the project plan were made that would avoid, or reduce, the effects to a point where clearly no significant effects would occur, and;

b. There is no substantial evidence that the project, as revised, may have a significant effect on the environment.

1.5 Public Review Process

The draft IS/MND is being circulated to state and local agencies, interested organizations, and individuals who might have had interest in, and wish to review and provide comments on, the project description, the proposed mitigation measures, or other aspects of the report. The 30-day public review period per CEQA Guidelines Section 15105(b) will take place from **March 3, 2025, to April 2, 2025**.

This draft IS/MND and supporting documentation is posted on the TUD website during this public review period:

https://tudwater.com/development-services/environmental-documents/

Printed copies of the draft IS/MND and supporting documents are also available for review at:

Tuolumne Utilities District 18885 Nugget Blvd. Sonora, CA 95370	Via written request for a paper copy or CD from TUD (see contact information below)

Written comments regarding the draft IS/MND should be directed to the attention of Erik Johnson at the address provided below.

Erik Johnson
Tuolumne Utilities District
18885 Nugget Blvd.
Sonora, CA 95370

Phone: 209-532-5536
e-mail: ejohnson@tudwater.com

1.6 Agency Use of this Document

CEQA *responsible agencies* are state and local agencies that have some responsibility or authority for carrying out or approving a project. In many instances, these public agencies must make a discretionary decision to issue an approval or permit, provide a right-of-way or encroachment, or provide funding or other resources critical to the execution of a project. *Trustee agencies* are state agencies that have the authority by law for the protection of natural resources held in trust for the public. The CDFW is an example of a trustee agency anticipated to have jurisdiction over resources potentially impacted by the proposed Project.

This IS/MND is intended to assist State and local agencies with some form of discretionary jurisdiction to carry out their responsibilities for permit review or approval authority over various aspects of a project. The proposed Project would likely require specific permitting and/or review by the agencies listed in **Table 1-1**.

TABLE 1-1
ANTICIPATED PERMITS AND APPROVALS

Potential Permit or Approval	Agency
• Fish and Game Code Section 1600, Lake and Streambed Alteration Agreement (1602 permit)	California Department of Fish and Wildlife, Central Region
• Storm Water Pollution Prevention Plan (SWPPP) under the General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009 DWQ) under the National Pollutant Discharge Elimination System (NPDES)	Central Valley Regional Water Quality Control Board (Region 5)

CHAPTER 2
Project Description

This chapter summarizes relevant background and describes the Teleli Golf Course Recycled Water Project (proposed Project), including location, purpose and need, project components, anticipated operations, and the construction process.

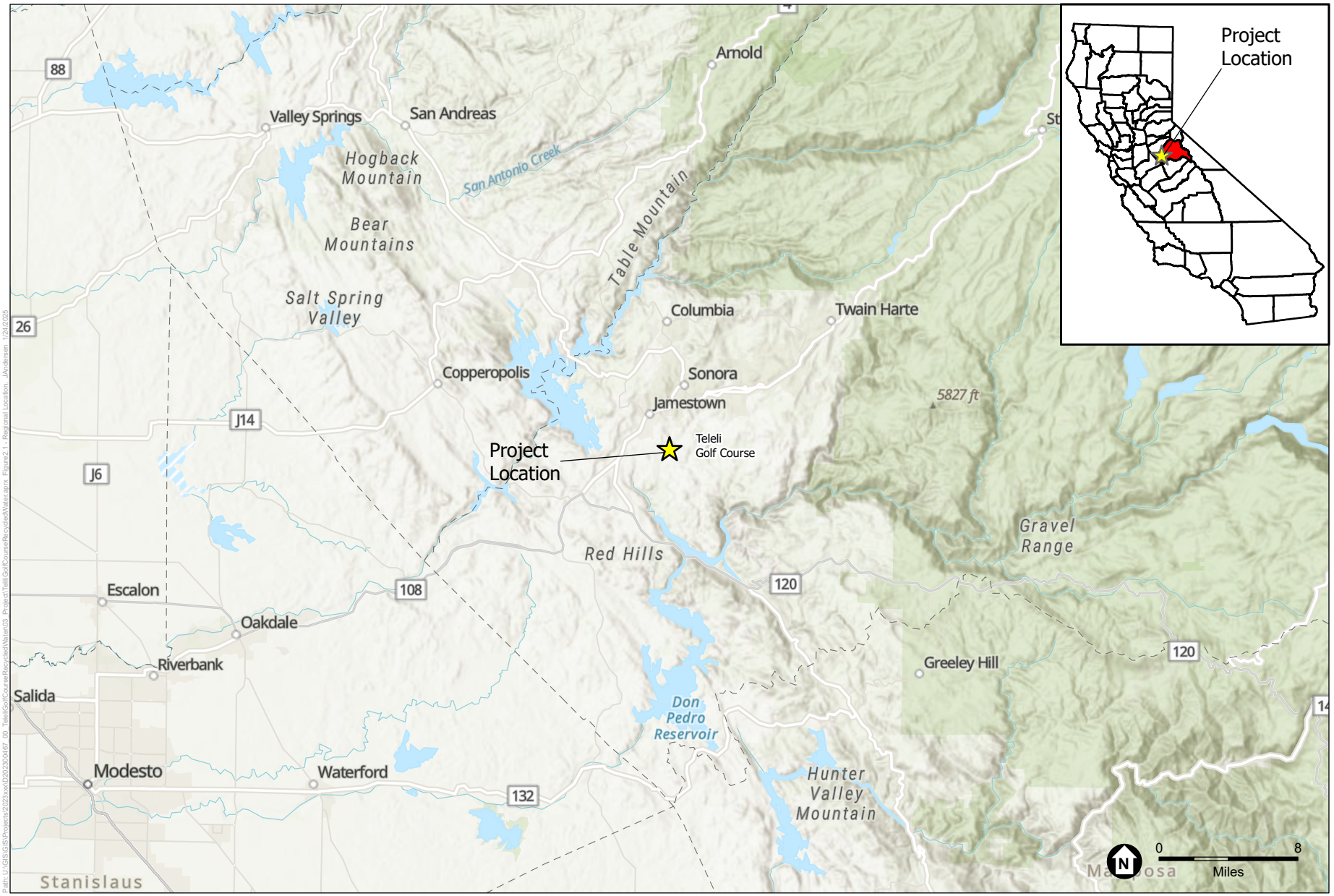
2.1 Introduction

The Tuolumne Utilities District (TUD) and the Tuolumne Economic Development Authority (TEDA), acting on behalf of the Tuolumne Band of Miwuk Indians (Tribe) are proposing to install and operate approximately 1.5 miles of 8- and 10-inch recycled water pipeline from TUD's existing turnout at the West property continuing underground to APN boundary 059-070-80, connecting to TEDA's underground pipeline and crossing over Sullivan Creek and continuing up to Storage Pond 1 for storage prior to use for irrigation at Teleli Golf Course. TUD is the Lead Agency for the California Environmental Quality Act (CEQA) environmental review. All proposed construction would occur on lands owned by TUD or the Tribe or utility easements on the West property.

2.2 Project Location

The proposed Project site is in a rural area of Tuolumne County outside the community of Jamestown (see **Figure 2-1**). Most properties in the area are 37 acres or more with a land use designation of Agricultural per the Tuolumne County General Plan.[1] Elevations in the proposed Project area and surrounding landscape range from 1,317 feet to 1,660 feet above mean sea level. The pipeline alignment generally follows unimproved ranch roads through grazing land. The proposed Project will construct and install new pipeline and an elevated crossing over Sullivan Creek before continuing underground up to Storage Pond 1 downgradient of the Teleli Golf Course for storage prior to use for irrigation. The proposed recycled water pipeline would extend from TUD's existing recycled water pipeline turnout at APN 059-160-08 and extend underground approximately 6,000 linear feet to a second connection at APN 059-070-80, continuing underground and crossing over Sullivan Creek via pipe bridge and continuing along the existing access roads, terminating at an irrigation pond (Storage Pond 1) adjacent to the Teleli Golf Course for storage and irrigation purposes (see **Figure 2-2**).

[1] Tuolumne County Community Resources Agency. 2018. *2018 Tuolumne County General Plan Volume I: General Plan Policy Document.* August 2018. Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/11266/Vol-I-Goals-Policies-Programs. Accessed November 19, 2024.

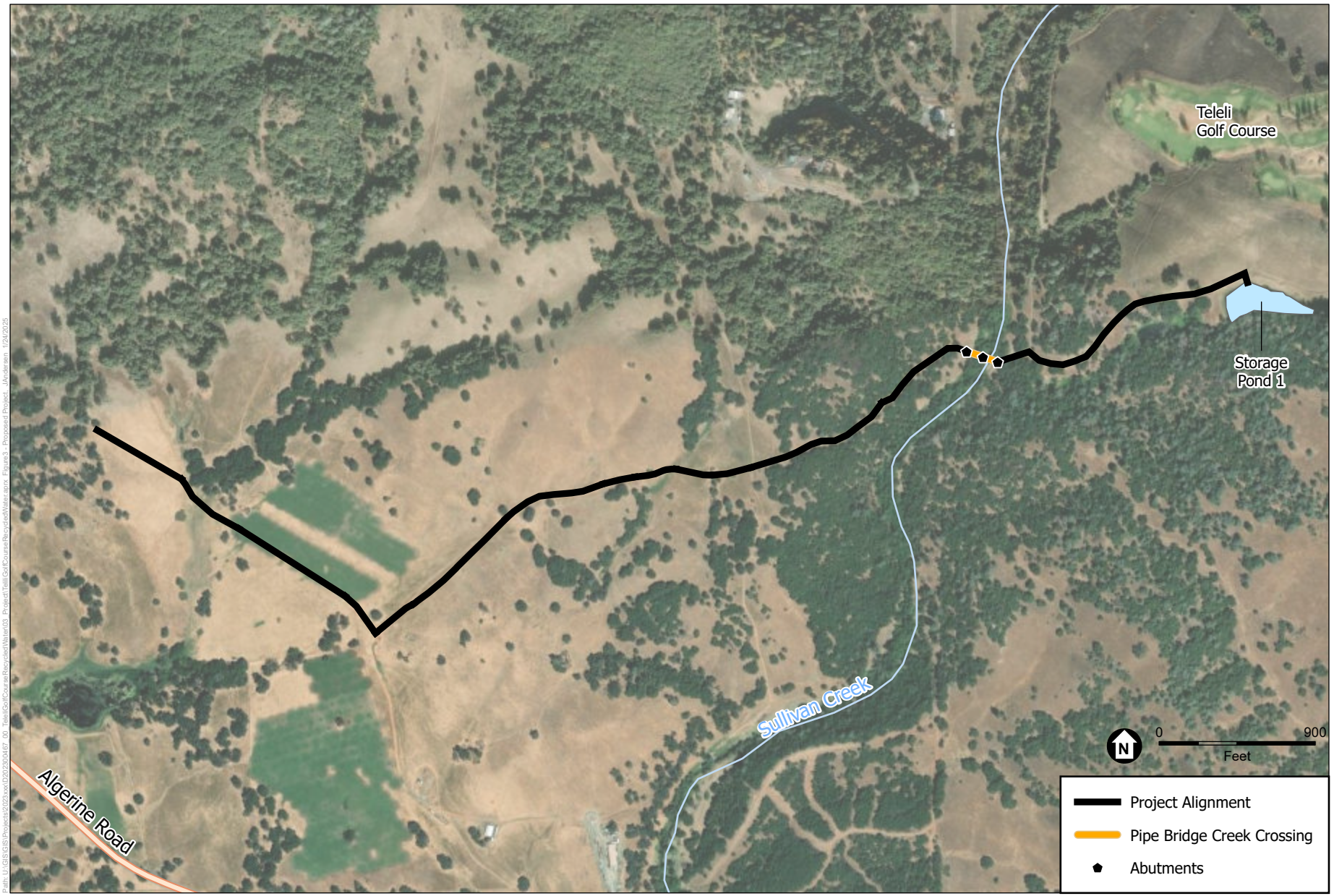


SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 2-1
Regional Location

ESA



SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 2-2
Proposed Project

ESA

2.3 Project Background

The proposed Project will complete the agreement between the Tuolumne Band of Me-Wuk Indians (Tribe), TEDA and the TUD to allow the Teleli Golf Course operated by TEDA to receive tertiary treated recycled water from TUD's wastewater treatment facility in Sonora, Tuolumne County. TUD currently disposes of between 1,400 and 2,000 acre-feet of treated wastewater each year through land application on approximately 600 acres of privately held lands as part of TUD's Regional Reclamation System. The recycled water is used for the irrigation of pasture grass used in cattle grazing. Outside of the irrigation season, recycled water is stored in TUD's Quartz Reservoir and then released during the summer to satisfy irrigation demands. The Jamestown Sanitary District also discharges treated wastewater to Quartz Reservoir under an agreement with TUD.

TUD's Sonora Regional Wastewater Treatment Facility is regulated under waste discharge requirements r5-2024-0016. The Regional Reclamation System is regulated under a Master Reclamation Permit r5-2002-0202. However, TUD anticipates the RWQCB will rescind the Master Reclamation Permit and extend coverage to TUD under the Statewide General Order for Recycled Water Use (Order WQ 2016-0068-DDW).

TUD has historically struggled to dispose of all its recycled water over the course of the year. In singular wet, and especially successive wet years, irrigation demands are low and TUD has not be able to empty the Quartz Reservoir before the beginning of the rainy season. TUD needs lands that can be fallowed after low rainfall years and irrigated in years following average to above-average rainfall. Furthermore, TUD does not have long-term agreements with landowners that can receive and irrigate with recycled water. On an annual basis, there is the potential risk to TUD that these landowners could fallow their land and cease irrigating, sell their property, or change the use of the property. To overcome this risk, TUD has sought to acquire property in fee-title that can be irrigated with recycled water and dedicated to annual disposal of recycled water. Unfortunately, after a survey of available lands in the area, there is not sufficient inventory of lands of adequate size, soil type, slope, and proximity to existing infrastructure for TUD to purchase and use as recycled water irrigation sites.

The Teleli Golf Course is an ideal candidate to receive recycled water because there is an established annual irrigation demand, a functional irrigation system, is adjacent to land already irrigated by recycled water, and competent staff that operate the system. Moreover, changing to recycled water for golf course irrigation would offset surface water diversions and improve raw water reliability in Tuolumne County.

TEDA would benefit from receiving recycled water because the proposed Project reduces raw water costs and diversifies their water supply portfolio while increasing water supply reliability and improving resiliency during droughts.

2.4 Need for Project and Purpose

The purpose of the proposed Project is to provide recycled water generated by TUD to the Teleli Golf Course owned by the Tribe and operated by TEDA, in accordance with an agreement between TUD and TEDA dated April 23, 2019. The proposed Project will provide a consistent supply of recycled water that

meets 22 CCR Section 60301.220 for disinfected tertiary-2.2 recycled water for golf course irrigation. The proposed Project will mutually benefit both parties.

The objectives of the proposed Project include:

Establish the ability to irrigate the golf course with tertiary recycled water thereby increasing TUD recycled water disposal capacity.

Increase the irrigable acreage in TUD's Regional Reclamation System to mitigate against future changes in land use or ranchers withdrawing from the system.

Mitigate the need for future recycled water storage by being able to minimize carryover storage in TUD's Quartz Reservoir.

Minimize risk to TUD of needing to discharge water from Quartz Reservoir into Woods Creek without an National Pollutant Discharge Elimination System (NPDES) permit, in addition to, the legal and financial impacts (fines or penalties) that could be imposed on the District from unauthorized discharges.

Conserve TUD's surface water supplies by replacing the golf course's current demand for surface water with recycled water, thereby increasing TUD's drought resiliency.

Provide the Tribe with a reliable source of water.

Diversify the Tribe's water portfolio.

Provide the Tribe water at no cost for the first 10 years, in accordance with the agreement between TUD and TEDA, and allow the Tribe to realize operational cost savings.

2.5 Proposed Project

The proposed Teleli Golf Course Recycled Water Pipeline Project (proposed Project) involves construction and operation of several thousand feet of new recycled water pipeline from TUD's existing recycled water pipeline in the West property and constructed over Sullivan Creek and then underground to the Teleli Golf Course for storage and irrigation purposes.

2.5.1 Operations and Maintenance

Operation and maintenance of the proposed Project would adhere to applicable regulations and performance standards/practices. TUD will be responsible for the operation and maintenance of the Phase 1 infrastructure while TEDA will be responsible for the operation and maintenance of the Phase 2 infrastructure. Both entities have professional, certified, paid staff whose responsibilities include operations and maintenance of the new system.

2.5.2 Avoidance Minimization Measures or Performance Measures

TUD and TEDA have established numerous avoidance minimization measures that would apply to construction of the proposed Project. These measures are reflected, as appropriate, in contract specifications, operating and maintenance procedures, and other documents.

2.5.3 Construction Phases

The proposed recycled water pipeline will be constructed in two phases: 1) TUD will construct and install the recycled water pipeline from its existing turnout connection in the West property; 2) TEDA will connect to TUD's turnout and construct and install the recycled water pipeline over Sullivan Creek and up to Storage Pond 1for storage and prior to use as irrigation on the Teleli Golf Course.

Part 1 – West Property to Sullivan Creek

Part 1 consists of installing approximately 2,050 linear feet of new 10-inch high density polyethylene (HDPE) pipeline from TUD's existing 10-inch asbestos cement recycled water pipeline through pasture lands and along existing ranch roads to an existing turnout at APN 059-160-08, and installing another 4,000 linear feet of eight-inch HDPE pipeline underground to a second connection near Sullivan Creek (APN 059-070-80). The new recycled water main will include air vacuum valves, isolation valves, two above ground metering vault structures, a recycled water filling station, and include road surface restoration and reseeding. Pipelines would be trenched, installed at three feet deep, bedded in approximately one foot of sand, and then backfilled with native soil and reseeded as appropriate. TUD will reseed trenchlines and other disturbed areas outside of roadways with native plant seeds. **Table 2-1**, shows the estimated quantities of import and export materials associated with constructing and installing Part 1 of recycled water pipeline.

Part 2 – Sullivan Creek to Storage Pond 1

Part 2 involves continuing underground and crossing over Sullivan Creek via a utility-grad pipe bridge, continuing along the existing access roads for storage in Storage Pond 1 and prior to irrigation purposes. Pipelines would be trenched, installed at three feet deep, bedded in approximately one foot of sand, and then backfilled with native soil and reseeded as appropriate. Table 2-1 shows the estimated quantities of import and export materials associated with constructing and installing Part 2 of recycled water pipeline.

Pipeline sizing has been determined based on providing 300 gallons per minute supply while maintaining positive suction pressure for the Tribe's new pump station. The eight-inch steel pipeline will cross over Sullivan Creek on a prefabricated steel utility pipe bridge. The pipe bridge will span the breadth of the creek and be fitted to abutments or piers on each side of the creek outside of the top of the bank. After crossing Sullivan Creek, the new eight-inch pipeline will transition to purple polyvinyl chloride (PVC) C900 pipe before going underground.

The water from Storage Pond 1 will be introduced into the golf course's existing irrigation system. The tertiary treated recycled water pumped into Storage Pond 1 will be mixed with existing raw water either through the existing raw water from Sullivan Creek or natural runoff collecting in Storage Pond 1. Once

tertiary water is mixed, water will then be pumped up to the golf course through distribution through augmented pressures to various holding ponds, ultimately irrigating the golf course.

TABLE 2-1
IMPORT AND EXPORT QUANTITIES

Part 1 – West Property to Sullivan Creek	
Bedding Sand	450 cubic yards
Aggregate Baserock	250 cubic yards
Part 2 – Sullivan Creek to Pond #1	
Bedding Sand	380 cubic yards
Aggregate Baserock	135 cubic yards

NOTES: Import and export quantities are approximate and may change during construction of the proposed Project
SOURCE: Tuolumne Utilities District 2024.

Prior to operating the new system, the golf course will install signage along the fence line in accordance with Title 22 standards to identify the use of recycled water and to protect public health. The golf course will ensure that no drinking fountains are connected to the recycled water supply and may need to conduct an internal sanitary survey to ensure no cross connections exist which could result in mixing potable water with recycled water. Backflow prevention devices may need to be installed at the clubhouse and restaurant areas.

2.6 Construction Activities

2.6.1 Part 1 – West Property to Sullivan Creek

The proposed Project area will be accessed from Algerine Road and through an existing access gate onto a gravel road through the West Ranch. TUD will stake the pipeline alignment to ensure construction occurs within the easement. Staging and parking will be as shown on the attached on existing disturbed ranch land.

Construction activities will occur from 7 a.m. – 7 p.m. No work on Sundays or holidays.

2.6.2 Part 2 – Sullivan Creek to Storage Pond 1

The proposed Project area will be accessed by public roads to the Teleli Golf Course which is located on Championship Drive. TEDA will stage equipment outside of the golf course roughs and beyond the field of play.

All pipe installation will involve open cut trenching. A pad for a crane to pick and set the bridge will be graded and prepared on the east side of Sullivan Creek.

Water quality controls, i.e., erosion control plan/Stormwater Pollution Prevention Plan (SWPPP) will be in place when constructing the Sullivan Creek utility bridge. Work will be done during the dry season when precipitation events are unlikely, and stream flows are low. Excavations will be outside the riparian

areas and Sullivan Creek. Silt fences will be placed along the edge of the creek in the work zone to ensure no sediment is transported into the Sullivan Creek.

Construction activities would occur from 7 a.m. to 7 p.m. No work on Sundays or holidays.

TABLE 2-2
CONSTRUCTION EQUIPMENT

Equipment type	Duration
Part 1 – West Property to Sullivan Creek	
Tracked Excavator	2,40 hours
Backhoe with Box Scraper	60 hours
Wheeled Loader	240 hours
Dump Truck #1	240 hours
Dump Truck #2	240 hours
Water Truck	240 hours
Flatbed Truck	24 hours
Skidsteer	240 hours
Hydroseeder	8 hours
Part 2 – Sullivan Creek to Pond 1	
Tracked Excavator	120 hours
Backhoe with Box Scraper	60 hours
Wheeled Loader	120 hours
Dump Truck #1	120 hours
Dump Truck #2	120 hours
Water Truck	120 hours
Flatbed Truck	24 hours
Skidsteer	120 hours
Concrete Truck	4 hours
Crane	24 hours

SOURCE: Tuolumne Utilities District 2024.

2.6.3 Staging

The planned construction staging/stockpiling areas are likely to be located on two sites: one in the West property and one in the TEDA portion of the proposed Project area. The location and size of the staging areas would ultimately be finalized by the contractor. For the purposes of this analysis, it is assumed that up to two staging areas would be used each up to 1 acre in size. The staging areas would be temporarily used for stockpiling spoils associated with trench excavation, and for storing proposed Project equipment and materials. The staging areas would require temporary security fencing and lighting for the duration of the proposed construction activities including mobilization and de-mobilization. Following construction, the temporary fencing would be removed, and the sites would be cleared of materials and equipment and returned to existing conditions, consistent TUD and TEDA standards and requirements.

2.7 Schedule

Construction Element	Duration
Part 1 – West Property to Sullivan Creek	
Pipeline Installation	20 working days
Valve and Meter Vault Structures	5 working days
Connection to Existing Main	1 working day
Road Resurfacing	4 days
Seeding and Stabilization	2 days
Part 2 – Sullivan Creek Crossing to Storage Pond 1	
UG Pipeline Installation	12 working days
Utility Bridge Abutments	3 days
Crane Pad Rough Grade	1 day
Offload and Stage Utility Bridge	1 day
Pick and Set Utility Bridge	1 day
Pick and Set Steel Pipeline	1 day
Road Resurfacing	2 days
Seeding and Stabilization	2 days

SOURCE: Tuolumne Utilities District 2024.

2.8 Required Permits and Approvals

The proposed Project, specifically Phase 2 – Sullivan Creek to Storage Pond 1, is anticipated to require the following regulatory permits and other regulatory approvals.

- SWPPP to reduce or prevent pollutants in stormwater and non-stormwater discharges.
- CDFW California Fish and Game Code Section 1602 Lake and Stream Alteration Agreement.

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CHAPTER 3
Initial Study

1.	**Project Title:**	Teleli Golf Course Recycled Water Pipeline
2.	**Lead Agency Name and Address:**	Tuolumne Utilities District
3.	**Contact Person and Phone Number:**	Erik Johnson, District Engineer. 209-532-5536
4.	**Project Location:**	Algerine Road and Teleli Golf Course Tuolumne County, California
5.	**Project Sponsor's Name and Address:**	Tuolumne Utilities District and Tuolumne Economic Development Authority
6.	**General Plan Designation(s):**	Agricultural AE-27; Teleli Golf Course R-1 (Single-Family Residential District); RE-1 (Residential Estate, One Acre Minimum District); R-2 (Medium Density Residential District), C-K (Commercial Recreational District) & O (Open Space).
7.	**Zoning:**	Agricultural AE-27; Teleli Golf Course R-1 (Single-Family Residential District); RE-1 (Residential Estate, One Acre Minimum District); R-2 (Medium Density Residential District), C-K (Commercial Recreational District) & O (Open Space).

8. Description of Project: (Describe the whole action involved, including but not limited to later phases of the proposed Project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

The Tuolumne Utilities District (TUD) and the Tuolumne Economic Development Authority (TEDA), acting on behalf of the Tuolumne Band of Miwuk Indians are proposing to install and operate approximately 2 miles of 8- and 10-inch recycled water pipeline from TUD's existing discharge point at the West property continuing underground to APN boundary, connecting to TEDA's underground pipeline and crossing over Sullivan Creek and continuing underground up to Storage Pond 1 prior to use for golf course irrigation.

9. Surrounding Land Uses and Setting. (Briefly describe the project's surroundings.)

The proposed Project area is in a rural area of Tuolumne County outside the community of Jamestown. Most properties in the area are 37 acres or more with a land use designation of Agricultural per the Tuolumne County General Plan.

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

The only approval needed for the proposed Project would be CDFW, Central Region

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

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

The Tuolumne Band of MeWuk Indians is one of two federally recognized California Native American tribes in the County and is a party to this proposed Project. Environmental Science Associates (ESA) on behalf of TUD contacted the Native American Heritage Commission during the CEQA process consistent with the requirements of State Bill (SB) 18 and Assembly Bill (AB) 52.

Environmental Factors Potentially Affected

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

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial study:

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

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

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

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

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

Erik D. Johnson
Signature

2/28/2025
Date

Erik Johnson
Name

Tuolumne Utilities District
Lead Agency

Environmental Checklist

3.1 Aesthetics

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

Environmental Setting

The scenic resources of Tuolumne County are valuable both in that they are a primary determinant of quality of life for area residents and in their capacity to promote tourism. In particular, visitors are attracted to Yosemite National Park; Stanislaus National Forest; the Tuolumne River, a designated Wild and Scenic River; and historic Gold Rush communities. Private vehicles are the primary mode of transportation within Tuolumne County, and views from area roadways are particularly important in defining the aesthetic experience of residents and recreational visitors (Tuolumne 2018b).

The proposed Project area is mostly undeveloped and consists of interior live oak-gray pine woodland, annual grassland, white alder-red willow riparian forest, seasonal wetlands, an irrigated wetland, Sullivan Creek, and an intermittent stream. The proposed Project area also includes a gravel road which partially extends the length of the development area as well as the Teleli Golf Course on the eastern end of the proposed Project area. The proposed Project area does not have any existing rural residences within 0.25 miles and generally avoids developed areas until it reaches the Teleli Golf Course. Views into the interior of the proposed Project area from roadways, residential locations, and areas adjacent to the site are characterized visually as open meadow with scattered trees and vegetation near the western portion of the proposed Project alignment and a denser oak-pine and alder-willow woodland covering much of the eastern end of the proposed Project area. Sullivan Creek runs through the proposed Project area from north to south, the proposed pipeline would use a pipe bridge structure to cross over Sullivan Creek and continue to Storage Pond 1 downgradient from the Teleli Golf Course. Views of the proposed Project area from more distant locations are largely obscured by trees and other vegetation, as well as hillslopes and other variations in the topography and landforms that surround the project area.

The project area is located within a rural setting where lighting is minimal. Scattered rural residential land uses and passing vehicles generate the primary sources of nighttime light and daytime glare in the project vicinity.

Regulatory Setting

Federal

There are no federal regulations pertaining to visual resources that are applicable to the proposed Project.

State

California Scenic Highway Program

California's Scenic Highway Program was created by the California Legislature in 1963 and is managed by the California Department of Transportation (Caltrans). The goal of this program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. A highway may be designated "scenic" depending on how much of the natural landscape travelers can see, the scenic quality of the landscape, and the extent to which development intrudes on travelers' enjoyment of the view.

California Energy Commission Building Energy Efficiency Standards for Outdoor Lighting

Title 24, Parts 1 and 6, Building Energy Efficiency Standards, adopted by the California Energy Commission (CEC) on November 5, 2003, includes requirements for outdoor lighting. These standards are updated on a 3-year cycle. These requirements vary according to which "Lighting Zone" in which the equipment is located. The standards contain lighting power (i.e., maximum zonal lumens) allowances for newly installed equipment and specific alterations that are dependent on the Lighting Zone in which the proposed Project is located. Existing outdoor lighting systems are not required to meet these lighting power allowances. However, alterations that increase the connected load, or replace more than 50 percent of the existing luminaires for each outdoor lighting application that is regulated by the standards must meet the lighting power allowances for newly installed equipment.

Local

Tuolumne County General Plan

The following policies and implementation programs from the Tuolumne County General Plan are applicable to the proposed Project (Tuolumne County 2018a).

Community Development and Design Element

Policy 1.B.5: Preserve the existing nighttime environment by limiting the illumination of areas surrounding new development. New lighting that is part of residential, commercial, industrial, or recreational development shall be oriented away from off-site sensitive uses, and shall be hooded, shielded, and located to direct light downward and prevent glare.

Natural Resources Element

Policy 16.A.1: Recognize that agricultural and timberlands have historically defined the rural character and scenic beauty of Tuolumne County.

Policy 16.A.3: Conserve the natural scenic quality of hillsides and hilltops throughout Tuolumne County.

Policy 16.A.5: Conserve scenic resources, landmarks and the natural landscape.

Policy 16.A.6: Encourage the protection of clusters of native trees and vegetation and outstanding individual native and non-native trees which help define the character of Tuolumne County. (formerly 4.I.6/10.F.e)

Discussion

a-c) **Less-than-Significant Impact.** A scenic vista is generally considered to be a location from which the public can experience unique and exemplary high-quality views, including panoramic views of great breadth and depth, often from elevated vantage points. While scenic views of the Sierra Nevada are prevalent across much of Tuolumne County, principal travel corridors are important to an analysis of scenic vistas because they define the vantage point for the largest number of viewers. These travel corridors include scenic roadways, primarily, as well as Wild and Scenic Rivers. Although Tuolumne County has many areas of scenic beauty, Caltrans has officially designated only three vista points in the County, these are located on State Route (SR) 120 at post miles 19, 21 and 44, none of which are in proximity to the proposed Project site (Tuolumne County 2018b).

A scenic roadway is generally considered to be a location from which the public can traverse areas of great scenic beauty, offering enjoyable experiences for passing motorists, cyclists, and hikers. Portions of SR 49, 108 and 120 are eligible for designation as State Scenic Highways. Although the County does not currently have any officially designated State Scenic Highways, Tuolumne County identifies portions of SR 49, 108, and 120 to be locally designated scenic routes. The proposed Project site is located approximately 1.5 miles south of SR 108 and 2.5 miles east of SR 49. (Caltrans 2024; Tuolumne County 2018b).

Scenic resources are those that strongly contribute to the visual landscape and add visual interest to the surrounding area. The County considers water resources and native plants to be of importance to the visual character of Tuolumne County, Sullivan Creek which runs through the proposed Project site is among these resources (Tuolumne County 2018b). The creek would largely be avoided; a utility bridge would be installed over Sullivan Creek and would be outside the riparian zones extending along the creek, silt fences would be installed during construction to avoid any impacts to water quality. Additionally, the pipeline alignment would generally follow existing access roads that run through the proposed Project site and avoid disturbance to native plants and areas with significant tree canopy cover.

For these reasons, the proposed Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings, and this impact would be **less than significant**.

d) **Less-than-Significant Impact.** "Light pollution" refers to all forms of unwanted light in the night sky, including glare, light trespass, sky glow, and over-lighting. Views of the night sky can be an important part of the natural environment, particularly in communities surrounded by extensive open space. Excessive light and glare can also be visually disruptive to humans and nocturnal animal species.

In Tuolumne County, sources of light and glare are generally limited to major transportation corridors and clusters of development that include commercial and industrial uses. Nighttime lighting, including security lighting on utility sites and structures, is necessary to provide a safe environment. At night, light pollution is present in and around the County. However, light pollution is primarily confined to the developed urban communities, as the vast majority of the County consists of agricultural, natural resource conservation, and open space uses. Specific sources of nighttime illumination include streetlights and vehicular lights associated with roadways, as well as commercial buildings and residences.

Glare is typically produced by exterior building materials, surface paving materials, and vehicles traveling or parked on roads and driveways. Any highly reflective facade materials are of particular concern, as buildings reflect sunlight.

As described in the Environmental Setting, the proposed Project site is located within a rural setting where lighting is minimal. Scattered rural residential land uses and passing vehicles generate the primary sources of nighttime light and daytime glare in the vicinity of the proposed Project.

The proposed Project must be consistent with applicable Tuolumne County General Plan policies intended to preserve the existing nighttime environment by limiting the illumination of areas surrounding new development. Specifically, Policy 1.B.5 requires that new lighting that is part of residential, commercial, industrial, or recreational development shall be oriented away from off-site areas, and shall be hooded, shielded, and located to direct light downward and prevent glare. The proposed recycled water pipeline would be installed underground and would not contribute to light pollution.

The proposed Project does not include building materials such as reflective glass and polished surfaces that would create glare that could result in a public hazard or a substantial annoyance to nearby receptors. Implementation of the proposed Project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area, and this impact would be **less than significant**.

References

Caltrans (California Department of Transportation). 2024. California State Scenic Highway Map. Available: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa. Accessed November 4, 2024.

Tuolumne County. 2018a. *Tuolumne County General Plan Volume 1 General Plan Policy Document.* Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/11266/Vol-I-Goals-Policies-Programs. Accessed November 4, 2024.

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3.2 Agriculture and Forestry Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
II. AGRICULTURE AND FORESTRY RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Environmental Setting

The proposed Project site is located in the western foothills of the Sierra Nevada and is generally surrounded by sparse rural residential development, and undeveloped areas characterized by interior live oak-gray pine woodland, annual grassland, white alder-red willow riparian forest, wetlands, and streams. The proposed Project site also includes a gravel road which partially extends the length of the development area as well as the Teleli Golf Course on the eastern end of the proposed Project site. The proposed Project area is currently undeveloped and consists of Public (P), Parks and Recreation (R/P), Agricultural (AG), Open Space (O), and Low Density Residential (LDR) land uses as designated by the Tuolumne County General Plan and is directly surrounded by estate residential (ER), AG, and homestead residential (HR) land uses (Tuolumne County, 2024). Portions of the proposed Project area are used as agricultural lands; however, would not be converted from existing uses to non-agricultural uses as part of the proposed Project.

Based on the California Department of Conservation map for California Land Conservation Act (Williamson Act) parcels, there are parcels located within the proposed Project area that are designated as being under Williamson Act contract (DOC 2022b; see Regulatory Setting for a discussion of the Williamson Act). In addition, the proposed Project area is designated as grazing land and urban and built-up land with the State's Farmland Mapping and Monitoring Program (DOC 2022a). The existing trees in the proposed Project site are not considered to be forestry resources per the definitions of PRC Section

12220(g), timberland as defined by PRC Section 4526, or timberland zoned Timberland Production per Government Code Section 51104(g).

Zoning applied to the site by the Tuolumne County Ordinance Code includes exclusive agricultural district (AE-37), single-family residential district (R-1), open space (O), residential estate (RE-1), commercial recreational district (C-K), and general recreational district (K) according to the County's Zoning Ordinance, as discussed in Section 3.11, *Land Use and Planning*.

Regulatory Setting

Federal

Farmland Protection Policy Act

The Farmland Protection Policy Act of 1981 (Sections 1539–1549, PL 97-98, December 22, 1981), requires the Secretary of Agriculture to establish and carry out a program to "minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to the extent practicable, will be compatible with State, units of local government, and private programs and policies to protect farmland" (7 United States Code [USC] 4201–4209 and 7 USC 658).

State

Williamson Act

The California Land Conservation Act of 1965, Chapter 7 California Government Code Sections 51200-51297.4 (commonly referred to as the Williamson Act) is California's principal policy for preserving agricultural land. The purpose of the Williamson Act is to preserve agricultural and open space lands and enables private landowners to contract with local jurisdictions to voluntarily restrict their land to agricultural and compatible open space uses in exchange for tax assessments for the agricultural value of the land instead of the market value, which typically means a reduction in property taxes.

California Public Resources Code

PRC Section 12220(g): "Forest land" is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including: timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

PRC Section 4526: "Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.

PRC Section 51104(g): "Timberland Production Zone" or "TPZ" means an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h). With respect to the general plans of cities and counties, "timberland preserve zone" means "timberland production zone."

California Open Space Subvention Act

The California Open Space Subvention Act (California Government Code Section 16143) states that land shall be deemed to be devoted to open space uses of statewide significance if it:

a) Could be developed as prime agricultural land, or

b) Is open-space land as defined in Section 65560 which constitutes a resource whose preservation is of more than local importance for ecological, economic, educational, or other purposes. The Secretary of the Resources Agency shall be the final judge of whether the land is in fact devoted to open-space use of statewide significance.

Local

Tuolumne County General Plan

The following goals and policies pertaining to agricultural and forestry resources from the Community Development and Design Agriculture Elements of the Tuolumne County General Plan are relevant to the proposed Project and discussed in the impact analysis (Tuolumne County, 2018a):

Community Development and Design Element

Goal 1A: Protect and enhance the quality of life for all residents of Tuolumne County while facilitating growth and development to meet the present and future needs of the County's residents, visitors and businesses.

Policy 1.A.1: Promote the efficient use of land to conserve natural resources.

Policy 1.A.5: Promote infill and clustered patterns of development that facilitate the efficient and timely provision of infrastructure and services.

Goal 1B: Minimize conflicts between incompatible land uses.

Policy 1.B.1: Protect existing land uses from the infringement of and impacts associated with incompatible land uses.

Policy 1.B.2: Protect public facilities from the infringement of incompatible land uses.

Agricultural Element

Goal 8A: Avoid the conversion of agricultural lands except determined to be infill areas.

Policy 8.A.1: Avoid the conversion of agricultural lands from the Agricultural General Plan land use designation and compatible zonings.

Policy 8.A.4: Development proposed adjacent to land designated Agricultural by the General Plan land use diagrams shall provide a buffer from the agricultural land. The buffer shall be 200 feet in width and located on the development site. No residential or non-agricultural buildings may be erected in the buffer area as long as the adjacent land remains designated Agricultural. The buffer may be reduced in width by the Board of Supervisors after considering the recommendation of the Section B—The Tuolumne County Economy Agricultural Advisory Committee if such a reduction is determined appropriate based upon the topography, vegetation, roads or other physical features of the buffer area or other factors considered by the Committee. If the General Plan land use designation of the adjacent land is amended in the future to a designation other than Agricultural, the need for the buffer area will be eliminated and the land use restrictions imposed pursuant to this Policy will cease at that time.

Goal 8B: Stabilize agricultural use.

Policy 8.B.1: Limit intrusion of urban development into agricultural areas.

Policy 8.B.4: Limit the intrusion of growth-inducing public services, such as public sewer systems and potable public water, into agricultural areas.

Goal 8C: Minimize conflicts between agricultural and non-agricultural uses.

Policy 8.C.2: Establish a buffer between agricultural land uses and residential/non-agricultural land uses. It shall be the obligation of the party seeking the land use change to ensure that a sufficient buffer is established between the parcels. The buffer shall favor protection of the agricultural land.

Tuolumne County Zoning Ordinance

The proposed Project area is zoned partially as exclusive agricultural district (AE-37), single-family residential district (R-1), open space (O), residential estate (RE-1), commercial recreational district (C-K), and general recreational district (K) according to the County's Zoning Ordinance, as discussed in Section 3.11, Land Use and Planning (Tuolumne, 2024).

Discussion

a) **No Impact.** According to data for Tuolumne County with the Farmland Mapping and Monitoring Program of the California Department of Conservation, the proposed Project is designated as grazing land as well as urban and built-up land. The proposed Project would not convert any land zoned or under agricultural land use designation, construction and operation of the proposed Project would not result in the conversion of farmland to a nonagricultural use, nor would the proposed Project require any revisions to existing zoning designations. Therefore, the proposed Project would have **no impact** associated with converting designated farmland to non-agricultural uses.

b) **No Impact.** The proposed Project would not permanently alter land use or require parcels to be rezoned as part of development; therefore, there would be no conflict with existing on-site zoning. Portions of the proposed Project area and the adjacent parcels are under a Williamson Act contract (APN's 059-160-008, and 059-070-078). The proposed Project would not convert any land zoned as agriculture or interfere with active Williamson Act contracts; construction and operation of the proposed Project would not result in the conversion of farmland to a nonagricultural use, nor would the proposed Project require any revisions to existing zoning designations. Therefore, the proposed Project would have **no impact** on agricultural resources.

c) **No Impact.** The proposed Project area is currently not zoned as forest land, or timberland, or zoned for timber production. Therefore, the proposed Project would not require any revisions to existing zoning designations.

The proposed Project area is predominantly grassland and is not currently used or proposed to be used for growing trees for commercial lumber or other forest products and is therefore not considered timberland. PRC Section 12220(g) defines forest land as: "land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and

wildlife, biodiversity, water quality, recreation, and other public benefits." By this definition, the proposed Project area could be considered forest land, but is not currently used for, and is not on lands zoned for timber production. Portions of the proposed Project area currently supports approximately 10 percent native tree cover and allow for the management of forest resources; however, this would not be substantially altered by the proposed Project. The proposed Project would be managed in a manner that would support water quality, recreation, and other public health benefits, consistent with the definition of forest lands in PRC Section 12220(g).

Because the proposed Project is not located on land zoned as forest or timber land, would not conflict with existing zoning for forestry or timberland resources, and would not necessitate rezoning of any portion of the proposed Project area, the proposed Project would not conflict with existing zoning. Therefore, there would be **no impact** with respect to forestry or timberland zoning attributable to the proposed Project.

d) **Less-than-Significant Impact.** The majority of proposed Project would be sited in clearings, and to limit tree removal to the minimum level necessary for construction and operation of the proposed Project. Given the limited scope of development and use in forested areas within the proposed Project site and the minimal areas where tree removal would be necessary, there would not be substantial loss of forest land or conversion of forest land to non-forest use. The proposed Project would be managed in a manner compatible with forest lands; consequently, construction and operation of the proposed Project would not result in a significant conversion of forestland to non-forestland uses. Impacts, primarily associated with tree removal, would be **less than significant**.

e) **No Impact.** As discussed above, the proposed Project would not involve changes in the existing environment that could result in the conversion of farmland to nonagricultural use or the conversion of forest land to non-forest use. Additionally, portions of the proposed Project site and the adjacent parcels are under a Williamson Act contract (APN's 059-160-008, and 059-070-078). However, the proposed Project would not permanently alter land use or require parcels to be rezoned as part of development; therefore, there would be no conflict with existing on-site zoning. The proposed Project would not cause a change in land use that would create conflict between differing types of land uses which could lead to abandonment of agricultural uses. Although several trees present within the proposed Project area may be removed, the proposed Project has been designed in a manner to limit tree removal to the minimum extent practicable. Therefore, as the proposed Project would not involve any other changes to the existing environment that would result in conversion of farmland or forestland to non-agricultural or non-forest use, the proposed Project would have **no impact** on the conversion of agricultural and forest land.

References

DOC (California Department of Conservation). 2022a. California Important Farmland Finder. Available: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed November 4, 2024.

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3.3 Air Quality

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
III. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The proposed Project is in Tuolumne County, within the Mountain Counties Air Basin (MCAB). The basin lies along the northern Sierra Nevada range and covers roughly 11,000 square miles. Elevations within the MCAB range from over 10,000 feet at the Sierra crest down to several hundred feet above sea level at the Stanislaus County boundary. The climate within the MCAB varies greatly, with the highest levels of precipitation in the mountain elevations and decreasing precipitation toward the western portion of the MCAB. In the summer, temperatures in the mountains are mild, with daytime peaks between 70 to 80 degrees Fahrenheit (°F), while the western end of the basin routinely exceeds 100°F.

The U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established the national ambient air quality standards (NAAQS) and the California ambient air quality standards for criteria air pollutants, respectively. The EPA calls these pollutants "criteria air pollutants" because the agency regulates them by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. The EPA has identified six criteria air pollutants including ozone, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), lead, and particulate matter. There are two subcategories of particulate matter regulated: particulate matter with a diameter of less than 10 microns (PM_{10}) and particulate matter with a diameter of less than 2.5 microns ($PM_{2.5}$). Most of the criteria air pollutants are directly emitted; however, ozone is a secondary pollutant that is formed in the atmosphere by chemical reactions between nitrogen oxides (NOx) and reactive organic gases (ROG). In addition to these, CARB also established ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. Areas of California are designated as either in attainment or non-attainment with respect to both the NAAQS and California ambient air quality standards. Tuolumne County within the MCAB is currently designated as non-attainment for the state 1-hour ozone standard and the state/federal 8-hour ozone standard and is listed as unclassified or attainment with respect to all other ambient air quality standards (CARB 2024a; CARB 2024b).

Ambient Air Quality

The Tuolumne County Air Pollution Control District (TCAPCD) and CARB maintain an air quality monitoring network that provides information on ambient concentrations of criteria air pollutants at

various locations in the county. **Table 3.3-1** presents a 5-year summary of air quality data for the period from 2019 to 2023 collected at the Barretta Street monitoring station in Sonora, CA. This station is located approximately 4 miles to the north of the proposed Project area and monitors ozone, the only pollutant for which the county is designated as non-attainment. Stations that monitor other criteria air pollutants are located farther away and data from these stations would not be representative of air quality in the proposed Project area. There are no EPA AirData air quality monitors within the Tuolumne County boundaries actively reporting data for criteria air pollutants other than ozone. Table 3.3-1 also compares measured ozone concentrations with the NAAQS and California ambient air quality standards.

TABLE 3.3-1
AMBIENT AIR QUALITY HISTORY NEAR PROJECT SITE

Standard/Averaging Time	Most-Stringent Applicable Standard	2019	2020	2021	2022	2023
Ozone						
Days 1-Hour Standard Exceeded		0	0	**1**	0	0
Maximum 1-Hour Concentration (ppm)	>0.090 ppm[a]	0.087	0.086	**0.0**97	0.089	0.086
Days 8-Hour Standard Exceeded		**2**	**5**	**3**	**1**	**2**
Maximum 8-Hour Concentration (ppm)	>0.070 ppm[b]	0.**074**	0.**083**	**0.081**	**0.074**	**0.075**

NOTES: ppm = parts per million; CAAQS = California ambient air quality standards

Bold values are in excess of applicable standard.

a. CAAQS not to be exceeded.
b. CAAQS/NAAQS not to be exceeded.

SOURCE: CARB, 2024c

Sensitive Receptors

Air quality does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Population subgroups sensitive to the health effects of air pollutants include the elderly and the young, population subgroups with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and populations with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases such as asthma and chronic obstructive pulmonary disease. The factors responsible for variation in exposure are also often similar to factors associated with greater susceptibility to air quality health effects. For example, lower income residents may be more likely to live in substandard housing and be more likely to live near industrial or roadway sources of air pollution.

Sensitive receptors include residences, schools and children's day care centers, hospitals and nursing and convalescent homes. These land uses are considered to be sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions.

The proposed Project area is located in a rural area of Tuolumne County outside the community of Jamestown, characterized with an agricultural land use designation. The pipeline alignment primarily follows unimproved ranch roads through grazing land. There are no sensitive receptors located within 1,000 feet of the proposed Project alignment. The nearest sensitive receptor is a residence (at the cul-de-sac of Blackbird Lane) located approximately 1,317 feet from the proposed Project alignment. The Teleli Golf Course is located approximately 1,660 feet from the proposed Project alignment but does not include any receptors considered sensitive to air quality.

Regulatory Setting

Criteria Air Pollutants

The EPA is required by the federal Clean Air Act to identify and establish NAAQS to protect health and the environment. As required by the California Clean Air Act, CARB has established the California ambient air quality standards, which are at least as protective as the NAAQS, and are often more stringent. Both the NAAQS and the California ambient air quality standards are presented in **Table 3.3-2**.

TABLE 3.3-2
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	State Standard	Federal Primary Standard
Ozone	8 Hour	0.070 ppm	0.070 ppm
	1 Hour	0.09 ppm	–
Carbon Monoxide	8 Hour	9.0 ppm	9 ppm
	1 Hour	20 ppm	35 ppm
Nitrogen Dioxide	Annual Average	0.030 ppm	0.053 ppm
	1 Hour	0.18 ppm	0.100 ppm
Sulfur Dioxide	Annual Average	–	0.030 ppm
	24 Hour	0.04 ppm	0.14 ppm
	1 Hour	0.25 ppm	0.075 ppm
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 $\mu g/m^3$	–
	24 Hour	50 $\mu g/m^3$	150 $\mu g/m^3$
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 $\mu g/m^3$	12.0 $\mu g/m^3$
	24 Hour	–	35 $\mu g/m^3$
Sulfates	24 Hour	25 $\mu g/m^3$	–
Lead	Calendar Quarter	–	1.5 $\mu g/m^3$
	30-Day Average	1.5 $\mu g/m^3$	–
	3-Month Rolling Average	–	0.15 $\mu g/m^3$
Hydrogen Sulfide	1 Hour	0.03 ppm	No Federal Standard
Vinyl Chloride	24 Hour	0.010 ppm	–
Visibility Reducing Particles	8 Hour	Extinction of 0.23/km; visibility of 10 miles or more	No Federal Standard

Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter
SOURCE: CARB, 2023.

Toxic Air Contaminants

In addition to criteria air pollutants, other pollutants of concern include toxic air contaminants (TACs), which are compounds that have been determined to pose an actual or potential risk to public health by increasing cancer risks or other health risks, such as respiratory diseases like asthma. Sources of TACs may include gasoline stations, automobiles, dry cleaners, industrial operations, hospital sterilizers, and painting operations. TACs of particular concern include diesel particulate matter (DPM) and asbestos. Growing evidence indicates that exposure to emissions from diesel-fueled engines, about 95 percent of which come from diesel-fueled mobile sources, may result in cancer risks that exceed those attributed to other measured TACs. Asbestos is a fibrous mineral, which is both naturally occurring in ultramafic rock (a rock type commonly found in California) and is used as a processed component of building materials. Because asbestos has been proven to cause serious adverse health effects, including asbestosis and lung cancer, it is strictly regulated based on its natural widespread occurrence and its former use as a building material. Geologic mapping does not indicate the presence of naturally occurring asbestos at the Sierra Pines site or along the proposed pipeline alignments; therefore, asbestos is not discussed further in this analysis (CDMG 2000).

Regional

Air quality in Tuolumne County is monitored and regulated by the TCAPCD.

TCAPCD CEQA Thresholds of Significance

The TCAPCD has established thresholds of significance for assessing potential air quality impacts under the CEQA (TCAPCD 2013). Specifically, the TCAPCD published its *CEQA Thresholds of Significance* document, which states that a project would have a significant impact on air quality if it would result in emissions in excess of TCAPCD (2013):

- 100 tons per year or 1,000 pounds per day of ROG;
- 100 tons per year or 1,000 pounds per day of NO_x;
- 100 tons per year or 1,000 pounds per day of PM_{10}; or
- 100 tons per year or 1,000 pounds per day of CO.

TCAPCD Rules and Regulations

In addition to the CEQA Thresholds of Significance, the TCAPCD regulates air quality within the county through various district rules and regulations. TCAPCD rules that would apply to the proposed Project include Rule 202 (Visible Emissions), Rule 205 (Nuisance), Rule 207 (Particulate Matter), and Rule 210 (Specific Contaminants) (TCAPCD 2021).

Tuolumne County General Plan

The 2018 Tuolumne County General Plan (General Plan; Tuolumne County 2018) was adopted in December 2018 and provides an overall framework for future county development. The Air Quality element of the General Plan includes various goals, policies, and implementation programs to reduce emissions and improve air quality throughout the county. Implementation of many of these programs fall under the responsibility of Tuolumne County and the TCAPCD. The following air quality policies would be applicable to the proposed Project :

Policy 15.A.1: Accurately determine and fairly mitigate the local and regional air quality impacts of land development projects proposed in the County.

Policy 15.A.4: Reduce air emissions from project construction.

Discussion

a) **Less than Significant with Mitigation Incorporated.** Although designated as a non-attainment area for the state ozone standard, Tuolumne County does not currently have a Clean Air Plan that addresses efforts to reduce ozone precursors within the county (ESA 2024). However, the County has developed the County General Plan Air Quality Element, discussed under the Regulatory Setting, above, to improve air quality. In the absence of a TCAPCD Clean Air Plan, the proposed Project is analyzed for consistency with the applicable goals, policies, and implementation measures included in the County's General Plan Air Quality Element. The proposed Projects' consistency with the County's General Plan Air Quality Element is summarized in **Table 3.3-3**.

TABLE 3.3-3
TUOLUMNE COUNTY GENERAL PLAN AIR QUALITY ELEMENT—CONSISTENCY ANALYSIS

Policy/Implementation Program	Project Consistency
Policy 15.A.1: Accurately determine and fairly mitigate the local and regional air quality impacts of land development projects proposed in the County.	
Implementation Program 15.A.a: Coordinate and cooperate with other local, regional and State agencies to develop a consistent and effective approach to air quality planning and management.	**Consistent.** The proposed Project would not exceed applicable air quality significance thresholds (see criterion b discussion).
Policy 15.A.4: Reduce air emissions from project construction.	
Implementation Program 15.A.k: Require the following dust-control measures during all Project-related site preparation activities (i.e., grading, excavation and associated materials hauling) to reduce air quality impacts: • Exposed soils shall be watered as needed to control wind borne dust. • Exposed piles of dirt, sand, gravel, or other construction debris shall be enclosed, covered and/or watered as needed to control wind borne dust. • Vehicle trackout shall be minimized through the use of rumble strips and wheel washers for all trucks and equipment leaving the site. • Sweep streets once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). • On-site vehicle speed shall be limited to 15 miles per hour on unpaved surfaces. • Loads on all haul/dump trucks shall be covered securely or at least two feet of freeboard shall be maintained on trucks hauling loads. • Construction equipment shall be maintained and tuned at the interval recommended by the manufacturers to minimize exhaust emissions. • Equipment idling shall be kept to a minimum when equipment is not in use. • Construction equipment shall be in compliance with the California Air Resources Board off-road and portable equipment diesel particulate matter regulations. Alternative construction-related air quality measures may be adopted by the decision-making body after considering a Project-specific air quality analysis prepared by a qualified consultant.	Consistent. Implementation of Mitigation Measure AQ-1 would ensure that the Project proponents require construction contractors to implement dust control measures during construction to reduce air quality impacts.

SOURCE: Table prepared by ESA based on Tuolumne County, 2018.

As demonstrated in Table 3.3-3, implementation of Mitigation Measure AQ-1 is required to reduce emissions consistent with Policy 15.A.4 in the County's General Plan Air Quality Element. Given the short duration of construction activities generating emissions, the proposed Project would not conflict with or obstruct the goals of the applicable air quality plan, and the impact would be less than significant with mitigation.

Mitigation Measures

Mitigation Measure AQ-1: Dust Control Measures during Construction.

The Project sponsors, or their designated contractors shall ensure that the following dust control measures listed in the Tuolumne County General Plan Air Quality Element are implemented during construction of the proposed Project:

- Exposed soils shall be watered as needed to control wind borne dust.
- Exposed piles of dirt, sand, gravel, or other construction debris shall be enclosed, covered and/or watered as needed to control wind borne dust.
- Vehicle trackout shall be minimized through the use of rumble strips and wheel washers for all trucks and equipment leaving the site.
- Sweep streets once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water).
- On-site vehicle speed shall be limited to 15 miles per hour on unpaved surfaces.
- Loads on all haul/dump trucks shall be covered securely or at least two feet of freeboard shall be maintained on trucks hauling loads.
- Construction equipment shall be maintained and tuned at the interval recommended by the manufacturers to minimize exhaust emissions.
- Equipment idling shall be kept to a minimum when equipment is not in use.
- Construction equipment shall be in compliance with the CARB off-road and portable equipment DPM regulations.

b) **Less-than-Significant Impact.** Project-related air quality impacts fall into two categories: short-term impacts due to construction and long-term impacts due to operation of the proposed Project.

Construction

Construction of the proposed Project would generate fugitive dust and diesel exhaust emissions from the use of heavy-duty construction equipment, material movement, and vehicle trips to and from the site.

Proposed Project construction emissions were conservatively estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1. Model inputs included estimates of the anticipated construction schedule, construction equipment, material quantities, and construction worker and full-time staff counts. Where Project-specific data was unavailable, CalEEMod defaults were used. Detailed modeling assumptions are included in **Appendix A**. To determine

whether the proposed Project would result in a violation of air quality standards or exacerbate existing ozone violations, proposed Project-related emissions were estimated and compared to the thresholds of significance established by TCAPCD.

Construction of the proposed Project is anticipated to begin in 2025 and take place over a period of three months. As discussed above, emissions during proposed Project construction will result from earthmoving and grading activities, pipeline installation, building ancillary structures, material transportation, and worker/vendor commutes. These activities will generate dust from soil disturbance and exhaust emissions from heavy-duty equipment and vehicles. Annual and average daily emissions estimated to result from construction of the proposed Project are summarized in **Table 3.3-4**, below.

TABLE 3.3-4
UNMITIGATED CONSTRUCTION-RELATED CRITERIA POLLUTANT EMISSIONS (TPY/PPD)

Year	ROG	NO_x	PM_{10}	CO
2025	0.03/2.23	0.23/18.2	0.02/2.42	0.22/16.8
TCAPCD Thresholds	100/1,000	100/1,000	100/1,000	100/1,000
Exceeds Thresholds?	No	No	No	No

NOTES: TPY = tons per year; PPD = pounds per day
SOURCE: Data compiled by Environmental Science Associates in 2024 based on Appendix A

As shown in Table 3.3-4, the proposed Project would generate emissions of ROG, NO_x, PM_{10}, and CO well below the TCAPCD significance thresholds. Implementation of Mitigation Measure AQ-1 identified under the analysis presented in criterion a would require the proposed Project to comply with dust-control measures identified in the County's General Plan Air Quality Element.

Operation

Operation and maintenance of the pipeline would generate a small number of vehicle trips that would generate emissions that are not anticipated to exceed TCAPCD's thresholds.

Conclusion

Criteria pollutants and precursor emissions generated by construction and operation of the proposed Project would not exceed the TCAPCD thresholds of significance, and this impact would be **less than significant**.

c) **Less-than-Significant Impact.** Construction and operation of the proposed Project would result in emissions of pollutants of concern such as CO and TACs. As discussed within the Environmental Setting section, there are no known sensitive receptors located within 1,000 feet of the proposed Project area. The proposed Project's location and design inherently reduce the likelihood of affecting sensitive populations and this impact would be less than significant.

Localized CO Emissions

CO is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. When inhaled at high concentrations, CO reduces the oxygen-carrying capacity of the blood and can restrict oxygen from reaching vital organs. The proposed Project would result in CO emissions during construction from construction equipment and from workers, vendors, and haul trucks traveling to and from the site.

Localized CO concentrations are generally related to high levels of traffic and congestion along roads and at intersections. Construction of the proposed Project is anticipated to require a maximum of 10 workers and few vendors on any given day; therefore, implementation of the proposed Project would not substantially increase traffic volumes resulting in minimal increases in traffic on rural roads near the proposed Project area during construction. In addition, background localized CO concentrations are relatively low due to the rural setting of the proposed Project area; thus, emissions from the marginal increase in traffic volumes during construction would not significantly add to these background concentrations to result in exceedances of the ambient air quality standards. Furthermore, CO emissions that would be generated by the proposed Project are below the TCAPCD threshold of significance for CO. Therefore, the proposed Project's impacts to localized CO concentrations in the proposed Project vicinity would be less than significant.

Once operational, maintenance activities associated with the proposed Project would not generate additional vehicle trips above existing conditions. CO emissions associated with these vehicle trips would be minimal and not contribute to localized CO concentrations in the proposed Project vicinity. Therefore, the operational impact of the proposed Project on local CO concentrations would be less than significant.

TAC Emissions

During construction, the proposed Project would generate TACs in the form of DPM from the use of heavy-duty, diesel-fueled construction equipment and heavy-duty truck trips. However, construction activity would be temporary and would occur over the course of approximately 3 months, beginning in the spring of 2025. In addition, there are no sensitive receptors located within 1,000 feet of the proposed Project alignment. The nearest receptor is located approximately 1,350 feet from the proposed Project alignment. Furthermore, based on the analysis under criterion a, implementation of Mitigation Measure AQ-1 is recommended during construction, which requires that construction equipment be maintained and tuned at intervals recommended by the manufacturers to minimize exhaust emissions, that equipment idling be kept to a minimum when equipment is not in use, and that construction equipment remain in compliance with the CARB off-road and portable equipment DPM regulations. Given the distance separating the nearest sensitive receptors from the proposed Project's construction areas and the short duration of construction activities, the health risk impact of proposed Project construction to nearest receptors would be **less than significant**. In addition, implementation of Mitigation Measure AQ-1 which includes measures to reduce DPM emissions from construction equipment would further reduce this impact. Once operational, the proposed Project would not introduce any new sources of DPM or other TACs. The proposed Project would not generate more vehicle trips than existing conditions. However, these emissions would be minimal and not

increase health risks to receptors in the proposed Project vicinity. Therefore, the proposed Project's operational impact from TACs would be less than significant.

Conclusion

Impacts from proposed Project construction and operation to localized CO concentrations and health risk impacts to nearby receptors in the proposed Projects vicinity would be **less than significant**.

d) **Less-than-Significant Impact.** Though odors are generally regarded as an annoyance rather than a health hazard, they can still cause public distress and, depending on severity, can be considered a nuisance. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective; people may have different reactions to the same odor. Furthermore, the occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Construction of the proposed Project would require the use of diesel-powered construction equipment, which can generate short-term, non-persistent odors due to engine exhaust. However, the proposed Project area is located in a rural area with no receptors in close proximity. Given the temporary and linear nature of construction activity, the impact of odors generated during proposed Project construction to receptors in the vicinity would be less than significant.

Once operational, the proposed Project would not include any sources of odor, and the impact would therefore be less than significant.

Conclusion

The impact of the proposed Project with respect to odorous emissions that could adversely affect a substantial number of people would be **less than significant**.

References

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3.4 Biological Resources

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

Environmental Setting

Data Sources/Methodology

This section identifies the existing biological resources at the proposed Project area; identifies the federal, state, and local regulations pertaining to biological resources within the region; and describes proposed Project impacts on those biological resources as well as mitigation measures to reduce Project-related potentially significant impacts. The information and analysis presented in this section is focused on special-status species,[2] wildlife habitats, vegetation communities, and potentially jurisdictional waters of the U.S. and waters of the state that occur or have the potential to occur on the proposed Project area. The results of the assessment presented in this section are based upon literature review and queries of the CDFW's Natural Diversity Database (CNDDB), the U.S. Fish and Wildlife Service (USFWS) list of federal endangered and threatened species, and the California Native Plant Society Inventory of Rare and Endangered Plants, as well as field surveys conducted at the proposed Project area by qualified biologists.

The sources of reference data reviewed for this evaluation included the following:

- Sonora U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle

[2] Species that are protected pursuant to federal or state endangered species laws or have been designated as Species of Special Concern by CDFW, or species that are not included on any agency listing but meet the definition of rare, endangered or threatened species of the CEQA Guidelines Section 15380(b), are collectively referred to as "special-status species."

- Historic and current aerial imagery (Google Earth 2024)
- Soil maps and information from the National Resources Conservation Service (NRCS 2024)
- CDFW CNDDB list of special-status species occurrences within the Sonora and eight surrounding USGS 7.5-minute topographic quadrangles (CDFW 2024)
- The California Native Plant Society online database (CNPS 2024)
- A USFWS Information for Planning and Consultation species list (USFWS 2024a)
- USFWS Critical Habitat for Threatened and Endangered Species (online mapping program) (USFWS 2024b)
- National Wetlands Inventory (USFWS 2024c)

On May 30, 2024, ESA biologist Jessica Orsolini and botanist Seth Kirby conducted reconnaissance-level surveys for biological resources and special-status plants, and conducted an aquatic resources delineation. A follow-up field survey was conducted by ESA biologists Amanda Segura-Moon and Alissa Lun on December 19, 2024, to survey expanded portions of the proposed Project area around Sullivan Creek and Storage Pond 1. During the biological surveys, ESA biologists walked through the proposed Project area recording existing habitat types, plants, and wildlife species observed. Vegetation community boundaries and wildlife habitats were identified and mapped based on the field survey and by using aerial photo interpretation. Prior to the field surveys, special-status species characteristics and habitat requirements were reviewed to aid in field recognition of suitable habitats. During the biological survey, habitats were evaluated for their potential to support regionally occurring special-status species and the presence of any other biologically sensitive resources such as wetlands, riparian habitat, or drainages. Refer to **Appendices B and C.**

During the aquatic resource delineation, potentially jurisdictional wetlands and other waters of the U.S. were delineated according to methods outlined in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008).

At the time of the survey on May 30, 2024, conditions were typical for spring in Tuolumne County. The timing of the survey corresponded to the evident and identifiable period of all species with at least moderate potential to occur in the proposed Project area. The survey was floristic in nature, meaning that every plant taxon that occurred in the floristic survey area at the time of the survey was identified to the taxonomic level necessary to determine rarity and listing status. Plant taxa not identified in the field were collected and identified later in the laboratory. All plants were identified using *The Jepson Manual: Vascular Plants of California (Second Edition)* (Baldwin et al. 2012). The surveys followed the procedures described in the CDFW's *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities* (CDFW 2018). Plant nomenclature follows *The Jepson Manual: Vascular Plants of California (Second Edition)* (Baldwin et al. 2012) as revised by the Jepson eFlora (Jepson Flora Project 2024). Common names of plant species are derived from the Jepson Manual (2020).

Regional Setting

The proposed Project area is in Tuolumne County, California, several miles south of the City of Sonora. Regionally, the proposed Project area is in the foothills of the Sierra Nevada within the Central Sierra

Nevada Foothills floristic province of the Sierra Nevada region (Baldwin et al. 2012). The Sierra Nevada of California is a north-northwest aligned mountain range that is substantially steeper on the eastern slope than the western slope. Elevation of the region ranges from 1,000 to 14,495 feet. Many rapid flowing rivers and streams flow west from the crest to the Great Central Valley and eventually the Pacific Ocean. Regional natural vegetation communities in the vicinity of the proposed Project area include montane hardwood-conifer forests, mixed conifer forests, ponderosa pine forests, oak woodlands, riparian woodlands, chaparral, perennial grasslands, wetlands, and riverine habitat. The climate is typically temperate to cold and dry. The mean annual precipitation at a meteorological station at New Melones Dam is 31.24 inches and mean annual temperatures range from an average maximum temperature of 75.1 degrees Fahrenheit to an average minimum temperature of 49.9 degrees Fahrenheit (Western Regional Climate Center 2024).

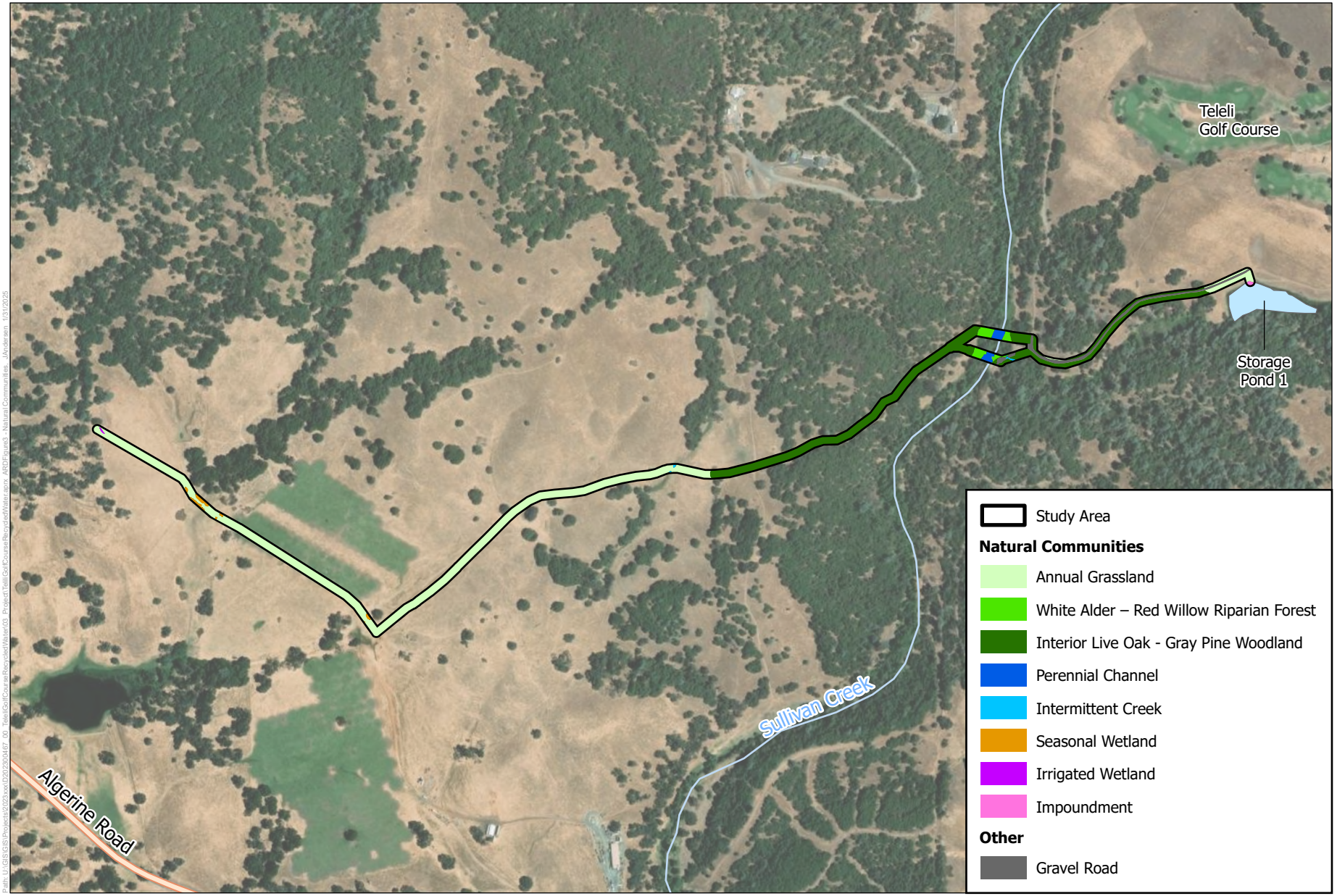
The proposed Project area is characterized by gentle to moderate slopes. Elevations range from approximately 1,317 to 1,660 feet. Vegetation communities primarily comprises a mix of grassland used for livestock grazing and oak woodland. Sullivan Creek crosses from north to south through the approximate center of the proposed Project area. The proposed pipeline alignment generally follows unimproved ranch roads through the grazed grassland and a gravel road leading up to an impoundment (Storage Pond 1). Land use surrounding the proposed Project area is characterized by a patchwork of similar grassland and oak woodland, a golf course, and low-density residential development.

Natural Communities and Other Land Covers

Natural communities are assemblages of plant species that are defined by species composition and relative abundance. Other land covers consist of unvegetated areas or areas significantly disturbed by human activities. The natural communities described herein correlate where applicable with the list of terrestrial biological communities recognized by the CNDDB (CDFW 2023). Eight habitat types were identified within the proposed Project area. They can be divided into two main classifications: uplands (natural and other) and aquatic habitats. **Table 3.4-1** and **Figure 3.4-1** identify the natural communities and other land covers that occur in the proposed Project area.

Interior Live Oak – Gray Pine Woodland

Within the proposed Project area, interior live oak-gray pine woodland occurs in the uplands surrounding Sullivan Creek. This community type is dominated by an overstory of interior live oak (*Quercus wislizeni*), blue oak (*Quercus douglasii*), and gray pine (*Pinus sabiniana*). Openings in this type of woodland are common and can be occupied by an understory of shrubs or grasslands. Common shrubs encountered include common whiteleaf manzanita (*Arctostaphylos viscida* ssp. *viscida*), poison oak (*Toxicodendron diversilobum*), wedgeleaf ceanothus (*Ceanothus cuneatus var. cuneatus*), California coffeeberry (*Frangula californica* ssp. *tomentella*), and California yerba santa (*Eriodictyon californicum*). The herbaceous layer in this community is similar to the composition of grasses and forbs in the annual grassland community. Interior live oak-gray pine woodland is not considered a sensitive natural community by CDFW (CDFW 2023).



SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 3.4-1
Natural Communities and
Other Land Covers

ESA

TABLE 3.4-1
ACREAGES OF NATURAL COMMUNITIES AND OTHER LAND COVERS IN THE PROPOSED PROJECT AREA

Natural Community and Other Land Covers	CDFW Name, Code	Acreage
Upland Habitats – Natural Communities		
Interior live oak – gray pine woodland	*Quercus wislizeni – Pinus sabiniana*/annual grass – herb, 71.080.42	2.839
Annual grassland	Annual Brome Grasslands, 42.027.00	3.927
White alder – red willow riparian forest	*Alnus rhombifolia – Salix laevigata*, 61.420.13	0.248
Upland Habitats – Other Land Covers		
Gravel road	None	0.495
Aquatic Habitats		
Seasonal wetland	None	0.080
Irrigated wetland	None	0.007
Sullivan Creek (Perennial Creek)	None	0.132
Intermittent creek	None	0.016
Impoundment (Storage Pond 1)	None	0.014
	Total	7.758

Annual Grassland

Annual grassland occurs in the uplands in the western half of the proposed Project site and adjacent to the eastern end of the gravel road east of Sullivan Creek. The dominant species of this community are ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum*), wild oat (*Avena fatua*), Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), short podded mustard (*Hirschfeldia incana*), yellow star-thistle (*Centaurea solstitialis*) and several species of clover (*Trifolium* spp.). Within the annual grassland is an unimproved ranch road where most of the proposed pipeline will be constructed. The ranch road has a species composition similar to the annual grassland in which it crosses through, though has more areas of barren ground and is routinely disturbed by vehicles and farm equipment. Annual brome grassland is not considered a sensitive natural community by CDFW (CDFW 2023).

White Alder-Red Willow Riparian Forest

White alder – red willow riparian forest occurs along Sullivan Creek in the proposed Project area. This natural community is dominated by several species of trees which include white alder (*Alnus rhombifolia*), red willow (*Salix laevigata*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), Oregon ash (*Fraxinus latifolia*), and Goodding's black willow (*Salix gooddingii)*. Shrubs in the understory include western buttonwillow (*Cephalanthus occidentalis*), California wild grape (*Vitis californica*), Himalayan blackberry (*Rubus armeniacus*), and California wild rose (*Rosa californica*). Along the creek's edge and within the ordinary high-water mark of Sullivan Creek, herbaceous species include torrent sedge (*Carex nudata*), common plantain (*Plantago major*), spikerush (*Eleocharis macrostachya*), Mexican rush (*Juncus mexicanus*), mugwort (*Artemesia douglasianna*), spearmint (*Mentha spicata*), and peppermint (*Mentha × piperita*). White alder – red willow riparian forest is considered a sensitive natural community by CDFW (CDFW 2023).

Gravel Road

The proposed Project area follows a single lane gravel road from the eastern edge of Sullivan Creek to the western edge of the Teleli Golf Course. The gravel road is generally devoid of vegetation, except for a few scattered weedy herbaceous species.

Seasonal Wetlands

Four seasonal wetlands occur in a drainage near the western end of the proposed Project area; two of these seasonal wetlands are located north of the ranch road alignment, and two are located south of the ranch road alignment. The seasonal wetlands on the north side of the road are connected to the seasonal wetlands on the south side of the road through approximately 24-inch diameter culverts under the road. Dominant species in these seasonal wetlands are Italian ryegrass (*Festuca perennis*), low manna grass (*Glyceria declinata*), seaside barley (*Hordeum marinum*), and Bermuda grass (*Cynodon dactylon*). The drainage in which these seasonal wetlands are located is tributary to Sullivan Creek downstream of the proposed Project area. Based on a review of Google Earth imagery, the hydrology of these seasonal wetlands is supplemented by irrigation water.

Two additional seasonal wetlands occur in a drainage in the western third of the proposed Project area near the proposed staging area. The seasonal wetlands occur on either side of the ranch road and are connected through an approximately 12-inch diameter culvert. Dominant species in these seasonal wetlands are Italian ryegrass and seaside barley. The drainage in which these seasonal wetlands are located is tributary to Sullivan Creek downstream of the proposed Project area. During the field survey, standing water was observed around the outfall of a PVC water pipe valve. Based on a review of Google Earth imagery and observed field conditions, the hydrology of these seasonal wetlands is supplemented by irrigation water.

Irrigated Wetland

An irrigated wetland occurs at the western end of the proposed Project area near the proposed TUD connection point. This irrigated wetland is the result of a broken water pipe, which was observed spilling water during field work. The irrigated supports hydrophytic vegetation and was dominated by Italian ryegrass. The irrigated wetland has no connection to any other seasonal wetlands and is not tributary to any downstream aquatic features.

Sullivan Creek (Perennial Creek)

Sullivan Creek is a perennial feature that flows from north to south through the center of the proposed Project area. Water in Sullivan Creek was approximately six to eighteen inches deep during the survey. Sullivan Creek has a rocky bottom with flows consisting of a mix of pools, riffles, and runs. The white alder-red willow riparian forest occurs along the edges and within portions of the flowing stream. The ordinary high-water mark is indicated by scour, a natural line impressed on the bank, changes in soil character, and a change in plant community.

Intermittent Creek

Intermittent creeks have flowing water seasonally. Groundwater is the primary component of flow, and runoff from precipitation supplements the flow. Intermittent creeks are generally dry by mid to late summer. Two unnamed intermittent creeks are in the proposed Project area. One intermittent creek (IC 1) originates in the foothills north of the proposed Project area, crosses through the center of the proposed

Project area through a culvert and drains south to Sullivan Creek outside the proposed Project area. During the survey, water was approximately two to six inches deep. The substrate primarily consisted of mud with scattered large rocks. Vegetation in the creek was dominated by seep monkey flower (*Erythranthe guttata*), watercress (*Nasturtium officinale*), and spinyfruit buttercup (*Ranunculus muricatus*). Hundreds of Sierran treefrog (*Pseudacris sierra*) adults and tadpoles were observed in this creek during the field survey. The ordinary high-water mark is indicated by scour and a change in plant community.

A second intermittent creek (IC 2) crosses through the proposed Project area just east of Sullivan Creek. The creek originates at the golf course, is impounded in several areas, crosses over the gravel access road, then drains into Sullivan Creek. Under current conditions, water in IC 2 is supplemented by irrigation water diverted from Sullivan Creek, temporarily stored in Storage Pond 1 (an impoundment of IC 2), and then used as irrigation water at the golf course. During the survey, water was approximately two to six inches deep. The substrate primarily consisted of gravel and mud. Dominant vegetation along the banks of this intermittent creek consists of Himalayan blackberry; close to its outfall into Sullivan Creek it crosses through the white alder – red willow riparian forest. The ordinary high-water mark is indicated by scour and a natural line impressed on the bank.

Impoundment (Storage Pond 1)

A small portion of the northern edge of an impoundment (Storage Pond 1) occurs at the eastern end of the proposed Project area. Storage Pond 1 is an impoundment of IC 2 and is used to temporarily hold water pumped from Sullivan Creek, which is then used as irrigation water for the golf course. The substrate of the pond consists of sediment and small cobble. Within the proposed Project area, vegetation on the banks of Storage Pond 1 consists of annual grassland with emergent sedges (*Cyperus eragrostis*) growing along the water line. The existing pump structure and outfall pipe are located above the ordinary high-water mark. During the survey, small fish and aquatic invertebrates were observed in the water.

Federal and State Protected Wetlands and Waters

The federal government regulates waters of the U.S., including many wetlands, under the Clean Water Act (CWA). The federal government defines wetlands in Section 404 of the CWA 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. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 Code of Federal Regulations [CFR] 328.3[c][1]; 40 CFR 120.2[c][1]). Indicators of three wetland parameters (hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by site investigation, must be present at a site for USACE to classify the site as a wetland (Environmental Laboratory 1987).

The USACE is the responsible agency for regulating wetlands under Section 404 of the CWA, while the EPA has overall responsibility for the CWA. CDFW does not normally have direct jurisdiction over wetlands unless they are subject to regulation under streambed alteration agreements or they support State-listed species; however, CDFW has trust responsibility for wildlife and habitats pursuant to California law.

"Other waters of the U.S." refers to those hydric features that are regulated by the CWA but are not wetlands (33 CFR 328.4). To be considered jurisdictional, these features must exhibit an ordinary high-

water mark. Examples of other waters of the U.S. include rivers, creeks, intermittent channels, ponds, and lakes. The definition and regulatory framework of wetlands and jurisdictional waters are further described in the CWA portion of this chapter (see below).

The aquatic resources delineation identified 0.162 acre (249.7 linear feet) of waters and 0.080 acre of wetlands in the survey area that are expected to qualify as both waters of the U.S. and waters of the state. A total of 0.012 acre of irrigated wetland and culverts are not expected to be considered wetlands and waters of the U.S. or state.

Aquatic communities were classified using the *Classification of Wetlands and Deepwater Habitats of the U.S.* (Cowardin Classification) (FGDC 2013) (**Table 3.4-2**). **Figure 3.4-2** shows the location and extent of the aquatic features. The wetland delineation has not yet been verified by USACE and should be considered preliminary until verification is received from USACE.

TABLE 3.4-2
AQUATIC RESOURCES WITHIN THE PROJECT AREA

Feature Type	Cowardin Classification	Linear feet (ft.)	Acreage
Wetlands			
Seasonal Wetlands 1-6	PEM1C[1]	--	0.080
Irrigated Wetland	PEM1K[3]	--	0.007
	Total Wetlands	**--**	**0.087**
Other Waters			
Sullivan Creek (Perennial Channel 1)	R3UBH[4]	157	0.132
Intermittent Creek 1	R4SBC[5]	34.4	0.006
Intermittent Creek 2	R4SBCh[6]	58.2	0.010
Storage Pond 1 (impoundment)	PUBHh[7]	--	0.014
Culverts	--	134.7	0.005
	Total Other Waters	**384.3**	**0.167**
	Total Aquatic Resources	**384.3**	**0.254**

NOTES: FDGC = Federal Geographic Data Committee

1. Cowardin classification: palustrine, emergent wetland, persistent, seasonally flooded (FGDC 2013).
2. Cowardin classification: palustrine, emergent wetland, persistent, temporarily flooded (FGDC 2013).
3. Cowardin classification: palustrine, emergent wetland, persistent, artificially flooded (FGDC 2013).
4. Cowardin classification: riverine, upper perennial, unconsolidated bottom, permanently flooded (FGDC 2013).
5. Cowardin classification: riverine, intermittent, streambed, seasonally flooded (FGDC 2013).
6. Cowardin classification: riverine, intermittent, streambed, seasonally flooded, diked/impounded (FGDC 2013).
7. Cowardin classification: palustrine, unconsolidated bottom, permanently flooded, diked/impounded (FGDC 2013).

SOURCE: Data compiled by Environmental Science Associates in 2024, 2025.

Sensitive Natural Communities

A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or federal agencies. Most sensitive natural communities are given special consideration because they perform important ecological functions, such as maintaining water quality and providing essential habitat for plants and wildlife. Some natural communities support a unique or diverse assemblage of plant species

and therefore are considered sensitive from a botanical standpoint. CEQA may identify the elimination of such communities as a significant impact.

Sensitive natural communities include: (a) habitats and natural communities that are regulated by federal and State resource agencies, (b) natural communities ranked S1, S2, or S3 by CDFW, and (c) areas protected by County ordinance. The CNDDB generates a list of ecologically sensitive and/or threatened habitat types within the state of California. There are no sensitive natural communities mapped in the CNDDB on the nine quads centered on the proposed Project area. The seasonal wetlands, intermittent creeks, Sullivan Creek, and Storage Pond 1 in the proposed Project area are sensitive natural communities because they are regulated by federal and State resource agencies. The white alder – red willow riparian forest is considered a sensitive natural community by CDFW (CDFW 2023).

Wildlife Corridors

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. Fragmentation can also occur when a portion of one or more habitats is converted into another habitat, such as when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or grading activities. Wildlife corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

The proposed Project area where pipeline construction would occur is primarily within an existing ranch road located within a broader region of grassland, oak woodland and rural residential development. Sullivan Creek in the proposed Project area provides aquatic and riparian habitat suitable for wildlife movement through the area. Wildlife may also move through other undeveloped areas of the proposed Project area. However, there are no documented wildlife movement corridors in the proposed Project area. The proposed Project area and the surrounding area were not identified as an area of Essential Habitat Connectivity in the County's 2018 Environmental Impact Report (EIR) for the General Plan Update (Tuolumne County 2018a). Further, the Tuolumne County Deer Herds and Migration Map prepared in support of the General Plan Update's EIR shows the nearest migrant deer herd as occurring 3.5 to 4 miles from the proposed Project area (Tuolumne County 2018b).

Critical Habitat

Critical habitat is defined in Section 3(5)A of the Federal Endangered Species Act (FESA) as a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. There is no critical habitat designated within or adjacent to the proposed Project area.

Feature	Aquatic Feature	Acres	Linear Feet	Square Feet
IW 1	Irrigated Wetland	0.007	N/A	321.4
SW 1	Seasonal Wetland	0.031	N/A	1342.5
SW 2	Seasonal Wetland	0.008	N/A	335.0
SW 2	Seasonal Wetland	0.021	N/A	923.6
SW 3	Seasonal Wetland	0.005	N/A	234.0
SW 4	Seasonal Wetland	0.003	N/A	133.3
SW 5	Seasonal Wetland	0.011	N/A	493.1
SW 6	Seasonal Wetland	0.001	N/A	24.1
Storage Pond 1	Impoundment	0.014	N/A	612.1
Sullivan Creek	Perennial Channel	0.132	157.0	5754.3
IC 1	Intermittent Creek	0.006	34.4	260.6
IC 2	Intermittent Creek	0.010	58.2	442.7
C 1	Culvert	0.001	17.9	64.1
C 2	Culvert	0.001	16.6	56.1
C 3	Culvert	0.000	12.8	21.9
C 4	Culvert	0.002	87.4	87.4
Sum		0.255	384.4	11106.1

Path: U:\GIS\GIS\Projects\2023xxx\D202300467_00_TeleliGolfCourseRecycledWater\03_Project\TeliliGolfCourseRecycledWater.aprx, JAndersen 2/4/2025

SOURCE: ESA 2025

Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: D North American 1983
Vertical Datum: N/A

Study Area

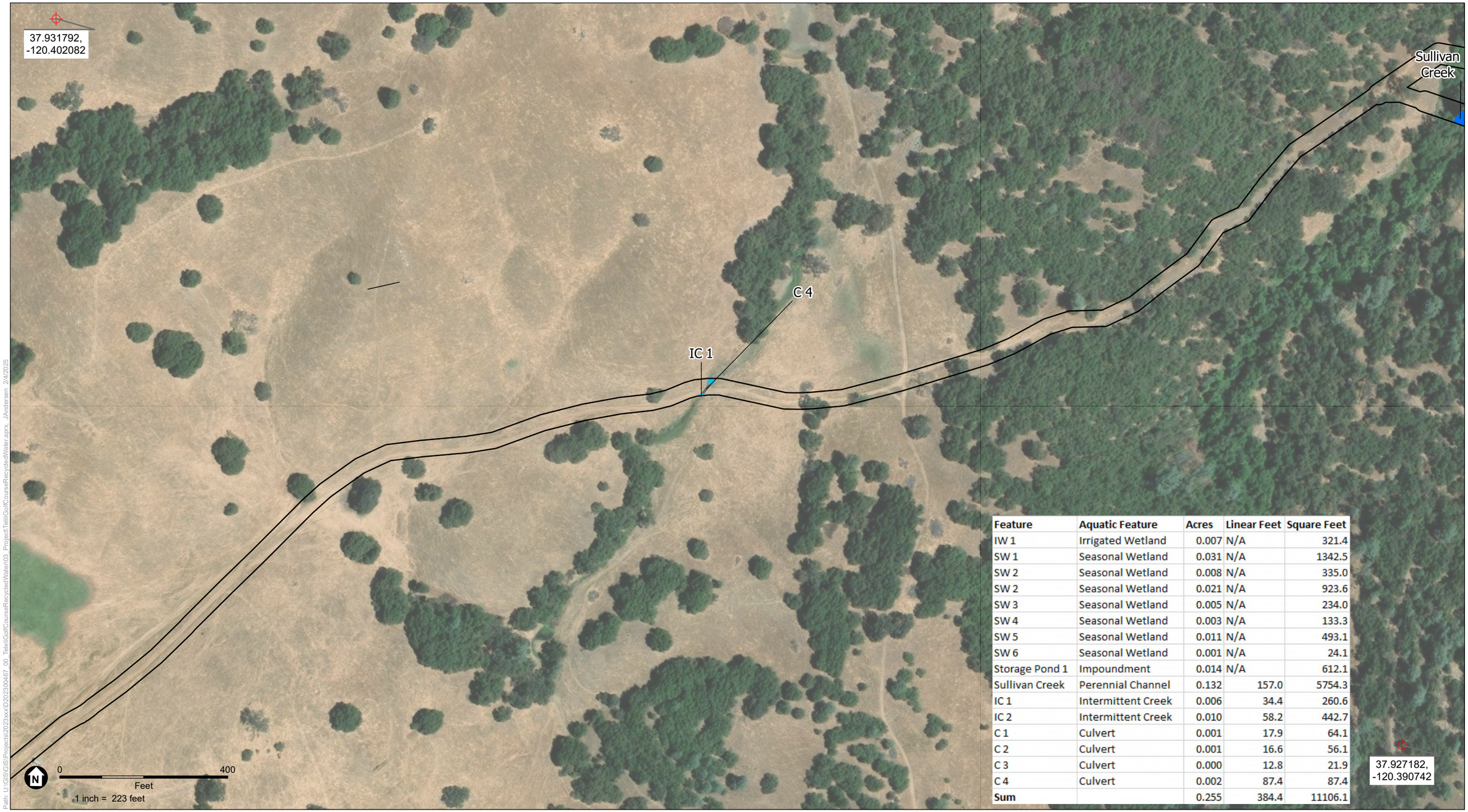
Data Points
- Upland
- Wetland
- Map Reference Point
- Culverts (C)

Wetlands (0.087 acres)
- Seasonal Wetland (0.080 acres)
- Irrigated Wetland (0.007 acres)

Teleli Golf Course Recycled Water Line

Figure 3.4-2
Delineation of Wetlands and Other Waters of the U.S.
(1 of 3)

Delineated by: Jessica Orsolini and Seth Kirby
Mapping by: Jacob Andersen
Created on: 1/27/2025



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Path: U:\GIS\GIS\Projects\2023xxx\D202300467_00_TelleliGolfCourseRecycledWater\03_Project\TelliGolfCourseRecycledWater.aprx, JAndersen 2/4/2025

SOURCE: ESA 2025

Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: D North American 1983
Vertical Datum: N/A

Study Area

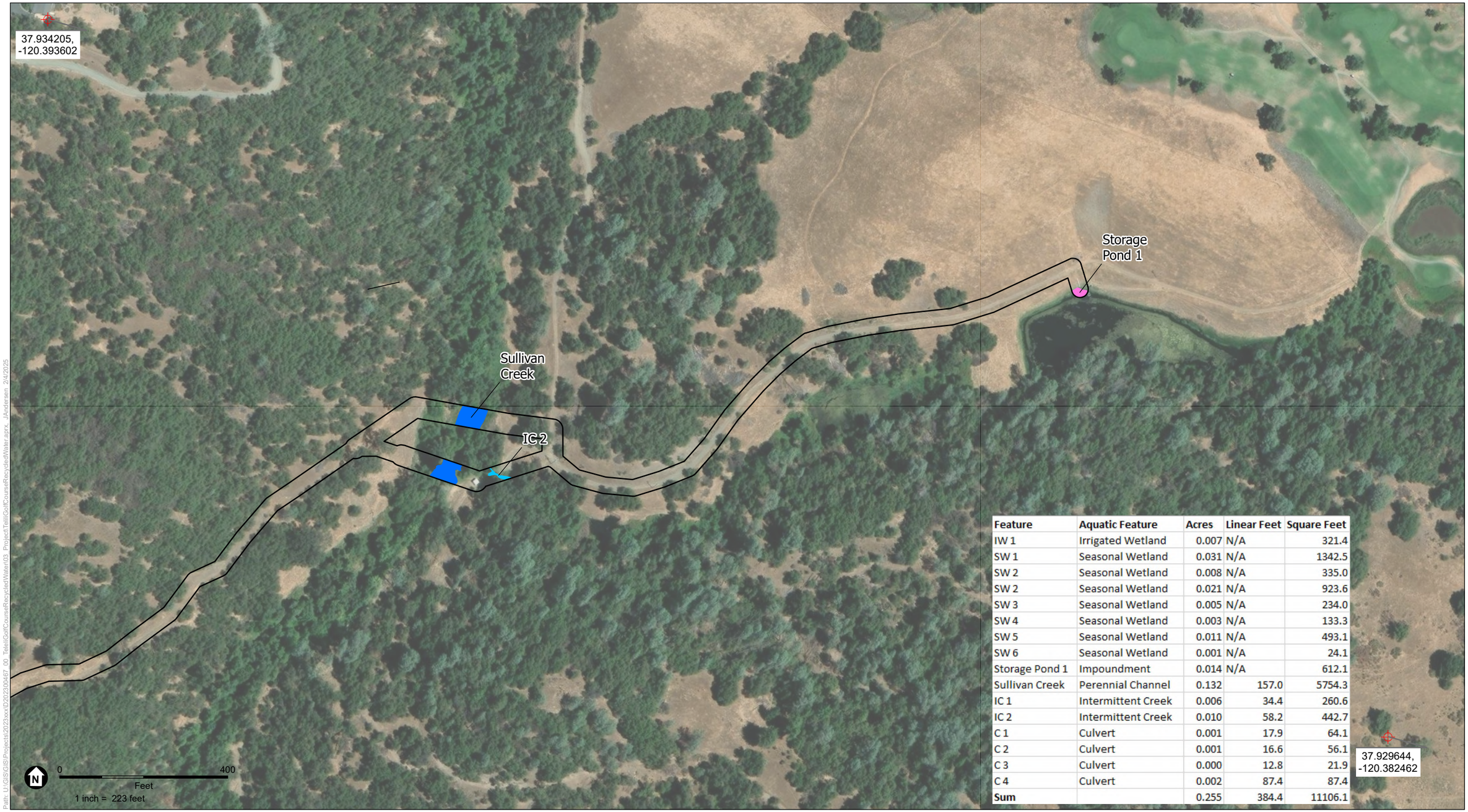
Data Points
- Upland
- Wetland
- Map Reference Point
- Culverts (C)

Other Waters (0.162 acres)
- Perennial Channel (0.132 acres)
- Intermittent Creek (0.016 acres)

Teleli Golf Course Recycled Water Line

Figure 3.4-2
Delineation of Wetlands and Other Waters of the U.S.
(2 of 3)

Delineated by: Jessica Orsolini and Seth Kirby
Mapping by: Jacob Andersen
Created on: 1/27/2025



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SOURCE: ESA 2025

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Projection: Lambert Conformal Conic
Datum: D North American 1983
Vertical Datum: N/A

Study Area

Data Points
- Upland
- Wetland
- Map Reference Point
- Culverts (C)

Other Waters (0.162 acres)
- Perennial Channel (0.132 acres)
- Intermittent Creek (0.016 acres)
- Impoundment (0.014 acres)

Teleli Golf Course Recycled Water Line

Figure 3.4-2
Delineation of Wetlands and Other Waters of the U.S.
(3 of 3)

Delineated by: Jessica Orsolini and Seth Kirby
Mapping by: Jacob Andersen
Created on: 1/27/2025

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Special-Status Species

Special-status species are regulated pursuant to federal and/or State endangered species laws or have been designated as Species of Special Concern by CDFW. In addition, Section 15380(b) of the CEQA Guidelines defines rare, endangered, or threatened species that are not included in any listing.[3] Species recognized under these terms are collectively referred to as special-status species. Special-status species or natural communities evaluated in this report are defined as:

1. Species listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species])
2. Species that are candidates for possible future listing as threatened or endangered under FESA (61 FR 40, February 28, 1996)
3. Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (California Code of Regulations [CCR], Title 14, Section 670.5)
4. Plants listed as rare or endangered under the California Native Plant Protection Act (Fish and Game Code, Section 1900 et seq.)
5. Animal species of special concern to CDFW
6. Animals fully protected under Fish and Game Code (Fish and Game Code, Section 3511 [birds], Section 4700 [mammals], and Section 5050 [reptiles and amphibians])
7. Species that meet the definitions of rare and endangered under the CEQA; a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists (State CEQA Guidelines, Section 15380)
8. Plants ranked by California Native Plant Society as "rare, threatened, or endangered in California" (California Rare Plant Ranks 1A, 1B, and 2) meet CEQA significance criteria and State Fish and Game Code sections 1901, 2062, and 2067 criteria as rare, threatened, or endangered species
9. Natural communities that are waters, wetlands, riparian communities, or any biological community ranked S1, S2, or S3 by CDFW (2023)

A list of special-status species that have the potential to occur within the vicinity of the proposed Project area was compiled from nine-quad searches of the CNDDB (CDFW 2024) and California Native Plant Society's Rare Plant Inventory (CNPS 2024); a search of the USFWS Information for Planning and Consultation database (USFWS 2024a); and review of biological literature of the region for the following 7.5-minute USGS topographic quadrangles:

Angels Camp	Columbia	Columbia SE
New Melones Dam	Sonora	Standard
Keystone	Chinese Camp	Moccasin

[3] For example, vascular plants listed as rare or endangered or as Rare Plant Rank 1 or 2 by CDFW are considered to meet the requirements of CEQA Guidelines Section 15380(b).

A list of special-status species, their general habitat requirements, and an assessment of their potential to occur within and adjacent to the proposed Project area is provided in **Appendix D**. The analysis below also includes consideration of nesting birds regulated by the federal Migratory Bird Treaty Act (MBTA) and/or California Fish and Game Code. The "Potential for Occurrence" categories are defined as follows:

- **Unlikely:** The study area does not support suitable habitat for a particular species, does not provide soils required for the species to inhabit, or is outside of the species known elevation or geographic range; or, species-specific protocol-level surveys were conducted on the proposed Project area for the species and the results were negative;
- **Low:** The study area only provides limited amounts and low-quality habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate study area;
- **Moderate:** The study area provides suitable habitat for a particular species;
- **High:** The study area provides ideal habitat conditions for a particular species and/or known populations occur in immediate area and/or within the study area; or
- **Present:** The species was observed during the biological survey within the study area.

Conclusions regarding habitat suitability and species occurrence are based on the analysis of existing literature and databases described previously and known habitats occurring within the proposed Project areas and regionally. Database queries identify 52 special-status plant and wildlife species. Of these, 47 species were eliminated from further consideration based upon a lack of suitable habitat in the proposed Project areas, or the proposed Project areas being outside the known range of the species. Five special-status species (Crotch's bumble bee, Central California roach, foothill yellow-legged frog [FYLF], south Sierra DPS, northwestern pond turtle, and western red bat) have moderate potential to occur in the proposed Project area. Only species classified as having a moderate or high potential for occurrence were considered in the impact analysis.

Regulatory Setting

Federal

Federal Endangered Species Act

FESA (16 USC 1531–1544) prohibits unauthorized take of fish, wildlife, and plants that are listed as threatened or endangered and their designated critical habitat. *Candidate species* are those for which there is sufficient information on their biological status and threats to proposed listing, but for which the development of a proposed listing regulation is precluded by other higher priority listing activities but are usually evaluated as special-status species during the environmental review process. FESA specifies procedures for addressing effects or consequences of proposed actions on federally listed species.

Procedures for addressing impacts to federally listed species follow two principal pathways. The first pathway is a Section 10(a) incidental take permit, which applies to situations where a non-federal government entity must resolve potential adverse impacts to species protected under the FESA. The second pathway involves Section 7 consultation, which applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval such as a Section 404 permit under the CWA or receiving federal funding.

Migratory Bird Treaty Act

The MBTA (16 USC 703–712) enacts the provisions of treaties between the U.S., Great Britain, Mexico, Japan, and the former Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. Unless and except as permitted by regulations, the MBTA states that without a permit issued by the U.S. Department of the Interior, it is unlawful to pursue, hunt, take, capture, or kill any migratory bird. The law also applies to the intentional disturbance and removal of nests occupied by migratory birds or their eggs during the breeding season. USFWS is responsible for overseeing compliance with the MBTA.

Clean Water Act

The CWA establishes the basic structure for regulating discharges of pollutants to waters of the U.S. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

Section 404

CWA Section 404 (33 U.S.C. § 1344) regulates the discharge of dredged and fill materials into waters of the U.S. Waters of the U.S. is specifically defined by 40 C.F.R. pt. 120, but generally includes oceans, bays, rivers, streams, lakes, ponds, and adjacent wetlands (33 C.F.R pt 328). Waters of the U.S. are under the jurisdiction of the USACE and the EPA. Applicants must obtain a permit from the USACE for all discharges of dredged or fill material into waters of the U.S., including wetlands, before proceeding with a proposed activity.

Compliance with CWA Section 404 requires that the lead federal agency comply with applicable federal environmental laws and regulations. The USACE cannot issue an individual permit or verify the use of a general nationwide permit until the requirements of FESA and the National Historic Preservation Act (NHPA) have been met. In addition, the USACE cannot issue or verify any permit until a water quality certification has been issued or waived pursuant to CWA Section 401.

Section 401

CWA section 401 is administered by the EPA. In California, CWA section 401 authority is delegated to and administered by the State Water Resources Control Board and its regional water quality control boards. Under CWA Section 401, applicants for a federal license or permit to conduct activities which may result in the discharge of a pollutant into waters of the U.S. must obtain certification or waiver from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate.

State

Porter-Cologne Water Quality Control Act

The State Water Resources Control Board and regional water boards (referred to collectively herein as "Boards") are the state agencies with primary responsibility for the coordination and control of water quality. In the Porter-Cologne Water Quality Control Act, the Legislature declared that the "state must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the state from degradation..." (California Water Code section 13000).

The Porter-Cologne Water Quality Control Act grants the Boards the authority to implement and enforce the water quality laws, regulations, policies, and plans to protect the groundwater and surface waters of the state. The Boards are also authorized to regulate discharges of waste, which include discharges of dredged or fill material, and have established their own wetland definition and program for regulation of waters of the state as described in the *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2021). If affected, waters of the state would require waste discharge permitting and/or a CWA section 401 water quality certification (in the case of a required USACE permit under section 404). Generally, all waters of the U.S. are also regulated as waters of the state. Some aquatic resources, particularly those that are ephemeral or isolated or that are not waters of the U.S., will also qualify as waters of the state. The enforcement of the state's water quality requirements is not solely the purview of the Boards and their staff; other agencies (e.g., the CDFW under section 5650 of the California Fish and Game Code) have the authority to enforce certain water quality provisions in state law.

California Endangered Species Act

The CESA was enacted in 1984. Under CESA, the California Fish and Game Commission has the responsibility for maintaining a list of threatened species and endangered species. Pursuant to the requirements of the CESA, an agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project site and determine whether the project would have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any project which may impact a candidate species. The CESA prohibits the take of California listed animals and plants in most cases, but the CDFW may issue incidental take permits under special conditions.

Pursuant to the requirements of the CESA, an agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project study area and determine whether the project will have a potentially significant impact on such species. Project-related impacts to species on the CESA endangered or threatened list would be considered significant. "Take" of protected species incidental to otherwise lawful management activities may be authorized under Fish and Game Code Section 206.591. Authorization from CDFW would be in the form of an incidental take permit under Section 2801.

State Wetland Dredge and Fill Policy

The *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (procedures), as prepared by the State Water Resources Control Board, was implemented on May 28, 2020. The procedures include a definition for wetland waters of the state that include (1) all wetland waters of the U.S.; and (2) aquatic resources that meet both the soils and hydrology criteria for wetland waters of the U.S. but lack vegetation.[4]

California Fish and Game Code

Lake and Streambed Alteration Agreement (CA Fish and Game Code Section 1602)

Fish and Game Code Section 1602 requires any person, government agency, or public utility proposing any activity that will divert or obstruct the natural flow or change the bed, channel or bank of any river,

[4] Less than 5 percent areal coverage at the peak of the growing season.

stream, or lake, or proposing to use any material from a streambed, to first notify CDFW of such proposed activity.

Native Plant Protection Act (CA Fish and Game Code Section 1900-1913)

The Native Plant Protection Act prohibits the taking, possessing, or sale within the state, of any plants with a state designation of rare, threatened, or endangered. An exception to this prohibition in the Act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFW and give that state agency at least 10 days to come and retrieve the plants before they are disturbed or destroyed. Fish and Game Code Section 1913 exempts from take prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way."

Fully Protected Species (CA Fish and Game Code Section 3511, 4700, 5050)

Certain species are considered *fully protected*, meaning that the code explicitly prohibits all take of individuals of these species except for take permitted for scientific research. Section 5050 lists fully protected amphibians and reptiles, Section 5515 lists fully protected fish, Section 3511 lists fully protected birds, and Section 4700 lists fully protected mammals. Except as provided in Sections 2081.7 or 2835, fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the species for the protection of livestock.

Nesting Birds and Birds-of-Prey (CA Fish and Game Code Section 3503, 3503.5, 3800, 3505)

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 of the code prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs. Migratory non-game birds are protected under Section 3800, while other specified birds are protected under Section 3505.

Take Prohibition (CA Fish and Game Code Section 86, 2080)

Fish and Game Code Section 86 defines 'take' and Section 2080 prohibits 'taking' of a species listed as threatened or endangered under CESA (CA Fish and Game Code Section 2080) or otherwise fully protected, as defined in CA Fish and Game Code Section 3511, 4700, and 5050.

CEQA Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specific criteria.

The CEQA also specifies the protection of other locally or regionally significant resources, including natural communities or habitats. Although natural communities do not presently have legal protection, the CEQA requires an assessment of such communities and potential project impacts. Natural communities that are identified as sensitive in the CNDDB are considered by the CDFW to be significant resources and fall under the CEQA Guidelines for addressing impacts.

Local

Tuolumne County Biological Resources Review Guide

The Tuolumne County Biological Resources Review Guide (BRRG) (preceded by the Wildlife Handbook) is an optional program designed to assist property owners and Tuolumne County staff in evaluating impacts to plants, wildlife and habitat and allow the development of fair, consistent and effective mitigation measures to address the impacts that result from land development in the county. The BRRG may be used by applicants for land development projects in the county to mitigate impacts to wildlife and habitat. Alternatively, applicants may contract with a resource professional that is approved by Tuolumne County as qualified to develop alternative mitigation proposals relative to the potential impact (Michael Brandman Associates 2011).

Tuolumne County General Plan

Biological resources are addressed in the Tuolumne County General Plan Natural Resources Element (Tuolumne County 2018c). Applicable policies from the Tuolumne County General Plan are listed below.

Natural Resources Element

Policy 16.A.6: Encourage the protection of clusters of native trees and vegetation and outstanding individual native and non-native trees which help define the character of Tuolumne County.

Policy 16.B.4: Recognize that wildlife, fish and their habitats provide opportunities for recreational uses and educational pursuits and are a source of revenue to the County.

Policy 16.B.5: Evaluate and mitigate impacts to biological resources in accordance with the requirements of State and Federal law.

Policy 16.B.8: Balance the conservation of biological resources with the need to reduce wildland fire hazards.

Policy 16.B.9: Encourage the eradication of invasive plant species to protect native habitats, conserve agricultural land, support ecological diversity, and reduce the wildland fire hazard.

Policy 16.C.5: Encourage the conservation of oak woodlands and the preservation of heritage trees.

Discussion

a) **Less than Significant with Mitigation Incorporated.** Special-status species and their habitats that may be affected either directly or indirectly through implementation of the proposed Project include Crotch's bumble bee, Central California roach, FYLF - south Sierra DPS, northwestern pond turtle, and western red bat. In addition, more common nesting raptors and migratory birds may also be affected by proposed Project implementation. Each of these potentially affected species is described below. Refer to Appendices B and C.

Crotch's bumble bee

Crotch's bumble bee could use the thatch, small mammal burrows, leaf litter, and soil cracks in and adjacent to the proposed Project area as nesting and overwintering sites. Floral resources in and adjacent to the proposed Project area, including the preferred genera *Clarkia*, provide potential foraging habitat. If Crotch's bumble bees occur within the area of impact during

construction, direct take could occur if they or their burrows are crushed by construction equipment.

Crotch's bumble bee is a state candidate endangered species. Direct take of this species requires an incidental take permit from CDFW. Before construction, the Project applicants should consult with CDFW to determine if an incidental take permit is needed. If required, the Project applicant would comply with all conditions of permits received. Direct and indirect impacts in the form take, handling, or habitat alteration would be a potentially significant impact. Implementation of **Mitigation Measure BIO-1** and **BIO-2** would mitigate the impact to **less than significant**.

Central California roach

Sullivan Creek in the proposed Project area provides suitable habitat for Central California roach. In addition, this species was recorded from Sullivan Creek in the proposed Project area in 1998. Direct impacts to Central California roach or their eggs could occur if they are present in Sullivan Creek during construction and are crushed by construction personnel and/or equipment. Additional impacts could occur if excess sediment or hazardous materials enter the creek while they are present. This would be a potentially significant impact. Implementation of **Mitigation Measure BIO-3** would mitigate the impact to **less than significant**.

Foothill yellow-legged frog - south Sierra DPS

Sullivan Creek in the proposed Project area provides breeding and foraging habitat for FYLF. The adjacent riparian habitat provides potential basking, resting, and foraging habitat. FYLF could occur in Sullivan Creek or the adjacent riparian habitat during construction. If FYLF are present in impact during construction, take could occur if they or their eggs are crushed by construction equipment. Additional impacts could occur if excess sediment or hazardous materials enter the creek while they are present.

FYLF is a federal- and state-endangered species. Proposed Project impacts may require incidental take permits from the USFWS and CDFW. As currently designed, handling of FYLF during project construction is not proposed. Before construction, TUD and TEDA should consult with these agencies to determine if incidental take permits are needed. If required, the Project applicant would comply with all conditions of permits received. Direct and indirect impacts in the form take, handling, or habitat alteration would be a potentially significant impact. Implementation of **Mitigation Measures BIO-1, BIO-3** and **BIO-4** would mitigate the impact to **less than significant**.

Northwestern pond turtle

Sullivan Creek and Storage Pond 1 in the proposed Project area and offsite impoundments within 330 feet of the proposed Project area provide suitable aquatic habitat for northwestern pond turtle. The adjacent riparian and grassland habitats provide suitable upland and breeding habitat. Work within suitable aquatic habitat or upland habitat within 330 feet of suitable aquatic habitat could impact northwestern pond turtle through direct take or destruction of their nests if they are present at the time of construction. This would be a potentially significant impact. Implementation of **Mitigation Measures BIO-1**, **BIO-3**, **BIO-4**, and **BIO-5** would mitigate the impact to **less than significant**.

Special-Status Birds and Common Nesting Migratory Birds and Raptors

Migratory birds and birds of prey, protected under 50 CFR 10, the MBTA, and/or Section 3503 of the Fish and Game Code, have the potential to nest in and adjacent to the proposed Project area. Direct impacts on nesting birds during the breeding season (generally February 1 through September 1) could occur during initial proposed Project activities such as clearing and grubbing and during active construction if an active nest is located near these activities. Nesting birds could be adversely affected if active nesting is either removed or exposed to a substantial increase in noise or human presence during proposed Project activities. Any disturbance that causes nest abandonment by migratory birds or raptors and subsequent loss of eggs or developing young would violate California Fish and Game Code Sections 3503, 3503.5, and 3800 and the MBTA resulting in a potentially significant impact. Implementation of **Mitigation Measures BIO-1** and **BIO-5** would mitigate the impact to **less than significant**.

Western red bat

The riparian area along Sullivan Creek in the proposed Project area provides suitable habitat for western red bat. Direct disturbance or mortality of western red bat could occur if they are roosting in the trees requiring removal. Indirect impacts on western red bat maternity roosts could also occur from noise and vibration caused by construction activity nearby. This would be a potentially significant impact. Implementation of **Mitigation Measures BIO-1** and **BIO-6** would mitigate the impact to **less than significant**.

Special-Status Plants

Suitable habitat for a number of special-status plants occurs on the proposed Project area. Based on surveys conducted in the proposed Project area, a review of available databases and literature, and an on-site habitat suitability assessment, six special-status plant species were determined to have the potential to occur in the proposed Project area (see Appendix D). None of these special-status plants were found during the survey conducted in the evident and identifiable period and are not expected occur in the proposed Project area. Therefore, implementation of the proposed Project would not result in direct or indirect impacts to special-status plant populations. There is **no impact**.

b, c **Less than Significant with Mitigation Incorporated.** The proposed Project area supports sensitive habitats, including protected waters of the U.S. as defined in Section 404 of the CWA, riparian vegetation, and state jurisdictional waters. Sullivan Creek, the two intermittent creeks, the seasonal wetlands, and Storage Pond 1 are potentially jurisdictional waters of the U.S. and state. The white alder – red willow riparian forest is a CDFW sensitive natural community. The project will avoid all impacts to Sullivan Creek, IC 1, IC 2, the seasonal wetlands, and Storage Pond 1. No permanent impacts or placement of fill will occur within the ordinary high-water mark of Sullivan Creek or IC 2. The only permanent impacts associated with the project implementation will result from the construction of three approximately 8-foot-square concrete abutments where the pipeline will cross Sullivan Creek. Two of these abutments will be constructed outside Sullivan Creek and the adjacent white alder–red willow riparian forest. One abutment is proposed for placement in the white alder–red willow riparian forest.

Temporary impacts to the white alder–red willow riparian forest will occur due to the pruning of trees and vegetation for the placement of the new pipeline. Work in the riparian forest and over Sullivan Creek and IC 2 will be conducted during the dry season when precipitation events are unlikely, and stream flows are low. Excavations will be outside the ordinary high-water marks of Sullivan Creek and IC 2, and silt fences will be placed along the edges of the creeks in the work zone to help ensure no sediment is transported into the creeks. **Table 3.4-3** and **Figure 3.4-3** identify the permanent and temporary impacts to natural communities and other land covers that will occur as a result of project construction.

TABLE 3.4-3
PROJECT IMPACTS TO NATURAL COMMUNITIES AND OTHER LAND COVERS

Natural Community and Other Land Covers	Permanent Impacts	Temporary Impacts
Interior live oak–gray pine woodland	0.001	2.838
Annual grassland	0	3.927
Gravel road	0.001	N/A[1]
Sullivan Creek (Perennial Creek)	0	0
Intermittent Creek 1	0	0
Intermittent Creek 2	0	0
Seasonal Wetlands	0	0
Impoundment (Storage Pond 1)	0	0
White alder–red willow riparian forest	0.001	0.248
Total[2]	**0.003**	**7.013**

SOURCE: Data compiled by Environmental Science Associates in 2024.

1. Gravel road is a previously impacted land cover type, thus temporary impacts are not applicable.
2. Totals are not exact sums due to rounding of GIS calculations.

Before construction, TEDA would obtain a Section 1600 streambed alteration agreement from CDFW. A CWA Section 404 permit from the USACE and a Section 401 water quality certification from the Central Valley Regional Water Quality Control Board are not anticipated to be needed due to the avoidance of fill in all potential waters of the U.S. TEDA would comply with all conditions of permits received. Contamination of potential waters of the U.S., state, and sensitive natural communities as a result of construction of the proposed Project would be a potentially significant impact. Implementation of **Mitigation Measure BIO-3 and BIO-8** would mitigate the impact to **less than significant**.

5SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

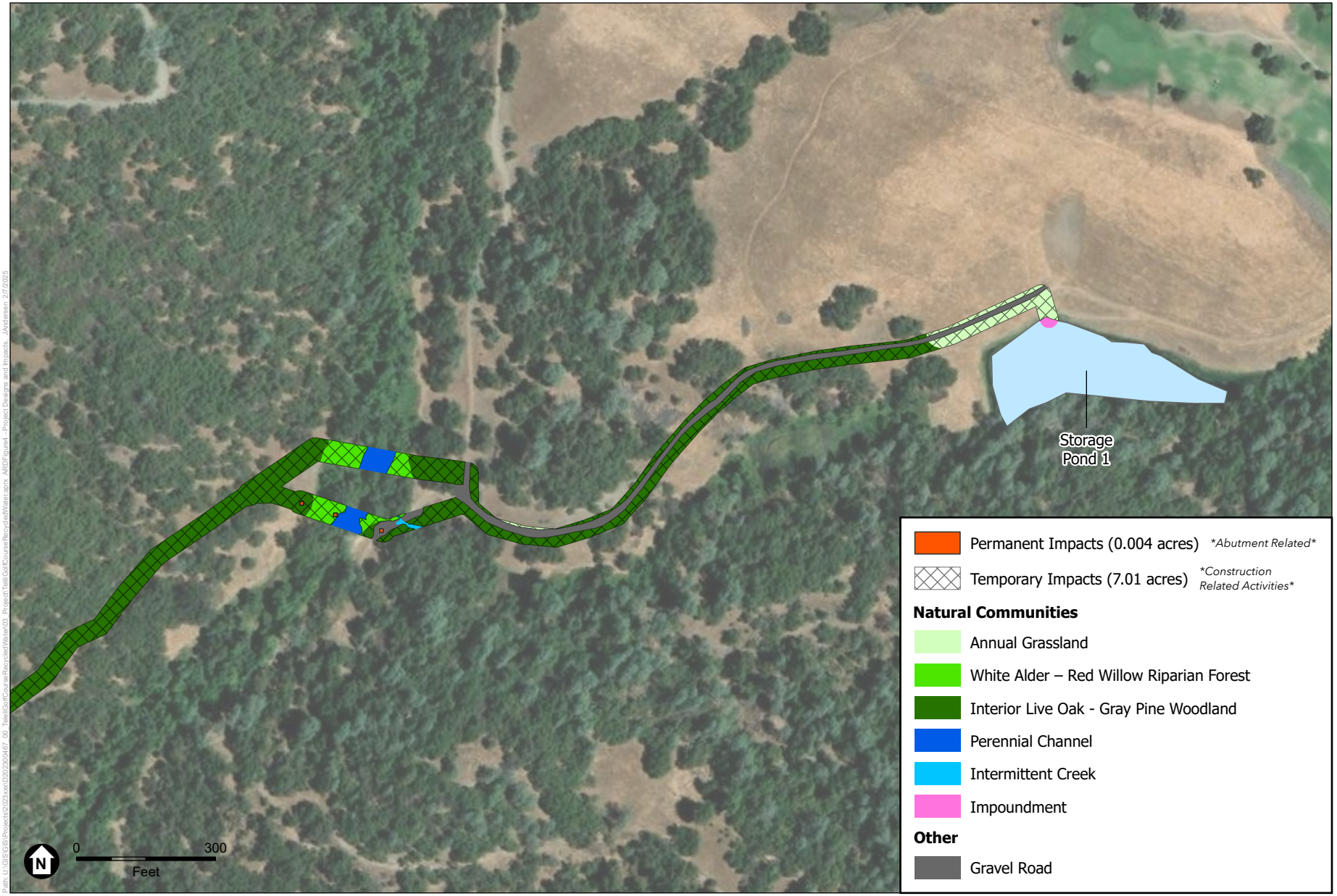
Figure 3.4-3
Project Impacts
Page 1

ESA

5SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 3.4-3
Project Impacts
Page 2



5SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 3.4-3
Project Impacts
Page 3

d) **Less-than-Significant Impact.** The proposed Project area and surrounding area could potentially be used by a variety of wildlife species for dispersal and seasonal migration. However, there are no documented wildlife movement corridors in the proposed Project area. The proposed Project area and the surrounding area were not identified as an area of Essential Habitat Connectivity in the County's 2018 EIR for the General Plan Update (Tuolumne County 2018a). Further, the Tuolumne County Deer Herds and Migration Map prepared in support of the General Plan Update's EIR shows the nearest migrant deer herd as occurring 3.5 to 4 miles from the proposed Project area (Tuolumne County 2018b). The proposed Project's scope and footprint are small relative to the available surrounding habitat. The proposed Project would not interfere with the movement of wildlife or fish. The majority of the pipeline would be installed underground, and minimal aboveground structures (pipe bridge) would be constructed as part of the proposed Project. The proposed Project would not substantially increase the developed footprint in the proposed Project area or change existing wildlife movement corridors.

Night lighting can disrupt the circadian rhythms of many wildlife species. No night work requiring night lighting will occur during proposed Project construction. Additionally, as is discussed in Section 3.1, *Aesthetics*, the proposed Project will be consistent with applicable Tuolumne County General Plan policies intended to preserve the existing nighttime environment by limiting the illumination of areas surrounding new development. Any new lighting must be hooded, shielded, and located to direct light downward and prevent glare. The proposed recycled water pipeline would be installed underground and would not contribute to light pollution. Lighting associated with the proposed Project will not impact wildlife moving through the area.

Based upon these considerations, together with the fact that there are no known wildlife corridors or migration routes through or in the vicinity of the proposed Project area, the proposed Project's impacts to wildlife corridors and migration routes would be **less than significant**.

e) **Less than Significant with Mitigation Incorporated.** The protection of clusters of native trees and vegetation and outstanding individual native and non-native trees is encouraged in Tuolumne County General Plan *Policy 16.A.6*. Further, *Policy 16.C.5* encourages the conservation of oak woodlands and the preservation of heritage trees. *Policy 16.B.5* states that for parcels with 10% or greater native oak canopy cover, a significant impact to oak woodland includes tree removal that reduces the total oak canopy cover onsite to below 10 percent (i.e., conversion to non-oak woodland), or a loss of 10 percent or greater of oak canopy woodland stand on the parcel, if the conversion or loss is determined by trained professional to be substantial (Tuolumne County 2018c). The Tuolumne County BRRG defines oak woodland as a stand of three or more native oak trees that is at least one-half (0.5) acre in area where the canopy cover of the native oak trees is 10 percent or greater. If further defines specimen oak trees as live oak, blue oak, California black oak (*Quercus kelloggii*) and valley oak (*Quercus lobata*) trees that are at least 18 inches in diameter at breast height (Michael Brandman Associates, 2011).

The interior live oak – gray pine woodland on the proposed Project area has a greater than 10 percent oak canopy cover so it is therefore considered an oak woodland per the Tuolumne County General Plan. Where the proposed Project crosses through this habitat type, it follows an existing ranch road with no trees. The proposed Project will not reduce the oak canopy cover to below

10 percent and will not remove any specimen oak trees. The proposed Project will have **no impact** on oak woodlands or specimen oak trees.

The Tuolumne County BRRG uses a priority system relative to biological resources. This priority system consists of a hierarchy with resources such as endangered species being on the upper tier of the system and common biological resources such as areas already disturbed by development at the lowest tier. The BRRG defines First, Second, Third, and Fourth Priority biological resource designations. Significant impacts on biological resources may occur when a project results in a net loss of the habitat value of First, Second, and Third Priority biological resources. Impacts to Fourth Priority biological resources are not considered significant because they consist of habitats that have low or no value for native plants, fish, or wildlife. No avoidance, minimization, compensation or other mitigation measures are necessary for Fourth Priority biological resources (Michael Brandman Associates, 2011).

The gravel road and annual grassland are considered Fourth Priority biological resources by the BRRG, therefore, the proposed Project will have **no impact** on these community types. The interior live oak – gray pine woodland is considered a Second Priority biological resource by the BRRG. As described above, the proposed Project will not reduce the oak canopy cover to below 10 percent and will not remove any specimen oak trees. Therefore, the proposed Project will have **no impact** on this community type. The white alder – red willow riparian forest, seasonal wetlands, Sullivan Creek, Storage Pond 1, and intermittent creeks are also considered Second Priority biological resources by the BRRG. As previously discussed under Discussion b and c above, these Second Priority Habitats, including protected wetland habitat and riparian vegetation, could be affected by proposed Project construction through vegetation pruning, placement of the pipeline, and other construction-related activities. This is a potentially significant impact. Implementation of **Mitigation Measure BIO-8** would mitigate the impact to **less than significant**.

f) **No impact.** The proposed Project is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be **no impact**.

Mitigation Measures

Mitigation Measure BIO-1: Conduct Worker Environmental Awareness Training.

A qualified biologist will conduct worker environmental awareness training for all construction personnel prior to the start of construction. The training will include a discussion of the biology and general behavior of special-status species with potential to occur on the proposed Project site. Training will include habitat needs, legal status, Project-specific protective measures, and what to do if found. Upon completion of the training, each attending shall sign a form stating they attended the training and understand all protection measures.

Mitigation Measure BIO-2: Conduct Pre-construction Surveys for Crotch's Bumble Bee.

Before the start of construction activities, a qualified biologist would conduct a pre-construction survey during the flight period for worker and male bees late March through September, within the construction disturbance area for active Crotch's bumble bee nests. If an active bumble bee nest is located, recommendations for avoiding or minimizing disturbance of the nest would be developed (e.g., establishing a buffer surrounding entry/exits and avoiding direct disturbance).

If avoidance is not possible, the Project applicant should consult with CDFW and obtain appropriate take authorization pursuant to Fish & Game Code, § 2080 et seq. (i.e., an incidental take permit).

Mitigation Measure BIO-3: Minimize Work in Sullivan Creek

a) No construction equipment will be allowed to enter or drive through the creek.

b) If construction personnel need to enter the creek on foot during the spawning season of Central California Roach (March through early July), a qualified biologist will survey the creek for eggs of Central California roach. If found, the eggs will be avoided by at least 20 feet to reduce the potential for disturbance.

c) All equipment and tools will be inspected for the presence of undesirable species and cleaned prior to entering the work area at each location to reduce the risk of introducing nonnative plant or animal species.

d) Staging and storage areas for equipment, materials, fuels, lubricants, and solvents will not be located within 150 feet of the stream. Stationary equipment such as cranes, motors, pumps, generators, compressors and welders, will be positioned over drip-pans. Non-stationary vehicles and equipment will be moved at least 150 feet from the stream prior to refueling and lubrication.

e) Raw cement, concrete or washings thereof, asphalt, equipment fluids or lubricants, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to fish or wildlife resulting from or disturbed by Project-related activities, will be prevented from contaminating the soil and/or entering waterways.

f) All personnel involved in the use of hazardous materials should be trained in emergency response and spill control.

g) No litter or debris will be allowed to enter any waterway or placed in a location where it could be washed into a waterway. All such debris will be picked up daily and properly disposed of at an offsite location.

Mitigation Measure BIO-4: Conduct Pre-construction Surveys and Monitoring for Foothill Yellow-legged Frog

a) A preconstruction survey for FYLF will be conducted by a qualified biologist within 24 hours prior to work in Sullivan Creek or the adjacent riparian habitat. If FYLF are found in the work area, they will be allowed to leave the work area on their own.

b) Immediately after completion of the preconstruction survey, an exclusion fence will be installed around the work area to prevent the entry of FYLF into the work area. The exclusion fence will consist of silt fence, or equivalent, buried 6 inches into the ground and should fully enclose the work area within 100 feet of the riparian habitat.

c) A qualified biologist will be present during vegetation removal activities in the riparian community and Sullivan Creek. If FYLF are found in the work area, construction within 50 feet of the observation will be stopped, and the FYLF will be allowed to leave the work area on their own.

d) If at any time during preconstruction surveys or proposed Project implementation individual FYLF (including adults, juveniles, larvae, or eggs) are found in the work area, any work that

could potentially harm FYLF will be halted within 100 feet of the observation. FYLF will be allowed to leave the work area on their own. No relocation of FYLF may occur without the appropriate incidental take permits from USFWS and CDFW. Construction may resume after the FYLF has left the work area and is no longer in danger of being harmed.

e) The qualified biologist will follow the fieldwork code of practice developed by the Declining Amphibian Population Task Force (1998).

f) No monofilament plastic will be used for erosion control. Non-monofilament substitutes including coconut coir matting and tackified hydroseeding compounds.

g) All vehicle travel will be restricted to established roadways and access routes. The speed limit will be observed where posted, and where there is no posted speed limit, vehicles will travel no more than 15 miles per hour.

h) Trenches or holes deeper than 6 inches and within 100 feet of the riparian area will be provided with one or more escape ramps constructed of earth fill or wooden planks and will be inspected by a qualified biologist prior to being filled. Any such features that are left open overnight will be searched each day by trained construction personnel or the qualified biologist prior to construction activities to ensure no FYLF are trapped. If FYLF is found in the work area, they will be allowed to leave on their own via a ramp.

i) Trained construction personnel or a qualified biologist will inspect under construction equipment and material left onsite within 100 feet of the riparian area prior to moving the equipment or material to look for FYLF that may have become trapped or are seeking refuge. If FYLF are found in the work area, they will be allowed to leave on their own.

Mitigation Measure BIO-5: Conduct Pre-construction Surveys Northwestern Pond Turtle

a) For any work occurring within 330 feet of Sullivan Creek, Storage Pond 1, or offsite ponds and impoundments, a pre-construction survey for northwestern pond turtles and their nests will be conducted by a qualified biologist within 48 hours of proposed Project activities. If northwestern pond turtle nests are found, a 100-foot no-disturbance buffer will be established around the nest. The buffer will remain in place until the eggs have hatched, the juvenile turtles have dispersed, and the nest is no longer active.

b) If northwestern pond turtles are found at the proposed Project site or adjacent to work areas during proposed Project implementation, work will stop within 100 feet of the turtle and a qualified biologist will be notified immediately. If the turtle does not leave the work area on its own, the qualified biologist will capture and relocate the turtle to suitable habitat away from the construction zone. If the turtle does not voluntarily leave the maintenance area and cannot be captured and relocated unharmed, construction activities within approximately 100 feet of the turtle shall stop to prevent harm to the turtle, and CDFW shall be consulted to identify the next steps, if needed. Work may resume once the turtle has left the area and is no longer in danger of being harmed.

Mitigation Measure BIO-6: Conduct Pre-construction Surveys for Nesting Birds

a) For construction activities occurring during the nesting season (February 1 through September 1), a qualified biologist shall conduct a preconstruction pedestrian-level survey for active nests of raptors within 500 feet and active nests of non-raptors within 250 feet of the proposed Project site. The survey shall be conducted using binoculars, from publicly accessible areas outside of the proposed Project area, no more than 5 days before the start of construction.

b) If no active nests are identified during the preconstruction survey, no further mitigation is necessary. If construction stops for a period of two weeks or longer at any time during the nesting season, preconstruction surveys shall be conducted before construction resumes.

c) If active nests of raptors are found within 500 feet or active nests of non-raptors are found within 250 feet of the proposed Project site, the contractor shall wait until the nests are not active to start construction, to the extent feasible. If construction must occur while the nest is active, an appropriate avoidance buffer zone shall be established around the nest, as determined by the qualified biologist. The biologist shall mark the avoidance buffer zone with construction tape or pin flags and shall maintain the buffer zone until the young have fledged or the nest is no longer active, as determined by the qualified biologist. Buffer zones are typically 500 feet for a bird of prey nest and 250 feet for all other protected regulated birds. Buffer size shall be determined by the qualified biologist based on the species of bird, the location of the nest relative to the proposed Project, proposed Project activities during the time the nest is active, and other Project-specific conditions.

d) If establishing the typical buffer zone is impractical, the qualified biologist may reduce the buffer depending on the species. Proposed Project activities that may affect nesting birds shall be monitored by a qualified biologist either continuously or periodically during work, as determined by the qualified biologist. The qualified biologist shall be empowered to stop construction activities that, in the biologist's opinion, threaten to cause unanticipated and/or unpermitted nest abandonment.

Mitigation Measure BIO-7: Conduct Pre-construction Surveys for Western Red Bat

a) Within 14 days prior to tree removal in the riparian habitat, a preconstruction survey for roosting bats shall be conducted by a qualified biologist to identify active roost sites within the proposed Project area. If no active bat roosts are found, no further avoidance and minimization measures are required. If active bat roosts are found in trees to be removed, or maternity or hibernation roosts are found within 100 feet of trees to be removed, the following measures shall be implemented:

    a. To the extent feasible, tree removal shall occur when bats are active, approximately March 1 through April 15 and August 31 through October 15. These windows are outside of the bat maternity roosting season that occurs approximately April 15 through August 31 and months of winter torpor that occurs approximately October 15 through February 28.

    b. If removal of trees during the periods when bats are active is not feasible and active bat roosts being used for maternity or hibernation purposes are found on or in the immediate vicinity of where tree removal is planned, a no-disturbance buffer of 100 feet shall be established around these roost sites until they are determined to be no longer active by the qualified biologist.

    c. The qualified biologist shall be present during tree removal if active bat roosts that are not being used for maternity or hibernation purposes are present. Trees with active roosts shall be removed only when no rain is occurring or is forecast to occur for 3 days and when daytime temperatures are at least 50 degrees Fahrenheit.

    d. Removal of trees with active or potentially active roost sites shall follow a two-step removal process:

        i. On the first day of tree removal and under supervision of the qualified biologist, branches and limbs not containing cavities or fissures in which bats could roost, shall be cut only using chain saws.

ii. On the following day and under the supervision of the qualified biologist, the remainder of the tree may be removed, using either chain saws or other equipment (e.g., excavator or backhoe).

Mitigation Measure BIO-8: No Net Loss of Wetland and Riparian Habitats

a) If trees in the riparian natural community are removed, the Project proponent will prepare an on-site tree replacement plan. The plan shall include replacement of removed trees at least at a 1:1 ratio. The plan shall be submitted to CDFW as an attachment to an application for a 1600 Lake and Stream Alternation Agreement.

b) If the proposed Project will result in permanent loss of jurisdictional wetlands or other waters, the Project proponent shall demonstrate that there is no net loss of wetlands and other waters of the U.S. and state protected waters/wetlands. To ensure this, wetland mitigation shall be developed as a part of the permitting process. If required, mitigation shall be provided prior to construction-related impacts on the existing waters/wetlands. The exact mitigation ratio would be determined in consultation with the applicable permitting agencies, which may include USACE, CDFW, and/or RWQCB. The amount of mitigation will be based on the type and value of the waters/wetlands affected by the proposed Project, but the proposed Project shall compensate for impacted waters/wetlands at a ratio no less than 1:1 per state policy. Compensation shall take the form of preservation, creation, or restoration in accordance with USACE, RWQCB and/or CDFW mitigation requirements, as required under proposed Project permits. Preservation, creation, and restoration may occur off-site through purchasing credits at a USACE, CDFW, and/or RWQCB-approved mitigation bank.

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3.5 Cultural Resources

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
V.	**CULTURAL RESOURCES —** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Environmental Setting

This section provides a setting for pre-contact, ethnographic, and historic periods in the vicinity of the proposed Project area. The setting is followed by the results of the background research and the results of a cultural resources survey effort.

Natural Environment

The proposed Project area is located at approximately 1,500 feet above mean sea level and characterized by cool, wet winters and warm, dry summers. Most of the annual precipitation falls as rain during the period of November through April. Total annual rainfall averages approximately 35 inches.

Geologic conditions in the proposed Project area are mapped primarily as Mesozoic through pre-Cenozoic deposits that date between approximately 250 million years to 66 million years before present (DOC 2018). Soil deposition within these contexts is shallow, though deeper in riverine and alluvial contexts (i.e., within and along Sullivan Creek).

Landforms that predate the earliest estimated periods for human occupation of the region are considered to have very low potential for the presence of buried archaeological sites, while those that postdate human occupation are considered to have a higher potential for buried archaeological sites. The degree of buried site potential is inversely related to the estimated date range of a landform. Currently, archaeological research indicates that the earliest evidence for human occupation of California dates to the Late Pleistocene, which ended approximately 11,500 years before present. Therefore, the potential for buried archaeological deposits in landforms from or predating the Late Pleistocene is very low (Rosenthal 2006). With respect to the proposed Project area, the geologic conditions that pre-date the Late Pleistocene and thin soil deposition indicate that archaeological resources in this setting would be expected on the ground surface or, with lower potential, buried near very the ground surface. Other factors in assessing the potential for encountering archaeological resources include the proposed Project's proximity to habitats conducive to indigenous subsistence and settlement practices, such as the presence of Sullivan Creek and adjacent oak forests.

Pre-contact Setting

California archaeology has been described as a series of patterns. Fredrickson (1974) defines "pattern" as an essentially non-temporal, integrative cultural unit–the general life way shared by people within a given geographic region. Until recently, archaeological researchers developed culture-histories for the Sierra

foothill region based on the more studied areas of the western Great Basin and California Central Valley. A study for the East Sonora Bypass Project (Rosenthal 2006), however, has developed an entirely new chronology focusing on a synthesis of local data from more than 100 excavated sites in the watersheds of the Mokelumne, Calaveras, Stanislaus, and Tuolumne rivers. Based on spatial and stratigraphic analyses of more than 200 radiocarbon dates, more than 4,000 source-specific obsidian hydration readings, over 875 projectile points, and close to 600 shell beads, five major time periods are defined for the region: Early Archaic, Middle Archaic, Late Archaic, Recent Prehistoric I, and Recent Prehistoric II.

Early Archaic (11,500–7000 BP): Early Archaic deposits are quite rare in the Sierra Nevada foothills, and are identified locally at two sites, both discovered in buried stratigraphic contexts. They include abundant Wide-Stem and Large Stemmed Dart points, hundreds of handstones and milling stones, as well as a variety of cobble-core tools, large percussion-flaked "greenstone" bifaces, and comparatively high frequencies of obsidian from the Bodie Hills source.

Middle Archaic (7,000–3,000 BP): Middle Archaic sites, also often buried, are primarily distinguished by Corner-notched Dart points, an occasional mortar and pestle, and the earliest house structures in association with large subterranean storage pits. Soapstone "frying pans" and other vessels first appear in the local record during the Middle Archaic, along with various stone pendants, incised slate, and stone beads. The presence of atlatl weights and spurs in these deposits confirms that the dart and atlatl were the primary hunting implements.

Late Archaic (3,000–1,100 BP): Late Archaic sites are among the most common on the western slope, again with many occurring in buried stratigraphic contexts. Late Archaic lifeways, technologies, and subsistence patterns were quite similar to those of the previous time period, with the primary difference being an increase in the use of obsidian between about 3,000 and 1,100 BP. Chert, only available in the foothills of the western Sierra below about 3,000 feet, is common at Archaic sites in the lower Montane Forest up to about 6,000 feet. Flaked stone assemblages on the western slope found above 6,000 feet are composed almost entirely of obsidian (>80%), suggesting that groups who utilized upper elevations of the western Sierra arrived from the east side where obsidian was the primary tool stone.

Recent Prehistoric I (1,100–610 BP): The beginning of the Prehistoric Period coincides with a region-wide interval of reduced precipitation known as the Medieval Climatic Anomaly. Among the most important changes in the archaeological record of the western slope at this time was the introduction of the bow and arrow (about 1,100 BP), an innovation apparently borrowed from neighboring groups to the north or east. This shift in technology is clearly reflected by the dominance of small stemmed and corner-notched arrow points in Recent Prehistoric I sites.

Recent Prehistoric II (610–100 BP): The common occurrence of bedrock mortars at Recent Prehistoric II sites suggests that they became an important milling technology by 610 BP. Bedrock milling fixtures are established across the landscape, near well-developed residential middens and as isolated features. There also appears to have been greater settlement differentiation during the Recent Prehistoric II Period, with clear residential sites, often including house-depressions and other structural remains, but also special-use localities consisting simply of bedrock milling features. Many more specialized technologies are associated with the Recent Prehistoric II Period than were evident during the Archaic, including stone drills and the common occurrence of bone awls, suggesting that basketry and other composite implements

may have taken on a new importance. The Desert Side-notched arrow point is first introduced on the western slope at about 610 BP, adopted from Great Basin people to the east. Circular stone shaft-straighteners are also common in these sites, consistent with the use of the bow and arrow. Imported shell beads from coastal California first appear in appreciable amounts in Recent Prehistoric II village sites, as do other rare items such as shell ornaments and bone whistles.

Ethnohistoric Background

The Miwok have been one of the largest indigenous nations in California since Euroamerican contact (Powers, 1887), comprising three geographical groups extending from the Pacific Ocean to the Sierra Nevada - the Coast Miwok, Lake Miwok, and Interior Miwok. Within the interior valley, there were four regional and linguistic sub-divisions of the Interior Miwok, known to ethnographers as Valley or Plains Miwok, Northern Sierra Miwok, Central Sierra Miwok, and Southern Sierra Miwok. The proposed Project is within what was recorded ethnographically as territory of the Central Sierra Miwok (or Me-Wuk), who appear to have entered the area beginning about 500–800 years BP. The Miwokan family of languages, a member of the Utian sub-stock, was made up of seven distinct languages variously situated in central California from Clear Lake south to the San Francisco Bay Area and east to encompass the foothills and mountains of the central Sierra Nevada. Sierra Me-Wuk was initially a single language, which developed into the Northern, Central, and Southern Me-Wuk languages over time. The central group, which was differentiated again based on dialect differences, extended from the Calaveras/Stanislaus divide in the north to approximately the Tuolumne/Merced drainage divide in the south. The name "Me-Wuk", from Central Sierra Me-Wuk *miwü* (person), was an appellation of ethnographers and had little meaning to Me-Wuk speakers, in that they did not consider themselves a single group. They were, instead, separate, independent villages who together shared common language and culture (Francis 2003).

Me-Wuk life was instilled with common values towards their physical environment, which manifest themselves in beliefs and ceremonies. Many economically important plants, if not formally "domesticated", were physically managed to help maintain desired characteristics. The people were careful to nurture their natural environment. Prior to 1848, the Central Sierra Me-Wuk had little contact with Euroamericans, even though their presence had been felt by way of indirect impacts (e.g., introduced diseases, disruption of trade networks) (Davis-King 1989).

During the second half of the nineteenth century, the lives of Me-Wuk people were drastically changed:

> *In a very short time, the land and environment that had sustained the people for generations was irreparably altered. Stream channels were disturbed, sometimes re-routed, and eventually the land was blasted away causing huge amounts of soil to enter the streams and rivers, destroying the habitat of fish and other aquatic species that once were food for the Miwok people. Gathering areas that had supplied the Miwok with many foods were unintentionally damaged or cleared for cattle grazing. The cattle also ate the acorns, a major source of food for the Miwok people. Disease brought in by the newcomers entered the world of the Miwok taking many lives due to the people's lack of immunity. There were many attempts by miners and militias commissioned by the federal government to address the "Indian problem," to control or annihilate the Miwok population. The Miwok people were forced to flee from their homes and seek refuge in more isolated areas for protection and survival. Prior to outside contact, the Sierra Miwok population was somewhere around 10,000. This number fell drastically to 679 during the 1910 census* [Tuolumne 2015].

Congress purchased approximately 290 acres on October 26, 1910, to create the Tuolumne Rancheria for landless Native Americans. Currently, the governing body of the Tribe is the Community Council consisting of members, a Chairperson, Vice-Chair, Secretary, and Treasurer. The Tribe is highly interested in their historic and pre-contact past and supports numerous events and programs including the annual Acorn Festival, Indian Market, Native Plant Nursery, Tuolumne Me Wuk Health Center, and a Language Preservation Program (Tuolumne 2015). TEDA is an entity of the Tribe and organizes and participates in numerous programs and businesses to generate economic opportunity for the community, including the operation of the Teleli Golf Course.

Historical Setting

The first Euroamerican group to enter the region was the exploratory party led by Lieutenant Gabriel Moraga that passed through the area in 1806 (Hoover et al. 2002:548). Except for sporadic explorations of the California interior by the Spanish, there was little involvement in the area until the mid-nineteenth century. In 1841, the Bartleson-Bidwell party, the first over-land group of American settlers, crossed over the Sierra Nevada ten miles south of the Sonora Pass.

Following the discovery of gold in California in 1848, the population of the State, as well as Tuolumne County, increased rapidly and resulted in further disruption of native culture. Following the annexation of California, some groups of Sierra Me-Wuk were removed to valley towns, but most of the population remained in rancherias scattered throughout the foothills, including the Tuolumne Rancheria.

The first discovery of gold within Tuolumne County occurred in 1848 at Wood's Crossing, near Jamestown, while gold discovered within the vicinity led to the founding of Tuolumne (originally Summersville), Cherokee, and Soulsbyville. In the late nineteenth century, the lumber industry began to dominate the local economy when prominent rancher Frank Baker sold part of his ranch along Turnback Creek to the West Side Flume and Lumber Company, which began operations in 1899. The Sierra Railway extended its new terminus into Carters on February 1, 1900, and its station became known as "Tuolumne." In 1909, the community officially adopted the name. The lumber industry dominated the local economy until the mid-twentieth century, alongside the mining industry, including the Laura and North Star Mine.

Background Research

ESA staff received the result a records search of the proposed Project area and a 0.25-mile radius around it conducted at the Central California Information Center (CCIC) of the California Historical Resources Information System, on October 9, 2024 (File No. 13072O). The purpose of the records search was to (1) determine whether known cultural resources have been recorded within or adjacent to the proposed Project area; (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby sites; and (3) develop a context for the identification and preliminary evaluation of cultural resources. The archaeological resource determinations of eligibility database for Tuolumne County were also reviewed to determine whether any previously recorded resources within the proposed Project area have been included in that database and provide a nexus for management actions of the proposed Project.

As a supplement to the CCIC query, ESA also analyzed changes and impacts to the proposed Project area through time as depicted in available historic aerial imagery and topographic maps that cover the

proposed Project vicinity. Online records for mining claims and locations were analyzed to better understand historic-era water conveyance features that are prevalent in the region. The records search and supplemental literature review consisted of an examination of the following documents:

- **CCIC digitized base maps** (USGS *Sonora* and *Standard, California* 7.5-minute topographic maps), to identify recorded archaeological sites and studies within a 0.25-mile radius of the proposed Project area.
- **CCIC digitized base maps** (USGS *Sonora* and *Standard, California* 7.5-minute topographic maps), to identify recorded historic-era resources of the built environment (building, structures, and objects) within and adjacent to the proposed Project area.
- **Resource Inventories**: *California Inventory of Historical Resources, California Historical Landmarks, Built Environment Resource Directory for Tuolumne County; Archaeological Determinations of Eligibility for Tuolumne County.*
- **Historic Maps and Imagery:** A digitized historic topographic maps and aerial imagery collection with coverage of Tuolumne County is available online at historicaerials.com (NETR 2024). Available aerial images covering the proposed Project area were analyzed for the years 1945, 1946, 1984, and 1998. Available topographic maps of the proposed Project area were analyzed for the years 1949, 1953, 1960, 1962, 1966, 1967, 1977, and 1987.
- **Mining History Source:** An interactive map of historic mines with coverage of Tuolumne County is available online at westernmininghistory.com.

The results of the CCIC records search indicate that two cultural resources investigations have been completed within the proposed Project area and within 0.25-mile, resulting in prior cultural resources field research coverage of approximately 75 percent of the proposed Project area. Among these investigations, Davis-King et al. (1989) surveyed approximately 50 percent of the proposed Project area from east of Sullivan Creek through Teleli Golf Course (formerly Powell Ranch Golf Course) and documented one historic-era water conveyance ditch that is mapped within the proposed Project area (P-55-003157/CA-TUO-2183H). The second investigation (Francis 2006a) surveyed the entirety of the proposed Project area west of Sullivan Creek and documented two additional historic-era water conveyance ditches that are mapped within the proposed Project area (P-55-007476/CA-TUO-4857H and P-55-007529/CA-TUO-4897H). Several other cultural resources that continue outside of the records search boundary used for the proposed Project were recorded during these studies. With respect to the proposed Project area, the nearest previously recorded pre-contact resource (P-55-003153/CA-TUO-2179) is a scatter of lithic material in disturbed context; this resource would not be impacted by the proposed Project.

Records indicate that 13 previously recorded cultural resources have been documented at the CCIC within the 0.25-mile records search radius; three of which are within the proposed Project area. **Table 3.5-1** provides a summary of these resources as well as one additional pre-contact milling site. Additional descriptions of resources mapped within the proposed Project area are provided in the Survey Results section below.

TABLE 3.5-1
CULTURAL RESOURCES WITHIN THE RECORDS SEARCH RADIUS

Designation	Trinomial	Age	Name/Description	Evaluation	Within Proposed Project Area
P-55-003153	TUO-2179	Pre-contact	Golf 1: Lithic scatter	Not evaluated	No
P-55-003154	TUO-2180H	Pre-contact and historic	Golf 2: Lithic deposits and historic features and materials	Not evaluated	No
P-55-003155	TUO-2181H	Historic	Golf 3: water conveyance features and associated materials	Not evaluated	No
P-55-003156	TUO-2182H	Historic	Golf 4: Water conveyance features and associated materials	Recommended not eligible for National Register	No
P-55-003157	TUO-2183H	Historic	Golf 5: Water conveyance feature	Not evaluated	Yes
P-55-003158	TUO-2184H	Historic	Golf 6: Water conveyance features	Not evaluated	No
P-55-007476	TUO-4867H	Historic	Yorktown Ditch: Multi-segment water conveyance feature	Not evaluated	Yes
P-55-007529	TUO-4897H	Historic	Lower Ditch: Water conveyance feature	Recommended not eligible for California Register	Yes
P-55-007530	TUO-4898H	Historic	Sullivan Creek Site: Ditch with rock walls and associated historic-era artifacts	Not evaluated	No
P-55-007531	TUO-4899H	Historic	Baldwin #1: Stacked rocks and associated artifacts	Not evaluated	No
P-55-007532	TUO-4900H	Historic	Baldwin Mining: Place mining features	Not evaluated	No
P-55-007533	–	Historic	West Adit #1	Recommended not eligible for California Register and National Register	No
P-55-007534	–	Historic	TUD #1: Water conveyance features	Recommended not eligible for California Register and National Register	No
–	–	Pre-contact	West Ranch Milling Station	Not evaluated	No

SOURCES: CCIC, 2024; Mattes, 2024.

Survey Methods and Results

ESA archaeologists completed an intensive-level cultural resources survey of the proposed Project area on October 31, 2024. No unrecorded cultural resources or intact previously recorded cultural resources were encountered within the proposed Project area during the survey. During the survey, a pre-contact milling station was identified outside of the proposed Project area. This resource would not be impacted by proposed Project activities. The survey of the proposed Project area was generally conducted in transects spaced 20 meters apart, however, a windshield survey was employed for coverage of the portion of the proposed Project area adjacent to Teleli Golf Course that follows a paved pathway.

The proposed pipeline and equipment access along the margins of the pipeline alignment, the staging area and pumphouse adjacent to Sullivan Creek and pipe bridge crossing, and all proposed Project components, would take place in disturbed contexts that demonstrate impacts to the ground surface and near surface (i.e., within 1-meter bgs) via ranching and golf course maintenance and access roads. Soil

and geologic conditions observed during the survey reflected those illustrated through pre-field research. Specifically, the observed soils within and adjacent to the roadways included light brown and light reddish-brown sandy and gravelly loams with approximately 90 percent visibility through sparse grasses and shrubs. In contrast, soils and sediments in the context of Sullivan Creek were alluvial and dense in coarse sediments concentrations, with marginal steep forested areas affording an average of 50 percent ground visibility through forest duff.

Pre-field research identified three recorded historic-era cultural resources in the proposed Project area (P-55-003157, P-55-007476, and P-55-007529). These resources comprise common water conveyance ditches or components of water conveyance systems that lack definitive historical information pertaining to their dates of construction, builders, specific uses, geographic distribution, and significance in agricultural and mining development both within the proposed Project area and beyond proposed Project boundaries. Inspection of these locations during the field survey found that each of these resources has been modified or filled in to accommodate modern agricultural irrigation or drainage needs, thereby impacting their integrity for the purposes of the California Register of Historical Resources (California Register) and National Register.

Regulatory Setting

Federal

Cultural resources are considered through the NHPA of 1966, as amended (54 U.S.C. 307103), and it's implementing regulations. Prior to implementing an "undertaking" (e.g., federal funding or issuance of a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties (i.e. properties listed in or eligible for listing in the National Register) and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register. Under the NHPA, a property is considered significant if it meets the National Register listing criteria at 36 CFR 60.4, as stated below:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> a) That are associated with events that have made a significant contribution to the broad patterns of our history, or
>
> b) That are associated with the lives of 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 or history.

Federal review of projects is normally referred to as the Section 106 process. This process is the responsibility of the federal lead agency. The Section 106 review normally involves a four-step

procedure, which is described in detail in the implementing regulations (36 CFR Part 800) and summarized below:

- Identify historic properties in consultation with the State Historic Preservation Officer and interested parties;
- Assess the effects of the undertaking on historic properties;
- Consult with the State Historic Preservation Officer, other agencies, and interested parties to develop an agreement that addresses the treatment of historic properties and notify the Advisory Council on Historic Preservation; and finally,
- Proceed with the project according to the conditions of the agreement.

State

The State of California implements the NHPA of 1966, as amended, through its statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation, as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The Office of Historic Preservation also maintains the California Historical Resources Inventory. The State Historic Preservation Officer is an appointed official who implements historic preservation programs within the State's jurisdiction.

California Environmental Quality Act

CEQA, as *codified in Public Resources Code (PRC) Sections 21000 et seq.*, is the principal statute governing the environmental review of projects in the state. CEQA requires lead agencies to determine if a proposed Project would have a significant effect on historical resources, including archaeological resources. The CEQA Guidelines define a historical resource as: (1) a resource in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (3) any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083 regarding unique archaeological resources. A unique archaeological resource is "an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3) Is directly associated with a scientifically recognized important prehistoric or historic event or person" (PRC Section 21083.2 [g]).

The CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064[c][4]).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility to the California Register are based on National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for or listed in the National Register.

To be eligible for the California Register a historical resource must be significant at the local, state, and/or federal level under one or more of the following criteria:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2) Is associated with the lives of persons important in our past;

3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,

4) Has yielded, or may be likely to yield, information important in prehistory or history (PRC Section 5024.1[c]).

For a resource to be eligible for the California Register, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. A resource that does not retain sufficient integrity to meet the National Register criteria may still be eligible for listing in the California Register.

Local

Tuolumne County General Plan

Chapter 13 of the Tuolumne County General Plan provides policies and implementation programs for cultural resources, including the following goals related to cultural resources:

> **Goal 13A:** Identify incentives to strengthen the local economic base by providing and promoting a positive atmosphere for visitor, resident, business and industry activity compatible with an historic environment.
>
> **Goal 13B:** Encourage historic preservation by adopting a consistent and predictable environmental review process for evaluating impacts to cultural resources.
>
> **Goal 13C:** Maintain Tuolumne County's cultural heritage, through the identification, management, preservation, use, enhancement, restoration and study of its cultural resources.

Goal 13D: Recognize and use cultural resources management as a tool for implementing other goals and policies of the General Plan.

Goal 13E: Promote community appreciation for Tuolumne County's cultural resources through community education and involvement to ensure the continued proper private and public stewardship of cultural resources in Tuolumne County.

Goal 13F: Set an example for good cultural resource management through proper private and public stewardship of the County's cultural resources.

Actions for determining the need for cultural resources investigations for discretionary entitlements and ministerial projects, as well as the procedures for conducting cultural resource investigations are also provided.

Discussion

a) **No Impact.** A significant impact would occur if the proposed Project would cause a substantial adverse change to a historical resource, herein referring to historic-era architectural resources or the built environment, including buildings, structures, and objects. A significant impact could occur if the proposed Project would cause a substantial adverse change to a historical resource through physical demolition, destruction, relocation, or alteration of the resource.

Three historic-era cultural resources that consist of typical water conveyance features (P-55-003157, P-55-007476, and P-55-007529) are previously recorded in the proposed Project area. These resources lack integrity and significance for the purposes of the California Register and are recommended as not eligible for listing in the California Register. Therefore, these resources are not considered to be historical resources for the purposes of CEQA, and do not satisfy cultural preservation and stewardship goals of the Tuolumne Country General Plan. As such, the proposed Project would have **no impact** on a historical resource.

b) **Less than Significant with Mitigation Incorporated.** Archaeological resources can be considered historical resources, according to Section 15064.5, as well as unique archaeological resources, as defined in Section 21083.2(g). A significant impact could occur if the proposed Project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

No artifacts or other evidence of pre-contact human use or occupation has been identified within the proposed Project area. Despite the proposed Project's proximity to areas of elevated sensitivity for the presence of pre-contact archaeological resources, given the environmental context and negative survey results there is a relatively low potential for the unanticipated discovery of pre-contact archaeological resources during ground-disturbing activities. While unlikely, the inadvertent discovery of archaeological resources during proposed Project construction cannot be entirely discounted and impacts to archaeological resources would be potentially significant. This impact would be reduced to a less-than-significant level by implementation of **Mitigation Measure CUL-1**, which would require that all construction personnel of the proposed Project involved in ground-disturbing activities receive a cultural resources training program. In addition, **Mitigation Measure CUL-2**, would ensure that proper

procedures are followed in the event of an inadvertent discovery so that potentially significant cultural resources are avoided, if feasible, or treated appropriately according to the provisions of PRC Section 21083.2 and PRC Section 21084.3.

Mitigation Measures

Mitigation Measure CUL-1: Cultural Resources Awareness Training: Prior to authorization to proceed, the Tuolumne Economic Development Authority (TEDA) and Tuolumne Utility District (TUD) shall engage a qualified archaeologist, defined as an archaeologist meeting the U.S. Secretary of the Interior's Professional Qualification Standards for Archeology and a Native American representative, to provide a training program for all Project personnel involved in ground-disturbing activities. On-site personnel shall attend a mandatory pre-Project training that outlines the general archaeological sensitivity of the area and the procedures to follow in the event an archaeological resource and/or human remains are inadvertently discovered.

Mitigation Measure CUL-2: Inadvertent Discovery of Cultural Materials: If pre-contact or historic-era cultural materials are encountered during Project implementation, all construction activities within 100 feet will halt, and a qualified archaeologist shall inspect the find within 24 hours of discovery and notify TEDA and TUD of the initial assessment. Pre-contact materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include deposits of metal, glass, and/or ceramic refuse.

If TEDA and TUD, based on recommendations from the qualified archaeologist and a Native American representative (if the resource is pre-contact), that the resource may qualify as a historical resource or unique archaeological resource (as defined in CEQA Guidelines Section 15064.5) or a tribal cultural resource (as defined in PRC Section 21080.3), the resource shall be avoided if feasible. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource, incorporating the resource within open space, capping and covering the resource, or deeding the site into a permanent conservation easement.

If avoidance is not feasible, TEDA and TUD shall consult with appropriate Native American representatives (if the resource is pre-contact) to determine treatment measures to avoid, minimize, or mitigate any potential impacts to the resource pursuant to PRC Section 21083.2 and CEQA Guidelines Section 15126.4. This shall include documentation of the resource and may include data recovery (according to PRC Section 21083.2), if deemed appropriate, or other actions such as treating the resource with culturally appropriate dignity and protecting the cultural character and integrity of the resource (according to PRC Section 21084.3).

c) **Less than Significant with Mitigation Incorporated.** There is no indication from archival and field research that any part of the proposed Project area has been used for human burial purposes in the recent or distant past. Therefore, it is unlikely that human remains would be encountered during implementation of the proposed Project. Despite the low potential, the possibility of inadvertent discovery of human remains cannot be entirely discounted and would result in a potentially significant impact. This impact would be reduced to a less than significant level with implementation of **Mitigation Measure CUL-3**, which requires avoidance measures, or the appropriate treatment of human remains if accidentally discovered during construction of the proposed Project.

Mitigation Measure CUL-3: Inadvertent Discovery of Human Remains: In the event of discovery of any human remains during proposed Project activities, such activities within 100 feet of the find shall cease until the Tuolumne County Coroner has been contacted to determine that no investigation of the cause of death is required. The Native American Heritage Commission will be contacted within 24 hours if it is determined that the remains are Native American. The Commission will then identify the person or persons it believes to be the most likely descendant from the deceased Native American, who in turn would make recommendations to TEDA and TUD for the appropriate means of treating the human remains and any grave goods.

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3.6 Energy

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
VI. ENERGY — Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Environmental Setting

This section identifies and evaluates issues related to energy in the context of the proposed Project. It includes information about the physical and regulatory setting and identifies the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment.

State Energy Setting

Total energy usage in California was 6,882 trillion British thermal units in 2022 (the most recent year for which specific data are available), which equates to an average of 176 million British thermal units per capita. These figures place California second among the nation's 50 states in total energy use and 49th in per capita consumption (EIA 2024).

Electricity

In 2023, total system electric generation for California was 281,140 gigawatt-hours, down 2.1 percent (6,080 gigawatt-hours) from 2022. Approximately 77 percent of the electrical power needed to meet California's demand is produced in the state; the balance, approximately 23 percent, is imported from the Northwest and the Southwest. In 2023, California's in-state electricity use was derived from natural gas (45 percent); coal (2 percent); large hydroelectric resources (13 percent); nuclear sources (9 percent); renewable resources that include geothermal, biomass, small hydroelectric resources, wind, and solar (58 percent); and unspecified sources (4 percent). Of the approximately 120,932 gigawatt-hours generated from renewable sources in the state, solar-generated electricity made up the highest proportion (19 percent), followed by large hydroelectric (13 percent), wind (7 percent), geothermal (5 percent), biomass (2 percent), and small hydroelectric (2 percent) (CEC 2024a).

Transportation Fuels

Gasoline and diesel, both derived from petroleum (also known as crude oil), are the two most common fuels used for vehicular travel. In 2023, approximately 23 percent of California's crude oil was produced within the state, about 16 percent was produced in Alaska, and the remaining 60 percent was produced in foreign lands (CEC 2024b).

In 2019, taxable gasoline sales in California accounted for approximately 15.4 billion gallons of gasoline (CDTFA 2020a), and taxable diesel fuel sales accounted for approximately 3.1 billion gallons of diesel fuel (CDTFA 2020b).

California is nearly self-sufficient with gasoline and diesel supply, obtaining almost all of the supply to meet local demand from the California refineries (CEC 2022). Refineries in California often operate at or near maximum capacity because of the high demand for petroleum products. When unplanned refinery outages occur, replacement supplies must be brought in by marine tanker from refineries in the state of Washington or on the U.S. Gulf Coast. California requires that all motorists use, at a minimum, a specific blend of motor gasoline called CaRFG (California Reformulated Gasoline) as part of an overall program to reduce emissions from motor vehicles. Refineries in several other countries can also supply CaRFG, although it can take several weeks to locate and transport replacement motor gasoline that conforms to California's strict fuel specifications (EIA 2024). As a result, unplanned outages often result in a reduction in supply that causes prices to increase, sometimes dramatically. The severity and duration of these price spikes depend on how quickly the refinery issue can be resolved and how soon supply from alternative sources can reach the affected market (EIA 2015).

Regional and Local Setting

Pacific Gas and Electric Company (PG&E) is an investor-owned utility company that provides electricity supplies and services throughout a 70,000 square-mile service area that extends from Eureka in the north, to Bakersfield in the south, and from the Pacific Ocean in the west, to the Sierra Nevada mountains in the east. Most of Tuolumne County, including the proposed Project area, is within PG&E's service area for electricity. Operating characteristics of PG&E's electricity supply and distribution systems are provided below. Also discussed is the regional consumption of transportation fuels.

PG&E Electric Utility Operations

PG&E provides "bundled" services (i.e., electricity, transmission, and distribution services) to most of the six million customers in its service territory, including residential, commercial, industrial, and agricultural consumers. In recent years, PG&E has improved its electric transmission and distribution systems to accommodate the integration of new renewable energy resources, distributed generation resources, and energy storage facilities (PG&E 2024).

In 2023, PG&E generated and/or procured a total of 72,933 gigawatt hours of electricity.[5] Of this total, PG&E owns approximately 7,820 megawatt of generating capacity, itemized below (see **Table 3.6-1**). The remaining electrical power is purchased from other sources in and outside of California.

Electricity Consumption

Table 3.6-2 shows electricity consumption by sector in the PG&E service area based on the latest available data from the CEC. As shown in the table, PG&E delivered approximately 80 billion kilowatt-hours in 2018, of which approximately 58 billion kilowatt-hours were consumed by commercial building and residential uses.

In Tuolumne County, approximately 450 million kilowatt-hours of electricity was consumed in 2022, with approximately 223 million kilowatt-hours consumed by non-residential uses (CEC 2024c).

[5] This amount excludes electricity provided to direct access customers and Community Choice Aggregation entities who procure their own supplies of electricity.

TABLE 3.6-1
PG&E-OWNED ELECTRICITY GENERATING SOURCES (2023)

Source	Generating Capacity (MW)
Nuclear (Diablo Canyon-2 reactors)	2,240
Hydroelectric	3,845
Fossil Fuel-Fired	1,400
Elkhorn Battery Energy Storage System	183
Solar Photovoltaic (13 units;12 in Fresno County, 1 in Kings County)	152
Total	7,820

SOURCE: PG&E, 2024 (2023 Annual Report)

TABLE 3.6-2
ELECTRICITY CONSUMPTION IN PG&E SERVICE AREA (2022)

Agricultural and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage
All Usage Expressed in Millions of kWh (GWh)							
7,506	26,928	4,055	10,091	1,814	27,209	280	80,369

SOURCE: CEC 2024c

Gasoline and Diesel

The CEC estimates that 21 million gallons of gasoline and approximately 4 million gallons of diesel were sold in 2018 in Tuolumne County and that there are 30 gasoline stations in the County (CEC 2024d).

Regulatory Setting

Federal

National Energy Conservation Policy Act

The National Energy Conservation Policy Act (42 USC 8201 et seq.) serves as the underlying authority for federal energy management goals and requirements and is the foundation of most federal energy requirements. The National Energy Conservation Policy Act established energy-efficiency standards for consumer projects and includes, among other things, energy-efficiency standards for new construction.

National Energy Policy Act of 2005

The National Energy Policy Act of 2005 (42 USC 13201 et seq.) sets equipment energy efficiency standards and seeks to reduce reliance on nonrenewable energy resources and provide incentives to reduce current demand for these resources. For example, under the National Energy Policy Act, consumers and businesses can attain federal tax credits for purchasing fuel-efficient appliances and products, including hybrid vehicles; and constructing energy-efficient buildings. Additionally, the National Energy Policy Act includes incentives for renewable energy production, including wind power.

Energy and Independence Security Act of 2007

The Energy and Independence Security Act of 2007 (42 USC 17001) sets federal energy management requirements in several areas, including energy reduction goals for federal buildings, facility management and benchmarking, performance and standards for new buildings and major renovations, high-performance buildings, energy savings performance contracts, metering, energy-efficient product procurement, and reduction in petroleum use, including by setting automobile efficiency standards, and increase in alternative fuel use. The Energy and Independence Security Act also amends portions of the National Energy Policy Conservation Act, described above.

Corporate Average Fuel Economy Standards

Section 3.10, *Greenhouse Gas Emissions*, details federally established fuel economy standards by the EPA and National Highway Traffic Safety Administration (NHTSA). NHTSA's Corporate Average Fuel Economy standards regulate how far vehicles must travel on a gallon of fuel. NHTSA sets Corporate Average Fuel Economy standards for passenger cars and for light trucks (collectively, "light-duty vehicles"), and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. During more than 30 years, this regulatory program has resulted in improved fuel economy throughout the United States' vehicle fleet (NHTSA 2014, 2021).

State

Warren-Alquist Act

The 1975 Warren-Alquist Act (PRC Section 25000 et seq.) established the California Energy Resources Conservation and Development Commission, now known as the CEC. The Warren-Alquist Act established a state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The Warren-Alquist Act also was the driving force behind the creation of Appendix F to the CEQA Guidelines.

State of California Integrated Energy Policy

PRC Section 25301(a) requires the CEC to develop an integrated energy plan at least every 2 years for electricity, natural gas, and transportation fuels. The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. An overarching goal of the resulting Integrated Energy Policy Report is to achieve the statewide greenhouse gas (GHG) emission reduction targets, while improving overall energy efficiency. For example, the CEC's 2023 Integrated Energy Policy Report Highlights, which includes integrating renewable energy, including wind, as a key component (CEC 2024e).

Renewables Portfolio Standard

The State of California adopted standards to increase the percentage that retail sellers of electricity, including investor-owned utilities and community choice aggregators, must provide from renewable resources. The standards are referred to as the Renewable Portfolio Standard (RPS). Qualifying renewables under the RPS include bioenergy such as biogas and biomass, small hydroelectric facilities (30 megawatt or less), wind, solar, and geothermal energy. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's

renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy.

Executive Orders S-14-08 and S-21-09

In November 2008, Governor Schwarzenegger signed Executive Order (EO) S-14-08, which expanded the state's RPS to 33 percent renewable power by 2020. In September 2009, Governor Schwarzenegger continued California's commitment to the RPS by signing EO S-21-09, which directed the CARB under its AB 32 authority to enact regulations to help the state meet its RPS goal of 33 percent renewable energy by 2020.

Senate Bill 350—Clean Energy and Pollution Reduction Act of 2015

SB 350, known as the Clean Energy and Pollution Reduction Act of 2015, was enacted on October 7, 2015. It provides a new set of objectives in clean energy, clean air, and pollution reduction by 2030. The objectives include the following:

1. To increase from 33 percent to 50 percent by December 31, 2030, the procurement of electricity from renewable sources.
2. To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

Senate Bill 100 and Executive Order B-55-18

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also created new standards for the RPS goals that were established by SB 350 in 2015. Specifically, the bill increases required energy from renewable sources for both investor-owned and publicly-owned utilities from 50 percent to 60 percent by 2030. Incrementally, these energy providers are also required to have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. The updated RPS goals are considered achievable, since many California energy providers are already meeting or exceeding the RPS goals established by SB 350.

On the same day that SB 100 was signed, Governor Brown signed EO B-55-18 with a new statewide goal to achieve carbon neutrality (zero-net GHG emissions) by 2045 and to maintain net negative emissions thereafter.

Energy-efficient Building Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings specified in Title 24, Part 6 of the California Code of Regulations include requirements for non-residential building lighting, insulation, ventilation, and mechanical systems (CEC 2023).

The California Green Building Standards Code (Title 24, Part 11) is a statewide regulatory code for all buildings. The California Green Building Standards Code is intended to encourage more sustainable and environmentally friendly building practices, require use of low-pollution emitting substances that cause less harm to the environment, conserve natural resources, and promote the use of energy-efficient materials and equipment (CBSC 2022).

Local

2018 Tuolumne County General Plan

The following goals and policies from Chapter 3, Utilities, of the *2018 Tuolumne County General Plan* (Tuolumne County 2018) are applicable to the proposed Project:

> **Goal 6E:** Encourage the retention and expansion of existing businesses, attraction of new business and industry and assist in entrepreneurial programs to generate local employment opportunities, reduce retail leakage out of the county
>
> > *Implementation Program 6.E.6:* Encourage land uses which maximize the efficient use of energy and facilitate the use of renewable energy resources in order to reduce dependence on imported and non-renewable energy supplies.
>
> **Goal 18A:** Reduce Greenhouse Gas (GHG) emissions from community activities and County government facilities and operations within the County to support the State's efforts under Assembly Bill 32 and other state and federal mandates to mitigate the County's GHG emissions impacts.
>
> ***Policy 18A.1***: Prepare a Climate Action Plan (CAP), or similar GHG emission reduction plan, that establishes a GHG reduction target consistent with the Senate Bill (SB) 32 goal to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030. The CAP shall identify specific measures to reduce countywide emissions consistent with the established target and will also include adaptation strategies for the county to appropriately adjust to the environmental effects of climate change. Many of the measures in the CAP will overlap with and help implement goals, policies, and implementation programs identified in this General Plan.
>
> *Implementation Program 18.A.a*
>
> - Improve the local jobs/housing balance to reduce vehicle miles travelled.
> - Require Tier 4 equipment for all construction activity and forestry/mining operations by 2030.
>
> *Implementation Program 18.A.5*
>
> 18.A.m—Reduce the energy demand of public facilities and conserve electricity through the following: a) retrofitting County owned or operated street, traffic signal, and other outdoor lights with energy efficient light emitting diode (LED) lamps; b) retrofitting heating and cooling systems to optimize efficiency, such as replacing HVAC [heating, ventilation, and air conditioning] systems; and c) replacing old appliances and technologies with ENERGY STAR products. Obtain funding for and install renewable energy technologies on public property (Tuolumne County 2018).

Discussion

a) **Less-than-Significant Impact.** Energy use during construction would mainly consist of fuels (diesel and gasoline) consumed by vehicles and equipment required to construct the proposed Project. Refer to Table 2-2 in Chapter 2, *Project Description*, for a list of the anticipated construction equipment. As described in Chapter 2, the duration of proposed Project construction would be up to twelve weeks. Construction equipment, haul trucks, and worker vehicles would consume fuel during proposed Project construction. Due to the small size of the proposed Project and the small construction crew that would be required, the consumption of fuel energy during construction would be temporary, localized, and would not represent a substantial amount of fuel

in comparison to the 21 million gallons of gasoline and approximately 4 million gallons of diesel sold in Tuolumne County (in the year 2022). Vehicles used for proposed Project construction and operation would be required to comply with all federal and state efficiency standards. Additionally, there are no characteristics or features of the proposed Project that would be inefficient or that would result in the use of equipment and/or vehicles that would be less energy efficient compared to similar projects. The proposed Project would not be constructed in a wasteful or inefficient manner and would not result in unnecessary consumption of energy resources.

As described in Section 1.5, the proposed Project would result in the construction and operation of several thousand feet of new recycled water pipeline from TUD's existing recycled water pipeline in the West property and routed over Sullivan Creek and routed underground to the Teleli Golf Course for storage and irrigation purposes. Once constructed, the water pipeline would not require additional energy for operation. Additional maintenance may be required to manage the new recycled water pipeline, however additional maintenance would be similar to existing conditions, and would not require additional staffing or require significant additional travel. Impacts would be **less than significant.**

b) **No Impact.** The proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The proposed Project's construction would employ efficient vehicles that would follow CARB standards and consistent with County implementation goals. The proposed Project would not require a large fleet of equipment or staff for construction, decommissioning, or operation. The proposed Project would involve the construction of a new recycled water pipeline from TUD's existing recycled water pipeline and would not include generation or alter the existing source portfolio at the state or local level, which includes a variety of renewable energy sources. Thus, the proposed Project would have no impact because it would not conflict with state or local plans for renewable energy or energy efficiency.

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3.7 Geology and Soils

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
VII. GEOLOGY AND SOILS — Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
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?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive or corrosive soil creating substantial direct or indirect risks to life or property?[6]	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Environmental Setting

The proposed Project area is a rural area of Tuolumne County outside the community of Jamestown. The pipeline alignment generally follows unimproved ranch roads through grazing land. The proposed Project will install new pipeline and involve construction and installation of pipe bridge crossing over Sullivan Creek upon entering the lower portion of the golf course property and continuing underground up to Storage Pond 1 downgradient of the Teleli Golf Course for storage prior to use for irrigation. More specifically, the proposed recycled water pipeline would extend from TUD's existing recycled water pipeline turnout at APN 059-160-08 and extend underground approximately 5,900 linear feet to a second connection at APN 059-070-80, continuing underground and crossing over Sullivan Creek via pipe bridge and continuing along the existing access roads and would terminate at Storage Pond 1 for storage prior to irrigation purposes.

[6] The CBC, which is based on the International Building Code replaced the now defunct Uniform Building Code in 2000; it no longer includes a Table 18-1-B. Instead, Section 1803.5.3 of the CBC describes the criteria for analyzing expansive soils. This is discussed further in the *Regulatory Setting*.

Earthquake Potential

The proposed Project area is not within a historically, seismically active portion of California (Tuolumne County 2019), given the lack of any Holocene-active or potentially active faults near the proposed Project area (CGS 2021). The predicted peak acceleration for the entire developed portion of Tuolumne County does not exceed 20 percent of gravity, meaning that Tuolumne County is among the areas of California with the lowest earthquake potential (Tuolumne County 2019). A total of four historical earthquake events with recorded magnitudes of 3.5 or greater occurred in or near Tuolumne County this past century (Tuolumne County 2019). The proposed Project area is not within a designated Earthquake Fault Zone (EFZ) as delineated on an EFZ map, which is to say there are no Holocene-active faults within the proposed Project area (CGS 2021).

Soil Characteristics

Expansive Soils

Expansive soils are soils that possess a "shrink-swell" characteristic. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying; the volume change is reported as a percent change for the whole soil. The Natural Resources Conservation Service relies on linear extensibility measurements to determine the shrink-swell potential of soils. Soil expansion is measured using the coefficient of linear extensibility (NRCS 2017). If the linear extensibility percent is more than 3 percent (coefficient of linear extensibility=0.03), shrinking and swelling may cause damage to buildings, roads, and other structures (NRCS 2017). National Resources Conservation Service Web Soil Survey data indicates that the soils underlying the proposed Project area have a linear extensibility rating that is, on average, 1.66 percent, which is considered a low linear extensibility rating (NRCS 2024). Soils in the proposed Project site are shown in **Table 3.7-1**.

TABLE 3.7-1
MAPPED SOIL UNITS AND SOIL PROPERTIES

Alignment Map Unit Symbol	National Map Unit Symbol	Map Unit Name	Hydrologic Group	Wind Erodibility Index (T/Ac/Yr)[1]	Corrosion of Concrete	K Factor	None
7074	2x296	Loafercreek-Bonanza complex, 3 to 15 percent slopes	C	38	Moderate	0.17	Expansive
7210	2r6fl	Deerflat-Millvilla complex, 3 to 15 percent slopes	C	56	Moderate	0.55	Highly Erosive
7211	2r6fk	Millvilla-Luckymine complex, 15 to 30 percent slopes	C	56	Low	0.43	Moderately Erosive
7212	2r6fj	Wardsferry-Millvilla complex, 30 to 60 percent slopes	C	56	Moderate	0.43	Moderately Erosive
8110	2lk58	Cumulic Humixerepts-Riverwash complex, 0 to 8 percent slopes	B	56	Moderate	0.28	Moderately Erosive

Source: National Resources Conservation Service 2024

Soil Erosion

The U.S. Natural Resources Conservation Service has developed a rating, known as the *erodibility factor* or *K-factor*, to evaluate the susceptibility of soils to erosion by water. The soil-erodibility factor (K) represents (1) the susceptibility of soil or surface material to erosion, (2) the transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition (State Water Board 2024). K-factor ratings are numbered 0.00 through 0.65, with 0.00 to 0.25 being considered low, 0.25 to 0.45 being moderate, and 0.45 to 0.65 being high. The soil on-site has some susceptibility to water erosion with a maximum K value of 0.55 (NRCS 2024).

Wind erosion is similarly most prevalent in silty and fine sandy soils with sparse vegetation. Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion. Wind erodibility is rated on a scale of 0 to 310, with 0 being soils that are not susceptible to wind erosion due to coarse fragments or wetness and 310 being soils that are made up of very fine sand, fine sand, sand, or coarse sand that are highly susceptible to wind erosion (NRCS 2002). Soil found along the proposed Project alignments have low wind erodibility ratings, with soil in the proposed Project area having a maximum wind erodibility rating of 56 (NRCS 2024).

Liquefaction Potential

Liquefaction is a phenomenon in which unconsolidated, water saturated sediments become unstable due to the effects of strong seismic shaking. During an earthquake, these sediments can behave like a liquid, potentially causing severe damage to overlying structures. The occurrence of this phenomenon is dependent on many complex factors, including the intensity and duration of ground shaking, particle-size distribution, and density of the soil.

The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of structure slabs due to sand boiling, and buckling of deep foundations due to ground settlement. Dynamic settlement (i.e., pronounced consolidation and settlement from seismic shaking) may also occur in loose, dry sands above the water table, resulting in settlement of and possible damage to overlying structures. In general, a relatively high potential for liquefaction exists in loose, sandy soils that are within 50 feet of the ground surface and are saturated (below the groundwater table). The proposed Project is not located in a documented liquefaction zone (CGS 2021). As indicated by neighboring wells, the depth groundwater in the area is over 100 feet (DWR 2023). The low potential of ground shaking in the proposed Project area suggests a low potential for liquefaction.

Landslide Potential

Landslides are one of the various types of downslope movements in which rock, soil, and other debris are displaced due to the effects of gravity. The potential for material to detach and move down slope depends on a variety of factors including the type of material, water content, steepness of terrain, and more. The proposed Project area is located in areas that are highly susceptible to landslides. The nearest recorded landslide to the proposed Project area is approximately 2.5 miles away (USGS 2024).

Paleontological Setting

Paleontological resources are the fossilized remains of plants and animals, including vertebrates (animals with backbones, e.g., mammals, birds, fish), invertebrates (animals without backbones, e.g., starfish, clams, coral), and microscopic plants and animals (microfossils), and can include mineralized body parts, body impressions, or footprints and burrows. They are valuable, non-renewable, scientific resources used to document the existence of extinct life forms and to reconstruct the environments in which they lived. Fossils can be used to determine the relative ages of the depositional layers in which they occur and of the geologic events that created those deposits. The age, abundance, and distribution of fossils depend on the geologic formation in which they occur and the topography of the area in which they are exposed. The geologic environments within which plants or animals became fossilized were generally quite different from the present environments in which the geologic formations currently exist.

Paleontological sensitivity is defined as the potential for a geologic formation to produce scientifically significant fossils. This is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its "Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources," the Society of Vertebrate Paleontology (SVP) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential: **High Potential**, rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources; **Low Potential**, rock units that are poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule; **Undetermined Potential**, rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment; and **No Potential**, rock units like high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites) that will not preserve fossil resources (SVP 2010).

The University of California Museum of Paleontology fossil locality online database, geological mapping (Higgins, 1997), and the SVP guidelines were reviewed to determine the potential for paleontological resources to be present at the proposed Project area. According to geologic mapping by Higgins, portions of the proposed Project area is underlain by Mesozoic-age granite rocks, Paleozoic-age Marine sedimentary rocks, and Jurassic-age marine sedimentary and metasedimentary rocks. Granitic rocks are considered to have a low paleontological sensitivity due the igneous origins of granitic rock. However, portions of the proposed Project area are underlain by sedimentary formations that have high potential for paleontological resources (SVP 2010).

Regulatory Setting

Federal

Occupational Safety and Health Administration

The Occupational Safety and Health Act requires employers to comply with safety and health standards promulgated by the Occupational Safety and Health Administration (OSHA). OSHA Excavation standards, which are set forth in Title 29 CFR Part 1926, Subpart P, contain requirements for excavation and trenching operations.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with the Alquist-Priolo Act, the state geologist established regulatory zones, called "Earthquake Fault Zones," around the surface traces of active faults and published maps showing the EFZs. Within the fault zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. Each EFZ extends approximately 200- to 500-feet on either side of the mapped fault trace because many active faults are complex and consist of more than one branch that may experience ground surface rupture. California Code of Regulations (CCR) Title 14, Section 3601(e) defines buildings intended for human occupancy as those that would be inhabited for more than 2,000 hours per year.

California Building Code

The California Building Code (CBC), codified in Title 24 of the California Code of Regulations Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards for structural strength, means of ingress/egress to facilities (entering and exiting), and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction.

The CBC is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2019 edition of the CBC is based on the 2018 International Building Code published by the International Code Council, which replaced the Uniform Building Code. The code is updated triennially; the 2019 edition of the CBC was published by the California Building Standards Commission on July 1, 2019, and went into effect on January 1, 2020. The 2019 CBC contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standard ASCE/SEI 7-16, Minimum Design Loads for Buildings and Other Structures. The CBC provides requirements for general structural design and includes means for determining earthquake loads, as well as other loads (such as wind loads), for inclusion in building codes. The design of the proposed buildings, structures and infrastructure would be required to comply with CBC requirements, which would make the proposed Project consistent with the CBC.

California Occupational Safety and Health Administration

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. In California, the California Division of Occupational Safety and Health (Cal/OSHA) and OSHA are the agencies responsible for ensuring worker safety in the workplace.

The OSHA Excavation and Trenching standard (29 CFR 1926.650) covers requirements for excavation and trenching operations. OSHA requires protecting all excavations in which employees could potentially

be exposed to cave-ins, by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area. Cal/OSHA also regulates dust protection during construction and the issues around fugitive dust is discussed more fully in Section 3.3, *Air Quality*. Cal/OSHA is the implementing agency for both federal and state OSHA standards. All contractors must comply with OSHA regulations, which would make the proposed Project consistent with OSHA.

National Pollutant Discharge Elimination System Construction General Permit

The NPDES *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002, Construction General Permit (CGP); as amended by Orders 2010-0014-DWQ 2012-006-DWQ, and 2022-0057-DWQ) regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The CGP regulates stormwater discharges from construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

Construction of the proposed Project could disturb more than 1 acre of land surface, potentially affecting the quality of stormwater discharges into waters of the U.S., and as a result would need to comply with the requirements of the CGP. The CGP requires that construction sites be assigned a risk level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the risk to receiving waters during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving-waters risk level reflects the risk to receiving waters from the sediment discharge.

Depending on the risk level, construction projects governed by the CGP could be subject to the following requirements:

- Effluent standards
- Good site management “housekeeping”
- Non-stormwater management
- Erosion and sediment controls
- Run-on and runoff controls
- Inspection, maintenance, and repair
- Monitoring and reporting requirements

The CGP requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from encountering stormwater and moving off-site into receiving waters. BMPs are divided into several categories, including erosion control, sediment control, waste management, and good housekeeping. They are intended to protect surface water quality by preventing eroded soil and construction-related pollutants from migrating off-site from the construction area. Routine inspection of all BMPs is required under the CGP. In addition, the SWPPP must contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The SWPPP must be prepared before construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the proposed Project area. The SWPPP must list BMPs and the placement of those BMPs that the applicant would use to protect stormwater runoff.

Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, and washing and fueling of vehicles and equipment. The CGP also sets post-construction standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from the site after construction).

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) was passed in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. The SHMA requires the State Geologist to delineate various seismic hazard zones, and cities, counties, and other local permitting agencies to regulate certain development projects within these zones. For projects that would locate structures for human occupancy within designated Zones of Required Investigation, the SHMA requires project applicants to perform a site-specific geotechnical investigation to identify the potential site-specific seismic hazards and corrective measures, as appropriate, prior to receiving building permits. The *CGS Guidelines for Evaluating and Mitigating Seismic Hazards* (Special Publication 117A) provides guidance for evaluating and mitigating seismic hazards (CGS 2008). The California Geologic Survey (CGS) is in the process of producing official maps based on USGS topographic quadrangles, as required by the SHMA. However, no mapping of the region that includes the proposed Project area has been compiled by the CGS.

Local

Tuolumne County General Plan

Goal 17A: Avoid the exposure of people and structures to potential substantial adverse effects, including the risk of loss, injury or death involving natural hazards.

Policy 17.A.1: Increase Tuolumne County's capabilities to mitigate the effects of natural hazards.

Implementation Program 17.A.a: Implement the Tuolumne County Multi-Jurisdictional Hazard Mitigation Plan to protect life, safety, and property by reducing the potential for future damages and economic losses that result from geologic hazards.

Policy 17.A.2: Enhance existing policies that will reduce the potential damaging effects of hazards without hindering other County goals.

Implementation Program 17.A.b: Update the County's General Plan and Ordinance Code as new Federal and State laws regarding geologic hazards and requirements are enacted.

Policy 17.A.3: Protect Tuolumne County's most vulnerable populations, buildings and critical facilities through the implementation of cost-effective and technically feasible mitigation projects.

Implementation Program 17.A.c: Maximize the use of hazard mitigation grant programs to protect the most vulnerable populations and structures.

Policy 17.A.4: Protect public health, safety and welfare by increasing the awareness of existing hazards and by fostering both individual and public responsibility in mitigating risks due to those hazards.

Implementation Program 17.A.d: Increase the level of knowledge and awareness for Tuolumne County residents on the hazards that routinely threaten the area. Educate property owners on the affordable, individual mitigation and preparedness measures that can be taken before the next hazard event.

Policy 17.A.5: Enhance the County's capability to conduct hazard risk assessments, demonstrate funding needs, and track mitigation activities.

Policy 17.A.6: Ensure that all new construction is completed in a way most resistant to loss or damage from natural hazards.

Tuolumne County Grading Ordinance

The purpose of the Tuolumne County Grading Ordinance is to establish minimum standards and provide regulations for the construction and maintenance of excavations, site reclamation, drainage control, stockpiling, as well as for protection of exposed soil surfaces, and cut and clearing of vegetation related to any or all of these practices to promote the safety, public health, convenience, and general welfare of the community. Furthermore, the Grading Ordinance is intended to fulfill the requirements for grading/ stockpiling and erosion control, establishes the administrative procedure for issuance of permits, and provided for approval of plans and inspection of grading construction.

Discussion

a.i) **No Impact**. The proposed Project area does not lie within any mapped EFZs according to the available data (CGS 2020). The proposed Project does not include residential or commercial development that would expose people or structures to potential substantial adverse effects relating to rupture of a known earthquake fault. There would be **no impact** related to surface fault rupture.

a.ii) **Less-than-Significant Impact**. The proposed Project area is not within a historically, seismically active portion of California (Tuolumne County 2019), due to a lack of any Holocene-active or potentially active faults in proximity to the proposed Project area (CGS 2021). The predicted peak acceleration for the entire developed portion of Tuolumne County does not exceed 20 percent of gravity, meaning that Tuolumne County is among the areas of California with the lowest earthquake potential (Tuolumne County 2019). A total of four historical earthquake events with recorded magnitudes of 3.5 or greater occurred in or near Tuolumne County this past century (Tuolumne County 2019).

Regardless of the low probability of significant impacts to the proposed Project as a result of strong seismic groundshaking, as discussed in the CBC subsection identified in *Regulatory Setting*, compliance with CBC requirements would ensure impacts related to strong seismic groundshaking, would be **less than significant**.

a.iii) **Less-than-Significant Impact**. Liquefaction is a phenomenon in which unconsolidated, water saturated sediments become unstable due to the effects of strong seismic shaking. During an earthquake, these sediments can behave like a liquid, potentially causing severe damage to overlying structures. Lateral spreading is a variety of minor landslide that occurs when unconsolidated liquefiable material breaks and spreads because of gravity, usually down gentle slopes.

The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of structure slabs due to sand boiling, and buckling of deep foundations due to ground settlement. Dynamic settlement (i.e., pronounced consolidation and settlement from seismic shaking) may also occur in loose, dry sands above the water table, resulting in settlement of and possible damage to overlying structures. In general, a relatively high potential for liquefaction exists in loose, sandy soils that are within 50 feet of the ground surface and are saturated (below the groundwater table). Lateral spreading can move blocks of soil, placing strain on buried pipelines that can lead to leaks or pipe failure.

According to the EQ Zapp, the proposed Project area is not within or in the vicinity of a liquefaction zone. Additionally, as stated in Chapter 2, Project Description, the historical groundwater levels at the proposed Project area are approximately 100 feet below ground surface (bgs). Further, as the proposed Project area is not susceptible to strong seismic groundshaking, the overall liquefaction potential is low.

While the liquefaction potential is considered low, the proposed Project would still be subject to the seismic design criteria of the CBC, which requires that all structures be constructed to withstand the effects of liquefaction. Adherence to the applicable CBC requirements and local agency enforcement would ensure that the proposed Project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving liquefaction. Therefore, impacts related to liquefaction during construction and operation would be less than significant.

a.iv) **Less-than-Significant Impact**. Elevation in the proposed Project area and surrounding landscape ranges from 1,317 feet to 1,660 feet. The pipeline alignment generally follows unimproved ranch roads through grazing land. The proposed Project would install a new underground pipeline and involve construction and installation of an elevated pipe bridge crossing over Sullivan Creek upon entering the golf course property and then continuing underground along existing access roads to Storage Pond 1 for storage prior to use for irrigation. As discussed above, the proposed Project is in an area that is susceptible to landslides, and the nearest documented historic landslide is approximately 2.5 miles away from the proposed Project area. Given that the proposed Project is in an area with hilly terrain and in an area that is susceptible to landslides, there could be potential substantial adverse effects involving landslides.

However, the proposed Project would be constructed in accordance with applicable CBC requirements. Furthermore, Project Contractors would comply with OSHA Excavation standards, which are set forth in Title 29 CFR Part 1926, Subpart P, which contains requirements for

excavation and trenching operations. Compliance with CBC and OSHA requirements would ensure impacts related landslides would be **less than significant**.

b) **Less-than-Significant Impact**. As discussed in Section 1.2 *Project* Location, the proposed recycled water pipeline would extend from TUD's existing recycled water pipeline turnout at APN 059-160-08 and extend underground approximately 6,000 linear feet to a second connection at APN 059-070-80, continuing underground and crossing over Sullivan Creek via pipe bridge and continuing along the existing access roads, terminating at Storage Pond 1 for storage prior to use for irrigation on the Teleli Golf Course. The proposed Project would require excavation and trenching for the proposed pipeline and the associated abutments for the pipe bridge. Ground-disturbing activities could result in soil erosion during excavation, grading, trenching, and soil stockpiling. The proposed Project could disturb over one acre of and would therefore be required to comply with a CGP. This state requirement was developed to ensure that stormwater is managed to protect water quality and includes erosion control measures for construction sites as well as post construction requirements. The CGP requires preparation and implementation of a SWPPP, which requires applying BMPs to control run-on and runoff from construction work sites. The BMPs would include but not be limited to physical barriers to prevent erosion and sedimentation; construction of sedimentation basins; limitations on work periods during storm events; use of infiltration swales; protection of stockpiled materials; and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. Through compliance with these independently enforceable existing requirements, the potential impacts of the proposed Project associated with soil erosion and loss of topsoil during construction would be **less than significant**.

c) **Less-than-Significant Impact**. As discussed previously, there would be a less-than-significant impact related to liquefaction, landslides, or other ground failure. While the potential for liquefaction, or other ground failures is low, there remains some uncertainty of landslide potential. However the proposed Project would comply with design or other requirements consistent with the most updated version of the CBC. These would be implemented during construction to significantly reduce the potential for any damage to structures. Also discussed above, the proposed Project would not include the construction of any habitable structures and there would be no permanent on-site personnel during operation and maintenance of the proposed Project. Compliance with CBC requirements and the lack of habitable structures as part of the proposed Project would ensure impacts related to liquefaction, landslides, or other ground failures would be **less than significant**.

d) **Less-than-Significant Impact.** The soil underlying the proposed Project area has a low expansion potential. Although National Resources Conservation Service data indicate a low expansion potential, the proposed Project design and construction activities would still be required to comply with CBC regulations and requirements and would employ standard engineering and building practices common to construction projects throughout California (e.g., soil removal and replacement with engineered soil) that are also consistent with building code requirements. Adherence to design requirements consistent with the most updated version of the CBC would ensure a **less than significant** impact related to expansive soils.

e) **No Impact.** The proposed Project does not include the use of septic tanks or alternative waste water disposal system; and therefore, would not require the use of soils that are adequate for supporting such systems. There would be **no impact** associated with the proposed Project having adequate soils for septic tanks or alternative waste water disposal systems.

f) **Less than Significant Impact, with Mitigation**. A significant impact would occur if a project destroyed a unique paleontological resource or site, or a unique geologic feature. Paleontological resources are the fossilized evidence of past life found in the geologic record. Despite the tremendous volume of sedimentary rock deposits preserved worldwide, and the enormous number of organisms that have lived through time, preservation of plant or animal remains as fossils is an extremely rare occurrence. Because of the infrequency of fossil preservation, fossils—particularly vertebrate fossils—are considered nonrenewable resources. Because of their rarity, and the scientific information they can provide, fossils are highly significant records of ancient life.

Geologic mapping indicates that the proposed Project area is underlain by three different types of deposits: Mesozoic-age granite rocks, Paleozoic-age Marine sedimentary rocks, and Jurassic-age marine sedimentary and metasedimentary rocks. Granitic rocks are considered to have a low paleontological sensitivity due to the igneous origins of granitic rock. However, portions of the proposed Project area are underlain by sedimentary formations that have high potential for paleontological resources.

Construction of the pipeline would include excavation and trenching to approximately three feet bgs and along the existing access roads, except for the Sullivan Creek Crossing, where the pipeline will cross using a pipe bridge. However, given the depths of these excavation methods it is likely that construction activities would reach previously undisturbed geologic units.

If significant paleontological resources are encountered and inadvertently destroyed during construction activities associated with the proposed Project, that would be a significant impact. To avoid potential impacts to significant paleontological resources, **Mitigation Measures GEO-1** would be required to ensure that a qualified paleontologist develops a worker awareness training for all construction personnel, proper monitoring procedures are followed for all excavation into previously undisturbed deposits of the Modesto and Riverbank formations, and proper salvage and treatment protocols are in place in the event of a significant discovery. Implementation of **Mitigation Measure GEO-1** would reduce the proposed Project's impacts on significant paleontological resources to a **less-than-significant level**.

Mitigation Measures

Mitigation Measure GEO-1: Paleontological Monitoring

a) **Project Paleontologist**: The Project Applicant shall retain a qualified professional paleontologist (qualified paleontologist) meeting the Society of Vertebrate Paleontology (SVP) standards as set forth in the "Definitions" section of Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources prior to the approval of demolition or grading permits. The qualified paleontologist shall attend the Project kick-off meeting and construction progress meetings on a regular basis, shall report to

the site in the event potential paleontological resources are encountered, and shall implement the outlined duties.

b) **Worker Training**: Prior to the start of any ground-disturbing activity the qualified paleontologist shall prepare paleontological resources sensitivity training materials for use during Project-wide Worker Environmental Awareness Training (or equivalent). The paleontological resources sensitivity training shall be conducted by a qualified environmental trainer working under the supervision of the qualified paleontologist. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project area and the procedures to be followed if they are found, as outlined in an approved Paleontological Resources Monitoring and Mitigation Plan (discussed below). The Project Applicant shall retain documentation demonstrating that all construction personnel attended the training prior to the start of work on the site and shall provide the documentation upon request.

c) **Paleontological Monitoring**: The qualified paleontologist shall prepare a Paleontological Resources Monitoring and Mitigation Plan (PRMMP). The Project Applicant shall submit the plan for review and approval at least 30 days prior to the start of construction. This plan shall address specifics of monitoring and mitigation and comply with the recommendations of the SVP, as follows:

   a. The qualified paleontologist shall identify and retain qualified paleontological resource monitors (qualified monitors) meeting the SVP standards.

   b. The qualified paleontologist and/or the qualified monitors under the direction of the qualified paleontologist shall conduct full-time paleontological resources monitoring for all ground-disturbing activities in previously undisturbed sediments within the proposed Project area that have high paleontological sensitivity. This includes any depth of excavation into previously undisturbed deposits. The PRMMP shall clearly map these portions of the proposed Project based on final design and shall identify specific areas of high paleontological sensitivity.

   c. The qualified paleontologist (based and/or site observations, subsurface stratigraphy, or other factors) may reduce or discontinue monitoring, as warranted, if the qualified paleontologist determines that the possibility of encountering significant paleontological resources is low.

   d. If many pieces of heavy equipment are in use simultaneously but at diverse locations, each location will need to be individually monitored.

   e. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to evaluate and recover the fossil specimens, establishing a 50-foot buffer.

   f. If construction or other proposed Project personnel discover any potential fossils during construction, regardless of the depth of work or location and regardless of whether the site is being monitored, work at the discovery location shall cease in a 50-foot radius of the discovery until the qualified paleontologist has assessed the discovery and made recommendations as to the appropriate treatment.

   g. The qualified paleontologist shall determine the significance of any fossils discovered and shall determine the appropriate treatment for significant fossils in accordance with the SVP standards.

h. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The qualified paleontologist shall prepare a final monitoring and mitigation report to document the results of the monitoring effort and any curation of fossils.

d) **Significant Fossil Treatment.** If any find is deemed significant, as defined in the SVP standards, the qualified paleontologist shall salvage and prepare the fossil for permanent curation with a certified repository with retrievable storage following the SVP standards.

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3.8 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
VIII. GREENHOUSE GAS EMISSIONS — Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

This section provides a brief introduction to GHGs, summarizes the applicable environmental and regulatory settings and analyzes the impacts of the proposed Project.

Environmental Setting

Global warming and *climate change* are terms commonly used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century. Natural processes and human actions have been identified as affecting the climate. The Intergovernmental Panel on Climate Change has concluded that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward.

However, increasing GHG concentrations in the atmosphere resulting from human activity since the 19th century, such as fossil fuel combustion, deforestation, and other activities, are believed to be a major factor in climate change. GHGs in the atmosphere naturally trap heat by impeding the exit of solar radiation that strikes the Earth and is reflected into space—a phenomenon referred to as the *greenhouse effect*. Some GHGs occur naturally and are necessary for keeping Earth's surface habitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have trapped solar radiation and decreased the amount that is reflected into space, intensifying the natural greenhouse effect, and resulting in the increase of global average temperature.

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) are the principal GHGs. When concentrations of these gases exceed historical concentrations in the atmosphere, the greenhouse effect is intensified. CO_2, CH_4, and N_2O occur naturally but are also generated through human activity. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 primarily results from off-gassing, natural gas leaks from pipelines and industrial processes, and incomplete combustion; it is associated with agricultural practices, landfills, energy providers, and other industrial facilities.[7]

The effect that each of the gases can have on global warming is a combination of the mass of their emissions and their global warming potential. Global warming potential indicates, on a pound-for-pound basis, how much a gas contributes to global warming relative to how much warming would be predicted to be caused by the same mass of CO_2. CH_4 and N_2O are substantially more potent GHGs than CO_2, with 100-year global warming potential of 25 and 298 times that of CO_2, respectively (CARB, 2024a).

[7] Off-gassing is defined as the release of chemicals under normal conditions of temperature and pressure.

In emissions inventories, GHG emissions are typically reported in metric tons of CO_2 equivalents ($MTCO_2e$). CO_2e is calculated as the product of the mass emitted by a given GHG and its specific global warming potential. While CH_4 and N_2O have much higher global warming potentials than CO_2, CO_2 is emitted in such higher quantities that it accounts for the majority of GHG emissions in CO_2e. In 2022, U.S. GHG emissions totaled 6,343 million metric tons of carbon dioxide equivalents ($MMTCO_2e$) and 5,489 $MMTCO_2e$ after accounting for sequestration from the land sector (EPA 2024). The CARB reports that California's GHG emissions in 2022 were 371.1 $MMTCO_2e$, with the largest sources being transportation (38 percent), industrial activities (24 percent), and electricity generation (13 percent) (CARB, 2024b). Unincorporated Tuolumne County generated approximately 664,604 $MTCO_2e$ in 2019 (Tuolumne County, 2022). Emissions from on-road transportation (fossil fuel consumption in vehicles) accounted for approximately 62 percent of Countywide emissions in 2019. Residential building energy and agriculture and forestry were the next largest emissions-generating sectors, each contributing approximately 14 percent of Countywide GHG emissions. The nonresidential building energy sector was the fourth largest contributor and generated approximately five percent of Countywide GHG emissions in 2019. Emissions associated with the off-road vehicles and equipment, solid waste, water, and wastewater sectors each accounted for no greater than three percent of Countywide GHG emissions (Tuolumne County 2022).

Regulatory Setting

Federal

U.S. Environmental Protection Agency "Endangerment' and "Cause or Contribute" Findings

The U.S. Supreme Court has held that the EPA must consider regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency* et al., twelve states and cities, including California, together with several environmental organizations sued to require the EPA to regulate GHGs as pollutants under the Clean Air Act (127 S. Ct. 1438 [2007]). The Supreme Court ruled that GHGs fit within the Clean Air Act's definition of a pollutant and the EPA had the authority to regulate GHGs.

On December 7, 2009, the EPA signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act (EPA 2009).

- ***Endangerment Finding:*** The current and projected concentrations of the six key GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- ***Cause or Contribute Finding:*** The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

State

Senate Bill 97 and the California Environmental Quality Act

SB 97, signed in August 2007, acknowledges that climate change is a prominent environmental issue requiring analysis under CEQA. This bill directed the Governor's Office of Planning and Research to prepare, develop, and transmit to the California Natural Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, no later than July 1, 2009. The California Natural Resources Agency was required to certify or adopt those guidelines by January 1, 2010. On December 30, 2009, the Natural Resources Agency adopted amendments to the

CEQA Guidelines, as required by SB 97. These CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments became effective March 18, 2010.

The CEQA Guidelines are embodied in the California Code of Regulations (CCR), PRC Division 13, starting with Section 21000. CEQA Guidelines Section 15064.4 specifically addresses the significance of GHG emissions, requiring a lead agency to make a "good-faith effort" to "describe, calculate or estimate" GHG emissions in CEQA environmental documents. CEQA Guidelines Section 15064.4 further states that the analysis of GHG impacts should include consideration of (1) the extent to which the project may increase or reduce GHG emissions, (2) whether the project emissions would exceed a locally applicable threshold of significance, and (3) the extent to which the project would comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions." The CEQA Guidelines also state that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including plans or regulations for the reduction of GHG emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (CEQA Guidelines Section 15064[h][3]). The CEQA Guidelines do not, however, set a numerical threshold of significance for GHG emissions.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Arnold Schwarzenegger established EO S-3-05, which set forth the following target dates by which statewide GHG emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. As discussed below, the 2020 reduction target was codified in 2006 as AB 32. However, the 2050 reduction target has not been codified and the California Supreme Court has ruled that CEQA lead agencies are not required to use it as a significance threshold.[8]

Assembly Bill 32

In 2006, the California Legislature enacted AB 32 (California Health and Safety Code Division 25.5, Section 38500 et seq.), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25-percent reduction in emissions). AB 32 anticipated that the GHG reduction goals will be met, in part, through local government actions. CARB identified a GHG reduction target of 15 percent from current levels for local governments (municipal and community-wide) and noted that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. California achieved the AB 32 emissions reduction target in 2017, 3 years ahead of the 2020 goal.

[8] *Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal.5th 497.

Senate Bill 32

Signed into law on September 8, 2016, SB 32 (Amendments to California Global Warming Solutions Act of 2006: Emission Limit) amended Health and Safety Code Division 25.5 and codifies the 2030 target in EO B-30-15 (40 percent below 1990 levels by 2030). The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by EO B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels. SB 32 states the intent of the legislature to continue to reduce GHGs for the protection of all areas of the state and especially the state's most disadvantaged communities, which are disproportionately impacted by the deleterious effects of climate change on public health.

Assembly Bill 1279

Signed into law on September 27, 2022, AB 1279 (California Climate Crisis Act) further strengthens California's commitment to combatting climate change. This bill sets a more ambitious target of achieving net-zero GHG emissions as soon as possible, but no later than 2045, and achieving and maintaining net negative GHG emissions thereafter. AB 1279 also sets a goal of reducing statewide anthropogenic GHG emissions to at least 85 percent below 1990 levels by 2045. This legislation requires CARB to consider carbon removal and carbon capture technologies in its planning and to work with other state agencies to achieve these goals.

Climate Change Scoping Plan

Pursuant to AB 32, CARB adopted the *Climate Change Scoping Plan* in December 2008 (re-approved by CARB on August 24, 2011) outlining measures to meet the 2020 GHG reduction goals (CARB 2008). The Scoping Plan is required by AB 32 to be updated at least every 5 years. On December 14, 2017, CARB approved the *2017 Climate Change Scoping Plan* (2017 Scoping Plan Update; CARB 2017). The 2017 Scoping Plan Update outlines the proposed framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.

In May 2022, CARB adopted the 2022 Scoping Plan which updates and expands on prior Scoping Plans and responds to more recent legislation by outlining a technologically feasible, cost-effective, and equity-focused path to achieve the State's climate target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045 and achieving carbon neutrality[9] by 2045 or earlier. The major element of the 2022 Scoping Plan is the decarbonization of every sector of the economy.

Local

Tuolumne County General Plan

The 2018 Tuolumne County General Plan (General Plan) was adopted in December 2018 and provides an overall framework for future county development. The Climate Change element of the General Plan includes various goals, policies, and implementation programs to reduce GHG emissions consistent with state GHG reduction targets and ensure community resiliency to the effects of climate change. Implementation of many of the policies identified in the General Plan to reduce GHG emissions fall under the responsibility of the County.

[9] *Carbon neutrality* means "net zero" emissions of GHGs. In other words, it means that GHG emissions generated by sources such as transportation, power plants, and industrial processes must be less than or equal to the amount of CO_2 that is stored, both in natural sinks and through mechanical sequestration. AB 1279 uses the terminology net zero and the 2022 Scoping Plan uses the terminology carbon neutrality or carbon neutral. These terms mean the same thing and are used interchangeably.

Tuolumne County 2022 Climate Action Plan

In 2022, Tuolumne County adopted a Climate Action Plan (CAP) (Tuolumne County 2022) to further address climate change at the local level. The CAP outlines voluntary actions and strategies to reduce GHG emissions and adapt to the impacts of climate change. Climate change mitigation and adaptation strategies included in the CAP are organized into five focus areas: health and safety, conservation and recreation, buildings, infrastructure, and agriculture and forestry.

The CAP includes emissions reduction targets consistent with statewide GHG emissions and carbon neutrality targets including SB 32, EO S-3-05 and AB 1279. The County aims to reduce GHG emissions in proportion with the State's targets. As countywide 1990 emissions levels were not available, the County's reduction targets were developed relative to countywide emissions in 2019 and established in proportion with statewide reductions for all emissions sectors relevant to the County's jurisdiction, consistent with CARB guidance. Estimating equivalent reductions needed from the 2019 baseline, the CAP aims to reduce countywide emissions to:

- 38 percent below 2019 levels by 2030,
- 59 percent below 2019 levels by 2040, and
- 79 percent below 2019 levels by 2050.

Discussion

a) **Less-than-Significant Impact.** The proposed Project would generate GHG emissions during both construction and operational phases. Construction of the proposed Project would generate GHG emissions from use of heavy-duty construction equipment and from vehicle trips associated with construction workers, vendors, and haul trucks traveling to and from the proposed Project area. Operational GHG emissions would result from any vehicle trips associated with maintenance activities.

As discussed in the *Regulatory Setting* section, above, the CEQA Guidelines do not set a numerical threshold of significance with which to evaluate GHG emissions; however, Section 15064.7 (c) of the CEQA Guidelines states that "[w]hen adopting 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." The TCAPCD has not formally established thresholds of significance for Project-related GHG emissions; therefore, this analysis compares Project-related GHG emissions to the screening threshold of 900 $MTCO_2e$ per year, established by the California Air Pollution Control Officers Association Report, *CEQA and Climate Change—Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act* (CAPCOA 2008).The 900 $MTCO_2e$ per year threshold is more conservative than thresholds of significance developed by nearby air districts, including the Sacramento Metropolitan Air Quality Management District, which recommends a 1,100 $MTCO_2e$-per-year threshold for construction and a 10,000 $MTCO_2e$-per-year operational threshold for stationary sources (SMAQMD 2021). Therefore, use of the California Air Pollution Control Officers Association screening threshold is a conservative metric for determining significance of impacts associated with GHG emissions that would result from the proposed Project.

Project-related GHG emissions were estimated using CalEEMod, version 2022.1, except for energy-related GHG emissions, which were calculated outside of CalEEMod using anticipated annual electricity usage and current GHG emission factors for the utility anticipated to serve the proposed Project, PG&E. Assumptions associated with anticipated construction activities were provided by TUD and TEDA and can be found in **Appendix A**. CalEEMod default values were used when Project-specific data was not available. Estimates of construction-related GHG emissions for the proposed Project are presented in **Table 3.8-1**, below.

TABLE 3.8-1
GREENHOUSE GAS EMISSIONS FROM PROJECT CONSTRUCTION

Year	GHG ($MTCO_2e$/year)
2025	63
Total	63
Threshold	900
Exceeds threshold?	No

NOTES: $MTCO_2e$ = metric tons of carbon dioxide equivalent
SOURCE: Table compiled by Environmental Science Associates in 2024 based on Appendix A

The GHG emissions generated by construction activities associated with the proposed Project would be well below the California Air Pollution Control Officers Association threshold of 900 $MTCO_2e$ per year.

Once operational, emissions from vehicle trips associated with operational and maintenance activities would be minimal and similar to existing conditions; however, this would be well below the California Air Pollution Control Officers Association threshold of 900 $MTCO_2e$ per year.

Therefore, the proposed Project would not generate emissions, either directly or indirectly, that could have a significant impact on the environment. This impact would be **less than significant**.

b) **Less-than-Significant Impact.** As described in the Regulatory Setting, plans and policies have been adopted both the state and county levels for the reduction of GHG emissions consistent with state targets. The analysis presented below evaluates the proposed Project's consistency with CARB's 2022 Scoping Plan Update, policies and programs in the Tuolumne County 2018 General Plan (Climate Change Element), and the Tuolumne County 2022 CAP.

2022 Scoping Plan Update

The 2022 Scoping Plan lays out the sector-by-sector roadmap for California to achieve carbon neutrality by 2045 or earlier, outlining a technologically feasible, cost-effective, and equity-focused path to achieve the state's climate target. The major element of this plan is the aggressive reduction of fossil fuels wherever they are currently used in California, building on and accelerating existing carbon reduction programs.

The 2022 Scoping Plan identifies one action for the construction equipment sector that requires 25 percent of energy demand from construction equipment to be electrified by 2030, and

75 percent electrified by 2045. While the proposed Project does not commit to using electric construction equipment, construction of the proposed Project would be completed prior to the 2030 compliance date associated with the construction equipment sector action; therefore, it would not be directly applicable to the proposed Project.

Decarbonizing the electricity sector is a crucial pillar of the 2022 Scoping Plan. The Scoping Plan depends on both using energy more efficiently and replacing fossil-fueled generation with renewable and zero carbon resources, including solar, wind, energy storage, geothermal, biomass, and hydroelectric power. The RPS Program and the Cap-and-Trade Program continue to incentivize use of renewables over fossil generation to serve state demand. SB 100 increased RPS stringency to require 60 percent renewables by 2030 and for California to provide 100 percent of its retail sales of electricity from renewable and zero-carbon resources by 2045. Furthermore, SB 1020 has added interim targets to SB 100's policy framework to require renewable and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent of all electricity retail sales by 2040. As the electricity provider for the proposed Project, PG&E is subject to these RPS requirements. Therefore, the proposed Project would be consistent with the 2022 Scoping Plan.

Tuolumne County General Plan

As discussed under the Regulatory Setting, the County General Plan includes policies and programs requiring the county to reduce GHG emissions consistent with the goals of SB 32. Implementation of these General Plan policies to reduce GHG emissions either fall under the responsibility of the County and do not apply at a project level or do not apply to the proposed Project. The proposed Project would be consistent with the 2022 Scoping Plan Update, discussed above, which was developed to meet the goals of SB 32 and AB 1279. Therefore, the proposed Project would not conflict with the policies and programs described in the County General Plan's Climate Change Element.

Tuolumne County 2022 Climate Action Plan

The Tuolumne County 2022 CAP aims to reduce GHG emissions and adapt to climate change. The CAP includes 25 strategies and 47 measures that would reduce GHG emissions and build resilience to climate change in the community. The strategies are organized into five focus areas: agriculture and forestry, buildings, conservation and recreation, health and safety, and infrastructure. There are no strategies or measures that target GHG emissions from construction equipment. Given the size of the proposed Project and incremental direct GHG emissions attributable to the proposed Project which would cease upon completion of construction, the proposed Project would be considered to be consistent with the CAP and contribute to the County's climate action goals.

Conclusion

As discussed, the proposed Project would be consistent with the 2022 Scoping Plan Update, Tuolumne County General Plan's Climate Change Element, and Tuolumne County 2022 CAP; therefore, it would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and the associated impact would be **less than significant**.

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3.9 Hazards and Hazardous Materials

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

Environmental Setting

A hazardous material is defined as any material that, because of 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 (Health and Safety Code Section 25501[o]). The term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material, including wastes, may be considered hazardous if it is specifically listed by statute as such or if it is toxic (causes adverse human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases).

Hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been spent, discarded, discharged, spilled, contaminated, or are being stored until they can be disposed of properly (22 CCR Section 66261.10). Soil that is excavated from a site containing hazardous materials is hazardous waste if it exceeds specific regulatory criteria (22 CCR Section 66261.20-66261.24). While hazardous substances are regulated by multiple agencies, as described in *Regulatory Setting*, cleanup requirements of hazardous wastes are determined on a case-by-case basis according to the agency with lead jurisdiction over the release.

This discussion of the potential presence of hazardous materials in the proposed Project area is based on the results of review of regulatory agency databases, including the following:

- *State Water Resources Control Board (SWRCB) GeoTracker database.* The GeoTracker database includes the following hazardous materials site lists: leaking underground storage tank cleanup sites; spills, leaks, investigation and cleanup sites; permitted underground storage tank facilities; land disposal sites; military cleanup sites; and other cleanup sites. An independent review of the SWRCB GeoTracker database confirms there are no active or closed hazardous materials sites within the proposed Project area boundary (SWRCB 2024).
- *California Department of Toxic Substances Control (DTSC) EnviroStor database.* The EnviroStor database includes federal Superfund, state response, voluntary cleanup, school cleanup, and hazardous waste corrective action. Nearby landfill facilities were identified by the database searches. An independent review of the DTSC EnviroStor database confirms there are no active or closed hazardous materials sites within the proposed Project area boundary (DTCS 2024).
- *Hazardous Waste and Substances Site List (Cortese List).* The list is a planning document used by state and local agencies and developers to comply with CEQA requirements by providing location information for hazardous material release sites. The DTSC and SWRCB are the agencies responsible for updating the Cortese List. No schools exist within one-quarter mile of the proposed Project area and the proposed Project area is not included on any list of hazardous materials sites. Additionally, there are no public or private use airports within 2 miles of the proposed Project area.

Regulatory Setting

Federal

The primary federal agencies with responsibility for hazardous materials management include the EPA, the federal OSHA, and the U.S. Department of Transportation. Federal laws, regulations, and responsible agencies are summarized in **Table 3.9-1** below.

State and local agencies often have either parallel or more stringent rules than federal agencies. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local regulatory section.

State

The primary state agencies with responsibility for hazardous materials management in the region include the DTSC and the Central Valley RWQCB within the California Environmental Protection Agency, Cal/OSHA, California Department of Public Health, California Highway Patrol, and the Caltrans. State laws, regulations, and responsible agencies are summarized in **Table 3.9-2** below.

TABLE 3.9-1
FEDERAL LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Management	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act [SARA])	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of, and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
Hazardous Waste Handling	Resource Conservation and Recovery Act of 1976 (RCRA)	Under RCRA, EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from "cradle to grave[a]."
	Hazardous and Solid Waste Act	Amended RCRA in 1984, affirming and extending the "cradle to grave" system of regulating hazardous wastes. The amendments specifically prohibit the use of certain techniques for the disposal of some hazardous wastes.
Hazardous Materials Transportation	U.S. Department of Transportation (DOT)	DOT has the regulatory responsibility for the safe transportation of hazardous materials. DOT regulations govern all means of transportation except packages shipped by mail (49 CFR).
	U.S. Postal Service (USPS)	USPS regulations govern the transportation of hazardous materials shipped by mail.
Occupational Safety	Occupational Safety and Health Act of 1970	The Occupational Safety and Health Administration sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR 1910).

NOTES:
a. "cradle-to-grave" is used by the EPA in this context to mean that it (EPA) regulates hazardous waste from its generation to its disposal (EPA 2024).

TABLE 3.9-2
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Hazardous Materials Management	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program); CUPA (Health and Safety Code Section 25404 et seq.)	In January 1996, the California Environmental Protection Agency adopted regulations, which implemented a Unified Program at the local level. The agency responsible for implementation of the Unified Program is called the Certified Unified Program Agency (CUPA), which for Tuolumne County, is Tuolumne County Environmental Health. The following programs are consolidated under the Unified Program: • Hazardous Materials Release Response Plans, and Inventory (also referred to as Hazardous Materials Business Plans) • California Accidental Release Program • Underground Storage Tanks • Aboveground Petroleum Storage Spill Prevention Control and Countermeasures • Hazardous Waste Generation and On-site Treatment • Uniform Fire Code Plan and Inventory Requirements
	State Hazardous Waste and Substances List ("Cortese List"); DTSC, RWQCB, SC EHD.	The oversight of hazardous materials sites often involves several different agencies that may have overlapping authority and jurisdiction. For the on-site hazardous materials cases and issues, the RWQCB is the lead agency. Other cases may be overseen by the DTSC, the RWQCB, Tuolumne County, or other agencies.

TABLE 3.9-2
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Hazardous Waste Handling	California Hazardous Materials Release Response Plan and Inventory Law of 1985; CUPA	The California Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act) requires that businesses that store hazardous materials on-site prepare a Hazardous Materials Business Plan (HMBP) and submit it to the local CUPA, which in this case is Tuolumne County Environmental Health.
	California Hazardous Waste Control Act; DTSC	Under the California Hazardous Waste Control Act, California Health and Safety Code, Division 20, Chapter 6.5, Article 2, Section 25100 et seq., DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. DTSC is also the administering agency for the California Hazardous Substance Account Act. California Health and Safety Code, Division 20, Chapter 6.8, Section 25300 et seq., also known as the state Superfund law, providing for the investigation and remediation of hazardous substances pursuant to state law.
	California Fire Code	The California Fire Code regulates the storage and handling of hazardous materials, including the requirement for secondary containment, separation of incompatible materials, and preparation of spill response procedures.
Hazardous Materials Transportation	Titles 13, 22, and 26 of the California Code of Regulations	Regulates the transportation of hazardous waste originating in and passing through the state, including requirements for shipping, containers, and labeling.
	California Highway Patrol and Caltrans	These two state agencies are primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies.
Workplace Safety	Cal/OSHA	Cal/OSHA has primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the Code of Federal Regulations (CFR). Cal/OSHA standards are generally more stringent than federal regulations.
	Cal/OSHA regulations (Title 8 CCR)	Concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.
Construction Storm Water General Permit (Construction General Permit; Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ)	RWQCB	Dischargers whose project disturbs 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 of more acres, are required to obtain coverage under the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). Construction activity subject to this permit includes clearing, grading, grubbing, and other disturbances to the ground such as excavation and stockpiling but does not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility. The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific Best Management Practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off-site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area.

TABLE 3.9-2
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Underground Infrastructure	California Code of Regulations Section 4216-4216.9	Section 4216-4216.9 "Protection of Underground Infrastructure" requires an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least two days prior to excavation of any subsurface installations. Any utility provider seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for southern California. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area.

Local

Certified Unified Program Agency

Pursuant to SB 1082 (1993), the State of California adopted regulations to consolidate six hazardous materials management programs under a single, local agency, known as the Certified Unified Program Agency. In addition to conducting annual facility inspections, the Hazardous Materials Program is involved with hazardous materials emergency response, investigation of the illegal disposal of hazardous waste, public complaints, and storm water illicit discharge inspections. In January 1997, the Tuolumne County Environmental Health Division was designated as the Certified Unified Program Agency by the Secretary of the California Environmental Protection Agency for Tuolumne County. Accordingly, it is the Environmental Health Division's responsibility to prevent public health hazards in the community and to ensure the safety of water and food. The Environmental Health Division coordinates activities with federal, state, and regional agencies when planning programs that deal with the control of toxic materials, housing conditions, nuisance complaints, protection of food and water supply, public bathing areas, and sewage and solid waste.

Tuolumne County Multi-Jurisdictional Hazard Mitigation Plan

Implementation of the Tuolumne County Multi-Jurisdictional Hazard Mitigation Plan (HMP) (2024) is a coordinated effort between Tuolumne County, the City of Sonora, the TUD, the Sonora Union High School District, the Groveland Community Services District, Twain Harte Community Services District, Mi-Wuk Sugar Pine Fire Protection District, Belleview Elementary School District, Big Oak Flat, Groveland Unified School District, Jamestown Sanitary District, Columbia Fire Protection District, Columbia Union School District, Curtis Creek School District, Jamestown Elementary School District, Sonora Elementary School District, Summerville Elementary School District, Summerville Union High School District, Twain Harte Long Barn School District, and the Tuolumne Band of Me-Wuk Indians to effectively deal with natural catastrophes that affect the county. The HMP addresses risks associated with numerous hazards, including wildfire, earthquake, flooding, sinkholes, and extreme weather.

Tuolumne County Emergency Operations Plan

The Tuolumne County Emergency Operations Plan (EOP) delineates the County's procedures and policies in response to a significant disaster, including extreme weather, flood or dam failure,

earthquakes, hazardous materials, terrorism or civil disturbance, transportation accidents, and wildland fires. The Emergency Services Plan assists with emergency response through:

- establishing emergency response policy;
- identifying authorities and assigns responsibilities for planning and response activities;
- identifying the scope of potential hazards;
- identifying other jurisdictions and organizations to coordinate planning with;
- determining emergency organization structure;
- establishing policies for providing emergency information to the public;
- outlining preplanned response actions, describes the resources available to support response activities;
- outlining actions to return county operations to normal;
- guiding area governments through recovery;
- establishing responsibilities within the county for the maintenance of the overall emergency preparedness program;
- outlining the process for ordering and rendering mutual aid; and
- facilitating the continuity of governments.

Discussion

a) **Less-than-Significant Impact**. Proposed Project implementation would require the use of common hazardous substances, such as gasoline and diesel fuel, oils and lubricants, hydraulic fluid, and solvents to maintain vehicles and motorized equipment. Routine uses or unintentional upset of any of these substances could pose a hazard to people or the environment and would be considered potentially significant.

In accordance with requirements contained in the Health and Safety Code and the California Code of Regulations, both TUD and TEDA would prepare a Hazardous Materials Business Plan/ Spill Prevention Control and Countermeasures Plan (HMBP/SPCC) prior to construction for both Phase 1 and Phase 2 of construction. The HMBPs would include BMPs for the transport, storage, use, and disposal of hazardous materials and waste. The HMBP also would include information regarding construction activities, worker training procedures, and hazardous materials inventory procedures. Prior to operation, TUD and TEDA would update the HMBP (including the BMPs) with information about the types of hazardous materials that would be used during operation.

Fuel tanks would be maintained and operated according to all local, state, and federal regulations during construction and operation. Refueling and general maintenance for construction equipment, such as changing fluids and lubricating parts, would also be subject to sufficient containment capabilities.

During construction, waste disposal and collection receptacles would be located on-site to ensure proper disposal of hazardous materials in accordance with regulatory requirements. Proposed

Project construction activity would be subject to the CGP and its required SWPPP, which include BMPs to control hazardous materials used during construction activities.

Operation and maintenance of the proposed Project would result in minimal transportation, storage, and use or disposal of hazardous materials. Occasional maintenance of the infrastructure would be required on an as-needed basis. TUD will be responsible for the operation and maintenance of the Phase 1 infrastructure while TEDA will be responsible for the operation and maintenance of the Phase 2 infrastructure. During operation, hazardous materials would not be stored on-site.

Compliance with applicable federal, state, and local requirements summarized in *Regulatory Setting*, and related BMPs and plans would ensure that the proposed Project would not create a significant hazard to the public through the routine transport, use, or disposal of hazardous materials. Therefore, this impact would be **less than significant**.

b) **Less-than-Significant Impact**. During construction and operation of the proposed Project, activities may involve the transportation, storage, use, or disposal of a variety of hazardous materials, hydraulic fluid, diesel fuel, gasoline, propane, antifreeze, grease, lubricants, paints, solvents, and adhesives.

The HMBP would include BMPs for these activities as well as spill control and spill response measures. In the unlikely event that a spill did occur, TUD and TEDA would implement appropriate measures to ensure that workers cease work activities to contain any release and enact the protocols for cleanup including the notification of appropriate agencies and the use of materials stored on-site such as absorbent pads to minimize the spread or exposure.

Accidents or mechanical failures involving construction equipment could result in the accidental release of fuel, lubricants, hydraulic fluid, or other hazardous substances. These types of spills on construction sites are typically in small quantities, localized, and cleaned up in a timely manner. Construction contractors are contractually responsible for their hazardous materials and are required under their contract to properly store and dispose of these materials in compliance with federal and state laws, including implementing a HMBP. As discussed, the proposed Project could require coverage under the CGP, and so would be subject to the protections included in a SWPPP, which would outline BMPs to contain a potential release and to prevent any such release from reaching an adjacent waterway or stormwater collection system (e.g., erosion control, sediment control, and waste management). Therefore, implementation of the SWPPP would minimize potential adverse effects to the environment. Compliance with applicable federal, state, and local regulations and the applicable BMPs and HMBP would ensure that the proposed Project would not result in significant hazards to the public or environment related to accidental release of hazardous materials the impact would be less than significant.

c) **No Impact**. The proposed Project area is not located within 0.25-miles of any existing or proposed schools. The nearest school to the proposed Project area is Head Start Pre-School A-Tca, approximately 1.7 miles south of the proposed Project area. The proposed Project area is more than 0.25 miles from an existing or proposed school; therefore, no impact would occur.

d) **No Impact**. The proposed Project area is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (referred to as the "Cortese List"). Therefore, the proposed Project would not create a significant hazard to the public or the environment; there would be no impact under this criterion.

e) **No Impact**. The proposed Project area would not be located within 2 miles of a public airport. The nearest airport is Columbia Airport, located approximately 6 miles north of the proposed Project area. According to the Tuolumne County Airport Land Use Compatibility Plan (the proposed Project area would be beyond all depicted safety zones and noise contours (Tuolumne County ALUC 2003). The proposed Project would not result in a safety hazard or excessive noise for people residing or working in the proposed Project area, and there would be no impact under this criterion.

f) **Less-than-Significant**. The Tuolumne County Multi-Jurisdictional Hazards Mitigation Plan does not specify any designated evacuation routes in the event of an emergency (Tuolumne County 2024). However, both Phase 1 and Phase 2 of proposed Project construction would involve the installation of pipeline along existing ranch roads and existing access roads. Multiple truck trips would be required during construction of the proposed Project for import and export of materials, equipment, and staff to the proposed Project area for an estimated 12 weeks. No major evacuation routes would be closed or blocked due to proposed Project construction. As described in Section 3.17, *Transportation*, while the use of heavy-duty equipment (i.e., dump trucks and loaders) could have the potential to block local access routes that could be used in the case of evacuation; most of the work will occur along unimproved or gravel roads that provide access to the golf course and surrounding undeveloped and ranch land areas and are far from local access routes described in the environmental setting above. In the event that rural road and access road closures are required during the proposed Project's pipeline installation, there are connecting alternate rural roads and access routes available within the proposed Project area that will be open during proposed Project construction. The proposed Project would not result in a safety hazard or excessive noise for people residing or working in the proposed Project area, and there would be no impact under this criterion. The proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and impacts would be **less than significant**.

As described in Section 3.17, *Transportation*, proposed Project operation and maintenance would utilize existing TUD and TEDA staff. No road or lane closures are anticipated during operation and maintenance of the proposed Project. Operation and maintenance of the proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.

After construction, impacted roads would be restored to pre-construction conditions. Major roadways would not be impacted during construction. Thus, these construction activities would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts associated with minor delays during construction, would be temporary and less than significant.

g) **Less than Significant with Mitigation Incorporated**. Based on mapping by the California Department of Forestry and Fire Protection (CAL FIRE) Forest Resource Assessment Program The proposed Project area is mapped within a Very High Fire Hazard Severity Zone (CAL FIRE 2024).

As discussed in Section 3.20, *Wildfire*, the primary fire hazards from proposed Project construction would involve the use of vehicles and equipment. Heat or sparks from construction vehicles and equipment could ignite dry vegetation and cause a fire, particularly during dry, hot conditions. Additionally, construction activities that could result in sparks have a greater likelihood of creating a source of ignition. Therefore, depending on the time of year (as seasonality may affect climate conditions, prevailing winds, and vegetation/fuels) and the location of construction activities, the increase in sources of potential ignition associated with proposed Project construction could exacerbate the risk of wildfire in the area. Proposed Project construction could increase the risk of exposure to people or structures to significant loss, injury, or death involving wildland fires, which would result in a potentially significant impact. See Section 3.20, *Wildfire*, for a detailed discussion of the proposed Project's potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires. As explained in Section 3.20, *Wildfire*, impacts would be less than significant with the incorporation of **Mitigation Measure WIL-1**.

Mitigation Measure

Mitigation Measure WIL-1: Fire Safety. See the full text of this mitigation measure in Section 3.20, *Wildfire*.

References

ALUC (Tuolumne County Airport Land Use Commission). 2003. *Tuolumne County Airport Land Use Compatibility Plan*. Available: https://tuolumnecounty.ca.gov/DocumentCenter/View/1150/Airport-Land-Use-Plan. Accessed November 18, 2024.

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EPA (U.S. Environmental Protection Agency). 2024. Learn the Basics of Hazardous Waste. Available: https://www.epa.gov/hw/learn-basics-hazardous-waste. Accessed November 20, 2024.

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Tuolumne County. 2024. *Tuolumne County Multi-Jurisdictional Hazards Mitigation Plan.* Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/28446/FINAL-Tuolumne-County-MJHMP-11052024?bidId=. Accessed November 18, 2024.

3.10 Hydrology and Water Quality

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

Environmental Setting

Regional and Local Hydrology

The proposed Project area is in the Sonora Hydrologic Sub-Area of the Tuolumne Hydrologic Unit in the Sullivan Creek watershed in the southern Sierra Nevada foothills. Elevations in the proposed Project area and surrounding landscape range from 1,317 feet (at the Phase 1 Access Point) to 1,660 (at the Phase 2 Access Point). The existing Teleli Golf Course is perched on a slope with higher elevations of approximately 1,660 feet above mean sea level at the developed portions of the golf course (including the golf club and parking lot at the northeast) and lower elevations of approximately 1,6600 above mean sea level at the southwest. Average annual precipitation in the region is approximately 32 inches falling as rain and snow mainly between the months of October and May (WRCC 2016).

Surface Water

Surface waters in the proposed Project area include Sullivan Creek, a segment of which is listed as impaired for the pollutant *E. coli* (see regulatory setting for additional water quality information). Historic gold mining in the region may be associated with elevated levels of mercury found in some surface water bodies in Tuolumne and neighboring counties. However, surface water quality in the region is generally considered very good and is compatible with most identified beneficial uses.

Groundwater

Groundwater resources in the region are contained in fractured rock or fissures of volcanic or metamorphic rock. The foothills and higher elevations of the Sierra Nevada mountains, where the subsurface materials consist of impermeable granite and greenstone bedrock, often result in low groundwater yield (TSTAN 2017). A small geographic area in northeastern Tuolumne County is included in Eastern San Joaquin Valley Groundwater Subbasin. Although some parts of Tuolumne County rely on groundwater wells, there is no defined groundwater basin in the vicinity of the proposed Project area.

Regulatory Setting

Federal

Clean Water Act

The federal CWA derived from the (1948) Federal Water Pollution Control Act, as a basic structure for establishing water quality standards for surface waters and regulating pollutant discharges. The EPA is the federal agency responsible for water quality management pursuant to the CWA. The purpose of the CWA is to protect and maintain the quality and integrity of the Nation's waters by requiring states to develop and implement state water plans and policies. The sections of the CWA relevant to the proposed Project are summarized below.

CWA Section 303

Section 303(d) of the CWA authorizes the EPA to assist states, territories, and authorized tribes in listing impaired waters and developing Total Maximum Daily Loads (TMDLs)[10] for waterbodies. A TMDL establishes the maximum amount of a pollutant allowed in waterbody and serves as the basis or planning tool for restoring its water quality (EPA 2024). Section 303(d) of the CWA requires identification and listing of water quality limited or "impaired" water bodies where water quality standards or beneficial uses of receiving waters are not met. Once a water body is listed as impaired, TMDLs must be established for the pollutant or issue of impairment (such as temperature or flow).

CWA Section 401 Water Quality Certification

Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into navigable waters, including the crossing of rivers or streams during road, pipeline, or transmission line construction, to obtain a certification from the state in which the discharge originates. The certification ensures that the discharge will comply with the applicable effluent limitations and water quality standards. The state agency responsible for implementing Section 401 of the CWA in California is the California SWRCB.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. The Act establishes the authority of the SWRCB and the nine RWQCBs. The SWRCB administers water rights, sets state policy for water pollution control,

[10] A TMDL is the calculation of the maximum amount of a pollutant allowed to enter a water body such that the waterbody will meet and continue to meet water quality standards for that particular pollutant. A TMDL determines a pollutant reduction target and allocates load reductions necessary to the source(s) of the pollutant (EPA 2024).

and implements various water quality functions throughout the state, while the RWQCBs conduct planning, permitting, and most enforcement activities. The proposed Project is within the jurisdiction of Region 5, the Central Valley RWQCB. The Porter-Cologne Act requires the SWRCB and/or the RWQCBs to adopt statewide and/or regional water quality control plans, the purpose of which is to establish water quality objectives for specific water bodies. In Tuolumne County, the *Water Quality Control Plan for the Sacramento and San Joaquin River Basin* (Basin Plan) serves as the legal, technical, and programmatic basis of water quality regulation in the region. The Act also authorizes the SWRCB and RWQCBs to implement the NPDES program, which establishes discharge limitations and receiving water quality requirements for discharges to waters of the U.S. The Act also authorizes the NPDES program under the CWA, which establishes effluent limitations and water quality requirements for discharges to waters of the state. The Basin Plan and NPDES permits relevant to the proposed Project are discussed further below.

State Water Resources Control Board Water Reclamation Requirements for Recycled Water Use

In recognition of the need for streamlined permitting consistent with the SWRCB's Recycled Water Policy, a statewide (general) water quality order (Order WQ 2016-0068 DDW) was issued to provide consistent regulation of non-potable uses of recycled water. The General Order is applicable to recycled water projects where recycled water is transported for non-potable uses (e.g. landscape irrigation, construction, fire suppression, etc.). The General Order does not regulate the treatment of wastewater or relieve producers or distributors from their obligations to comply with the applicable waste discharge requirements from wastewater treatment plants, other than the recycled water uses described in the General Order. Among the requirements in the Order, are control measures included to prevent unacceptable groundwater and surface water degradation, nuisance conditions. The control measures provide consistency with the Uniform Statewide Recycling Criteria including recycled water signage, backflow prevention, cross connection tests, and setback requirements for surface impoundments (among others) (SWRCB 2016). It is anticipated that the proposed Project would obtain coverage and adhere to the requirements for recycled water use consistent with this General Order.

State Water Resources Control Board Water General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities

Stormwater discharges from construction sites are regulated by the SWRCB, due to the potential for construction activities to mobilize pollutants and discharge into water bodies or watersheds. Construction activities such as clearing, grading, excavating, and other ground disturbances involving one or more acres of soil are required to obtain coverage under the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Construction Stormwater General Permit). The SWRCB adopted the 2022 Construction Stormwater General Permit, Order 2022-0057, on September 8, 2022 (SWRCB 2022). Because the proposed Project could disturb more than one acre of land (including ground disturbance and use of staging areas), it is likely that proposed Project would apply for discharge coverage through the CGP. The CGP requirements include preparation of a SWPPP, which identifies specific BMPs to be implemented to control erosion and limit silt and sedimentation from entering waterways (through stormwater runoff).

Regional and Local

Central Valley Regional Water Quality Control Board

The waters in Tuolumne County are under the jurisdiction of the Central Valley Regional Water Quality Control Plan, which establishes regulatory standards and objectives for water quality the Basin Plan. The Basin Plan identifies existing and potential beneficial uses for surface water and groundwater and provides numerical and narrative water quality objectives designed to protect those uses. Beneficial uses for surface waters in the proposed Project area from the source of the Tuolumne River to Don Pedro Reservoir include municipal and domestic supply, irrigation, stock watering, industrial power, recreation (contact and other noncontact), freshwater habitat (warm and cold), and wildlife habitat (Central Valley RWQCB 2019).

Tuolumne County General Plan

The Tuolumne County General Plan contains the following goals relevant to water resources (Tuolumne County 2018a).

Goal 14B: Maximize the efficient use and reuse of water supplies through water conservation, water recycling, and public education.

Goal 14C: Protect and improve the quality and quantity of the County's water resources, while protecting the rights of land owners.

Policy 14.C.1*:* Protect the quality of the County's water resources by supporting the efforts of local districts to maintain infrastructure and cross connect sewer systems and ensuring Tuolumne County's development standards are adequate to protect surface and groundwater resources from contamination.

Implementation Program 14.C.a: Maintain local source water protection and wellhead protection programs in the Tuolumne County General Plan, such as setbacks, to protect the sources of drinking water supplies.

Implementation Program 14.C.b: Implement grading and surface runoff standards, such as retention and detention, permeable surfaces and recharge, necessary to protect water resources in compliance with State and Federal water quality regulations and with the County's water quality plan referenced in implementation program 14.C.e.

Policy 14.C.4*:* Encourage the conservation of water resources in a systematic manner that is sensitive to the maintenance of water quality, natural capacities, ecological values, and consideration of the many water related needs of the County.

Policy 14.C.7*:* Recognize that clean water is essential to public health, safety and welfare, fosters economic development and job creation, protects the environment, maintains fish and wildlife and supports recreation.

Policy 14.C.8: Encourage water resources to be protected from pollution, conserved, and recycled whenever possible to provide for continued economic, community and social growth.

Policy 14.C.9*:* Promote improved watershed health, improved water quality and water quantity yields of the watersheds in Tuolumne County.

Tuolumne County Grading Permit

Under Chapter 12.20 of the Tuolumne County Code, a permit is required for grading or stockpiling of soils for projects involving excavation of 50 cubic yards (or greater) of materials. The code includes requirements for grading, stockpiling, erosion, and dust control; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading along with notification procedures (Tuolumne County 2020). If the proposed Project involves excavation of 50 cubic yards, a grading permit would be required; however this is not required for public works and infrastructure project.

Tuolumne County Water Quality Plan

The Tuolumne County Water Quality Plan addresses a wide range of water quality issues within the County, emphasizing the quality of surface waters and the factors affecting them. The Tuolumne County Water Quality Plan includes regulatory and non-regulatory mechanisms for maintaining and improving surface water quality, with an emphasis on addressing non-point sources of pollution though to be originating from various land uses under the County's jurisdiction (Tuolumne County 2007).

Discussion

a) **Less than Significant**. The proposed Project consists of installation, operation, and maintenance of a new recycled water pipeline and associated infrastructure, to be constructed in two phases. As described in *Chapter 1, Project Description*, approximately 1.5 miles of recycled water pipeline from TUD's existing discharge point at the West property would be installed underground and connect to TEDA's underground pipeline and includes a pipe bridge crossing of Sullivan Creek, continuing underground to Storage Pond 1. The tertiary-treated recycled water would be used for storage and irrigation purposes and adhere to control measures (described in the regulatory setting) consistent with the SWRCB's Order WQ-20160086-DDW.

Construction of the proposed Project would entail open cut trenching, excavation, grading and other ground disturbance. Pending final design considerations, it is anticipated that a SWPPP or comparable measures would be in place if construction-related ground disturbance activities exceeds one acre, consistent with the state CGP requirements for erosion and runoff control. Work involving ground disturbance is proposed to occur during the dry season when precipitation events are unlikely, and stream flows are low. Excavations are proposed to be outside the riparian areas and Sullivan Creek. Silt fences would be placed along the edge of the creek in the work zone to ensure no sediment is transported into Sullivan Creek. Avoidance Minimization Measures or Performance Measures (as described in Chapter 1) would also be implemented to ensure that construction of the proposed Project would not result in degradation of surface or groundwater quality.

As discussed in the Project Description, prior to operating the new system, the golf course signage would be installed along the fence line in accordance with Title 22 standards to identify the use of recycled water and to protect public health. The proposed Project design would ensure that no drinking fountains are connected to the recycled water supply and an internal sanitary survey would likely be required to ensure no cross connections exist which could otherwise result in mixing potable water with recycled water. Backflow prevention devices would be installed at the clubhouse and restaurant area (consistent with the State Recycled Water Policy and Order

WQ-2016-0068-DDW). Following construction, roadways would be restored with base rock as appropriate. Disturbed areas would be reseeded with appropriate native seed mixes, consistent with preconstruction conditions. A SWPPP or comparable post construction measures would be in place to reduce runoff and control erosion across the site.

Adherence to regulatory requirements contained in the State General Order for the Use of Recycled Water would reduce the potential for the proposed Project to result in violations of surface and groundwater quality. Measures implemented to control runoff and erosion (as part of a SWPPP or comparable plan along with appropriate design setbacks would reduce the potential for the site to result in runoff that could otherwise contribute sediment to surface waters. With implementation of impact avoidance and minimization measures such as: conducting construction during the dry season, limiting excavations to areas outside of the riparian corridor, installing and maintaining silt fencing (among other BMPs) would limit conditions of erosion and prevent sediment from entering Sullivan Creek. The proposed Project would be designed, constructed, operated and maintained in a manner consistent with regulatory requirements intended to protect water quality. During operation the following standards would be adhered to further protect water quality objectives.

a. Proper irrigation rate and duration management to avoid overwatering and ponding.

b. Avoid sending recycled water to the pond in advance of a forecasted rain event that could result in the pond filling and spilling.

c. Maintain at least 2-3 feet of freeboard in the pond to ensure there is some space to contain any surface runoff before overfilling the pond.

d. Maintain space in downstream ponds to receive excess water before any water would reach Sullivan Creek.

e. Utilize automatic level controls like an altitude valve to make sure when the pond reaches a certain level the influent valve closes.

f. Install level sensors which could trigger an alarm to notify the golf course manager that the pond is at a high level indicating some type of system malfunction.

Use of recycled water on the Teleli Golf Course is covered under CCR Title 22 Section 60310 and include the following:

a. A 50-foot irrigation setback from domestic water supply wells.

b. A 100-foot setback of any recycled water pond from any domestic water supply well

c. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities

d. Signs 4”x8” stating “RECYCLED WATER – DO NOT DRINK”

e. No physical connection shall be made between recycled water system and potable water system

f. No hose bibs shall be installed on the recycled water system, only quick couplers that differ from those used on the potable water system shall be used.

Therefore, construction and operation of the proposed Project would not result in surface or groundwater degradation or otherwise violate water quality standards. The resulting impact would be **less than significant**.

b) **No Impact.** The proposed Project would not involve activities that place demands on or otherwise draw groundwater, nor would it impede groundwater recharge, as few structures are proposed to add impervious surfaces to the site. It is anticipated that the proposed Project would improve water supply reliability offsetting surface water demands and improving regional drought resilience. The proposed Project would not decrease groundwater in the basin or interfere with sustainable groundwater management. Therefore, there would be **no impact** on groundwater resources.

ci-iv) **Less than significant.** As designed, the proposed Project would convey recycled water but would not result in major alterations of the land or its drainage patterns. As described in Chapter 1, *Project Description*, the proposed Project consists of installation of several thousand feet of new recycled water pipeline and associated infrastructure to connect to existing recycled water pipeline system. The new recycled water main would include air vacuum valves, isolation valves, two above ground metering vault structures, a recycled water filling station, and include road surface restoration and reseeding. Proposed pipelines would be trenched, installed at a depth of 3 feet and backfilled with native soil and reseeded with native vegetation. Under Phase 2, similar recycled water lines would be installed. A new eight-inch steel pipeline is proposed to cross over Sullivan Creek on a prefabricated steel utility pipe bridge. The pipe bridge would span the breadth of the creek and be fitted to abutments or piers on each side of the creek placed outside of the top of bank. After crossing Sullivan Creek, the new eight-inch pipeline would transition to purple (PVC C900) pipe before going underground.

As discussed under item a), measures would be in place during construction to control erosion and limit runoff. Avoidance and minimization measures (such as conducting the work during the dry season and providing for appropriate setbacks from surface waters) would reduce the potential for mobilization of silt and sediment through runoff. Although the proposed Project would cross Sullivan Creek, it would not obstruct it. Once constructed, disturbed areas would be restored and revegetated; site drainage patterns would be substantially similar to existing conditions. Therefore, the impact would be **less than significant.**

d) **No Impact.** The proposed Project is not located in a coastal environment; therefore, there is no risk for inundation and release of pollutants associated with a tsunami. Seiches are associated with seismic events that generate waves impacting large bodies of water. Although there are ponds and other surface water bodies in the proposed Project area, there is minimal risk for seiches as the proposed Project area is not near an active EFZ (described in additional detail in Section 3.7, *Geology and Soils*. Because the proposed Project is not proposed in a flood hazard, seiche, or tsunami hazard zone, there would be **no impact** associated with such hazards attributable to the proposed Project.

e) **Less than significant.** As discussed under item a), the proposed Project would not result in surface or groundwater degradation or otherwise violate water quality standards; therefore, the

proposed Project would generally be consistent with the Basin Plan and the goals and objectives of the Tuolumne County Water Quality Plan. As discussed, the proposed Project would implement avoidance and minimization measures to limit contamination of Sullivan Creek. Such measures include adherence to setback distances to limit scour and minimize conditions of erosion. The proposed Project would also implement erosion and sediment controls to limit runoff during construction. It is anticipated that the proposed Project would apply for coverage under the CGP and implement a site specific SWPPP or comparable plan along with the associated BMPs intended to limit contamination of surface waters. Given these design measures and independently enforceable requirements, the potential for the proposed Project to conflict with the Basin Plan or the Tuolumne County Water Quality Plan would be minimal.

There is no effective groundwater sustainability plan in the vicinity of the study area. However, as discussed, the proposed Project would not limit groundwater recharge, nor contaminate groundwater resources. Therefore, the proposed Project would not conflict with sustainable groundwater management. Impacts would be **less than significant**, and therefore, no mitigation is required.

References

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3.11 Land Use and Planning

Issues (and Supporting Information Sources):		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XI.	**LAND USE AND PLANNING —** Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Setting

The proposed Project area is located in Tuolumne County, along the western foothills of the Sierra Nevada Mountain range. The proposed Project area is in a rural area of Tuolumne County outside the community of Jamestown. Most properties in the area are 37 acres or more with a land use designation of Agricultural per the Tuolumne County General Plan, with the Teleli Golf Course is zoned as a mix of R-1 (Single-Family Residential District) & RE-1 (Residential Estate, One Acre Minimum District), R-2 (Medium Density Residential District), C-K (Commercial Recreational District) & O (Open Space). The Tuolumne County General Plan, adopted in January 2019, guides land use planning in the proposed Project area. As described in the Tuolumne County General Plan, the General Plan is a broad framework for planning the future of the County. The General Plan acts as the official vision and policy document of the County's Board of Supervisors and assists in guiding the private and public development of the county in the most effective manner, and to gain the maximum societal and economic benefits for the citizens of the county. All other city codes and standards, including specific plans and development codes, must be consistent with the General Plan (Tuolumne County 2018).

The proposed Project would be located of the West Property within TUD's utility easement and land owned by the Tribe and operated by TEDA. As discussed above, the majority of the proposed Project area is zoned as Agricultural with a 37-acre minimum. The proposed Project would not change any land use designations, as nearly all of the pipeline would be underground (Tuolumne County 2024).

Regulatory Setting

Federal

There are no federal regulations related to land use and planning that would be applicable to the proposed Project.

State

There are no state regulations related to land use and planning that would be applicable to the proposed Project.

Local

Tuolumne County General Plan

The following goal and policies from the Community Development and Design Element related to land use and planning are relevant to the proposed Project (Tuolumne County 2018):

> **Goal 1A:** Protect and enhance the quality of life for all residents of Tuolumne County while facilitating growth and development to meet the present and future needs of the County's residents, visitors and businesses.
>
> > ***Policy 1.A.1:*** Promote the efficient use of land to conserve natural resources.
> >
> > ***Policy 1.A.5:*** Promote infill and clustered patterns of development that facilitate the efficient and timely provision of infrastructure and services.
>
> **Goal 1B:** Minimize conflicts between incompatible land uses.
>
> > ***Policy 1.B.1:*** Protect existing land uses from the infringement of and impacts associated with incompatible land uses.
> >
> > ***Policy 1.B.2:*** Protect public facilities from the infringement of incompatible land uses.

Tuolumne County Zoning Ordinance

The proposed Project area is zoned partially as Exclusive Agricultural, 37 acre minimum (AE-37) and partially as a single-family residential district (R-1).

The purpose of the Exclusive Agricultural district, 37 acre minimum (AE-37) is to provide for agricultural and resource production where commercial agricultural uses can exist without encroachment of incompatible uses and provide for the preservation and conservation of working landscapes and open space (Tuolumne County 2024).

The purpose of the single-family residential (R-1) district is to stabilize, promote, and encourage a suitable environment for family life. The single-family residential (R-1) district is intended for suburban family homes. Development in this zone must comply with Title 15 of this code pertaining to fire safety standards. Permitted uses within any single-family residential (R-1) district, include one primary single-family dwelling per parcel, general recreational use incidental to the primary use of the parcel, and public utility distribution facilities. Conditional uses within any single-family residential (R-1) district include public utility uses and water treatment facilities, subject to County approval of a use (or conditional use) permit.

Discussion

a) **No Impact.** The proposed Project would be constructed in the West Property, within TUD's utility easement and the Tribe, and would not change any current land uses or designations. The proposed Project would involve the installation of approximately 2,050 linear feet of new 10-inch HDPE pipeline from TUD's existing 10-inch asbestos cement recycled through pasture lands and along existing ranch roads to an existing turnout at APN 059-160-08 and installing another 3,850 linear feet of eight-inch HDPE pipeline underground to a second connection near Sullivan Creek (APN 059-070-80). The pipeline would then cross over Sullivan Creek via pipe bridge, continuing along the existing access roads up to Storage Pond 1 for storage and prior to use for

irrigation purposes. While there is one residence located adjacent to the proposed pipeline, development of the proposed Project area would not include development at the residential property, nor would the proposed Project preclude ingress and egress to the residential property.

The water from Storage Pond 1 will be blended into the golf course's existing irrigation system. The tertiary water discharged into Storage Pond 1 will be mixed with existing raw water stored in Storage Pond 1, either through the existing pumped water supply intake in Sullivan Creek and natural runoff ending in Storage Pond 1. Once tertiary water is mixed, water will then be pumped up to golf course Pond 2 where it gets disbursed through augmented pressures to various holding ponds, ultimately irrigating the golf course. Water from the proposed Project would supplement the existing water supply and would not alter the water use on site. Therefore, the proposed Project would not change the existing land use or zoning at the Teleli Golf Course.

Because the area is currently designated as AE-37 lands under the Tuolumne County General Plan, there would be no incompatible development existing or planned for the proposed Project area. In addition, the proposed Project would not alter the land use of the proposed Project area, nor would it alter the land use of the Teleli Golf Course. Therefore, there would be no incompatible development existing or planned for the area. The proposed Project would not include any barriers or other components that would act to physically divide an established community, and the construction of the proposed Project would not act to divide a community. Therefore, the proposed Project would have **no impact** associated with dividing an established community.

b) **No Impact.** The proposed Project would not conflict with any land use plans, policies, or regulations because the proposed use at the site would be consistent with the allowed and conditional uses designated under the Tuolumne County General Plan and Zoning Ordinance. No change in land use designation or zoning is proposed or required, and none would result from the implementation of the proposed Project. The proposed Project area would continue to be designated as and would not conflict with the existing AE-37, R-1, RE-1, R-2, C-K, & O designations under the Tuolumne County General Plan and the Tuolumne County Zoning Ordinance. Therefore, there would be **no impact**.

References

Tuolumne County. 2018. *2018 Tuolumne County General Plan*. Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/11752/Vol-I-Goals-Policies-Policies-Final. Accessed November 19, 2024.

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3.12 Mineral Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XII. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Environmental Setting

Tuolumne County has an extensive mining history and mineral resources. Current operating mines in Tuolumne County gather limestone and dolomite, and various forms of crushed rock, gravel, and sand products (Tuolumne County 2018b).

To determine the potential presence of mineral resources within proposed Project site boundaries (the study area), the following sources of information were consulted:

- Mineral Resources Data System, administered by the USGS, which provides data describing mineral resources, including deposit name, location, commodity, deposit description, production status and references and which can be used to confirm the presence/absence of existing surface mines, closed mines, occurrences/prospects, and unknown/undefined mineral resources. Locations of past and current mining activity as well as the presence of geologic materials that can be mined can also be used to assess the potential for the presence of mineral resources or the existence of mineral resource recovery sites. According to the Mineral Resources Data System available on the USGS website, there are no significant mineral resources in the study area (USGS 2020).
- The California Geologic Energy Management Division (CalGEM) provides oversight of the oil, natural gas, and geothermal industries, and regulates the drilling, operation, and permanent closure of energy resource wells. CalGEM's online mapping application, Well Finder, was reviewed. There are no significant oil, gas, or geothermal resources identified by the CalGEM Well Finder tool within the study area (CalGEM 2020).
- The CGS published Mineral Land Classification studies, which identify Mineral Resource Zones (MRZs) overlain on geologic or topographic maps. These maps are designed to protect mineral resources in California by classifying the regional significance of mineral resources (CGS 1997).

The CGS maps and regulates the locations of potential mineral resources in California consistent with the Surface Mining and Reclamation Act. To protect these potential mineral resources, the CGS classifies the regional significance of mineral resources into MRZs. Descriptions of the MRZ categories are provided in Table 3.12-1, below. Additionally, there are no locally important mineral resource recovery sites delineated in local general plans, specific plans, or zoning (Tuolumne County 2018b). The proposed Project area is mapped in an area that is classified as MRZ-3b, which indicates the area contains inferred mineral occurrences of undetermined mineral resource significance (CGS 1997).

TABLE 3.12-1
CALIFORNIA MINERAL LAND CLASSIFICATION SYSTEM

Mineral Resource Zone Category	Category Description
MRZ-1	Areas where available geologic information indicates there is little or no likelihood for the presence of significant mineral resources.
MRZ-2a	Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.
MRZ-2b	Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered mineral deposits that are either inferred reserves as determined by limited sample analysis, exposure, and past mining history or are deposits that presently are sub-economic. Further exploration and/or changes in technology or economics could result in upgrading areas classified MRZ-2b to MRZ-2.
MRZ-3a	Areas containing known mineral occurrences of undetermined mineral resource significance. Further exploration within these areas could result in the reclassification of specific localities as MRZ-2a or MRZ-2b.
MRZ-3b	Areas containing inferred mineral occurrences of undetermined mineral resource significance. Land classified MRZ-3b represents areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits. Further exploration could result in the reclassification of all or part of these areas as MRZ-3a or specific localities as MRZ-2a or MRZ-2b.
MRZ-4	Areas of no known mineral occurrences where geologic information does not rule out the presence or absence of significant mineral resources.

SOURCE: CGS, 1997.

Regulatory Setting

Federal

No federal regulations apply to mineral resources, as it pertains to this proposed Project.

State

The Surface Mining and Reclamation Act (PRC Sections 2710–2796) and its implementing regulations (14 CCR Section 3500 et seq.) establish a comprehensive state policy for the conduct of surface mining operations and for the reclamation of mined lands to a usable condition that is readily adaptable for alternative land uses. The law encourages the production, conservation, and protection of the state's mineral resources and recognizes that "the state's mineral resources are vital, finite, and important natural resources and the responsible protection and development of these mineral resources is vital to a sustainable California" (PRC Section 2711). Under the law, the term "minerals" includes "any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum" (14 CCR Section 3501).

Local

Tuolumne County General Plan

While there are goals and policies included in the Tuolumne County General Plan, they are not included here because they do not apply to mineral resource analysis for the proposed Project (Tuolumne County 2018a).

Discussion

a,b) **No Impact.** The proposed Project site is not located within an area classified as a mineral resource by the State Geologist (CGS 1997; USGS, 2024). None of the mining operations mentioned in the Tuolumne County General Plan are currently in progress in or around the proposed Project area, and proposed Project activities would not result in a loss of availability of these resources. There are no significant oil, gas, or geothermal resources identified by the CalGEM Well Finder tool within the study area (CalGEM 2024). Given that the proposed Project is neither located in or near a mineral resource recovery site, nor is it located in an area of regional significance, there would be no loss of availability of a known mineral resource (Tuolumne County 2018b). There would be **no impact** on mineral resources.

References

CalGEM (California Geologic Energy Management Division). 2024. Well Finder Application. Available: https://maps.conservation.ca.gov/doggr/wellfinder/. Accessed November 4, 2024.

CGS (California Geological Survey). 1997. Mineral Land Classification of a Portion of Tuolumne County, California, For Precious Metals (Lode Gold and Silver). Map. Scale 1:110,000.

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USGS (U.S. Geological Survey). 2024. Mineral Resources Data System. Available: https://mrdata.usgs.gov/mrds. Accessed November 4, 2024.

3.13 Noise and Vibration

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

Environmental Setting

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels, with 0 decibel corresponding roughly to the threshold of human hearing, and 120 to 140 decibels corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz, which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 hertz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. Therefore, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 hertz and above 5,000 hertz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead focusing on the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). All sound pressure levels, and sound power levels reported below are A-weighted.

Noise Exposure and Ambient Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. In fact, noise varies continuously with time with respect to the contributing sources in the noise environment. Noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors

unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition and subtraction of distant noise sources and atmospheric conditions. The addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens) makes noise constantly variable throughout the day.

These successive additions of sound to the noise environment vary the noise level from instant to instant, requiring the measurement of noise exposure over a period to legitimately characterize a noise environment and evaluate noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. Different noise descriptors used to characterize environmental noise are summarized below:

L_{eq}: The equivalent sound level is used to describe noise over a specified period of time, in terms of a single numerical value. The L_{eq} is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{dn}: The energy average of the A-weighted sound levels occurring during a 24-hour period, and which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10 p.m. and seven a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises. L_{dn} is also referred to as DNL.

L_{max}: The instantaneous maximum noise level measured during the measurement period of interest.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers at industrial plants often experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way the new noise compares to the existing noise levels that one has adapted to, which is referred to as the "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference when the change in noise is perceived but does not cause a human response;

- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness and can cause an adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. A ruler is a *linear* scale; it has marks on it corresponding to equal quantities of distance. One way of expressing this is to say that the ratio of successive intervals is equal to one. A *logarithmic* scale is different in that the ratio of successive intervals is not equal to one. Each interval on a logarithmic scale is some common factor larger than the previous interval. A typical ratio is 10, so that the marks on the scale read: 1; 10; 100; 1,000; 10,000; etc., doubling the variable plotted on the x-axis. The human ear perceives sound in a non-linear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. However, where ambient noise levels are high in comparison to a new noise source, there will be a small change in noise levels. For example, when 70 dBA ambient noise levels are combined with a 60 dBA noise sources, the resulting noise level equals 70.4 dBA.

Nighttime noise has a higher potential to affect sleep. Noise can make it difficult to fall asleep, can create momentary disturbances of natural sleep patterns by causing shifts from deep to lighter stages, and can cause awakening (LAWA 2012).

Noise Attenuation

Sound level naturally decreases with more distance from the source. This basic attenuation rate is referred to as the *geometric spreading loss*. The basic rate of geometric spreading loss depends on whether a given noise source can be characterized as a point source or a line source. Point sources of noise, including stationary mobile sources such as idling vehicles or on-site construction equipment, attenuate (lessen) at a rate of 6.0 dBA per doubling of distance from the source. In many cases, noise attenuation from a point source increases to 7.5 dBA for each doubling of distance due to ground absorption and reflective wave canceling. These factors are collectively referred to as *excess ground attenuation*. The basic geometric spreading loss rate is used where the ground surface between a noise source and a receiver is reflective, such as parking lots or a smooth body of water. The excess ground attenuation rate (7.5 dBA per doubling of distance) is used where the ground surface is absorptive, such as soft dirt, grass, or scattered bushes and trees.

Widely distributed noises such as a street with moving vehicles (a “line” source) would typically attenuate at a lower rate of approximately 3.0 dBA for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive rather than reflective, the nominal rate increases to 4.5 dBA for each doubling of distance. Atmospheric effects, such as wind and temperature gradients, can also influence noise attenuation rates from both line and point sources of noise. However, unlike ground attenuation, atmospheric effects are constantly changing and difficult to predict.

Trees and vegetation, buildings, and barriers reduce the noise level that would otherwise occur at a given receptor distance. However, for a vegetative strip to have a noticeable effect on noise levels, it must be dense and wide. For example, a stand of trees must be at least 100 feet wide and dense enough to

completely obstruct a visual path to the roadway to attenuate traffic noise by 5 dBA (Caltrans 2013). A row of structures can shield more distant receivers depending upon the size and spacing of the intervening structures and site geometry. Similar to vegetative strips discussed above, noise barriers, which include natural topography and soundwalls, reduce noise by blocking the line of sight between the source and receiver. Generally, a simple noise barrier that breaks the line of sight between source and receiver will provide at least a 5-dBA reduction in noise.

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal and is typically expressed in units of inches per second (in/sec). The PPV is most frequently used to describe vibration impacts on buildings. The root mean square amplitude is most frequently used to describe the effect of vibration on the human body. The root mean square amplitude is defined as the average of the squared amplitude of the signal. Decibel notation vibration decibel is commonly used to measure root mean square. The decibel notation acts to compress the range of numbers required to describe vibration (FTA 2018). Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration.

Some common sources of ground-borne vibration are trains, heavy trucks traveling on rough roads, and construction activities such as blasting, pile driving, and operation of heavy earth-moving equipment. The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. In residential areas, the background vibration velocity level is usually around 50 vibration decibel (approximately 0.0013 in/sec PPV).

Sensitive Receptors

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hotels, hospitals, and nursing homes are the most sensitive to noise. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate are also sensitive to noise. Commercial and industrial uses are considered the least noise sensitive.

The proposed Project is in a rural area of Tuolumne County outside the community of Jamestown. The pipeline alignment generally follows unimproved ranch roads through grazing land. The nearest sensitive receptor is a residence (at the cul-de-sac of Blackbird Ln) located as close as 1,317 feet from the proposed Project alignment.

Regulatory Setting

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while

regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans tend to identify general principles intended to guide and influence development plans; local ordinances establish standards and procedures for addressing specific noise sources and activities.

Federal

Truck Operations

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 CFR, Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters (approximately 50 feet) from the vehicle pathway centerline. These regulatory controls are implemented on truck manufacturers.

Vibration

The Federal Transit Administration (FTA) has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities. The vibration damage criteria adopted by the FTA are shown in **Table 3.13-1**.

TABLE 3.13-1
CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

SOURCE: Federal Transit Administration 2018

In addition, the FTA has adopted standards associated with human annoyance for ground-borne vibration impacts for the following three land-use categories: Vibration Category 1—High Sensitivity, Vibration Category 2—Residential, and Vibration Category 3—Institutional. The FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment but still have the potential for activity interference. The vibration thresholds associated with disturbance for these three land-use categories are shown in **Table 3.13-2**. No thresholds have been adopted or recommended for commercial and office uses.

TABLE 3.13-2
GROUND-BORNE VIBRATION IMPACT CRITERIA FOR GENERAL ASSESSMENT

Land Use Category	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category 1: Buildings where vibration would interfere with interior operations	65 VdB[d]	65 VdB[d]	65 VdB[d]
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB

NOTES: VdB = vibration decibel

a. "Frequent Events" is defined as more than 70 vibration events of the same source per day.
b. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
c. "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day.
d. This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes.

SOURCE: Federal Transit Administration 2018.

State

Vehicle Operations

The State of California establishes noise limits for vehicles licensed to operate on public roads. The pass-by standard for heavy trucks is consistent with the federal limit of 80 dBA. The pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanctions on vehicle operators by state and local law enforcement officials.

Vibration

The California Department of Transportation has developed guidance on addressing vibration issues associated with construction, operation, and maintenance of transportation projects (Caltrans 2020). **Table 3.13-3** shows the Caltrans criteria for human response to transient vibration.

TABLE 3.13-3
HUMAN RESPONSE TO TRANSIENT VIBRATION

Human Response	PPV (inches/second)
Severe	2.0
Strongly Perceptible	0.9
Distinctly Perceptible	0.24
Barely Perceptible	0.035

SOURCE: Caltrans, 2020.

Local

Tuolumne County does not have a noise ordinance in its County Code. However, the County does have a Noise Element in its General Plan, as described below (Tuolumne County 2018).

Tuolumne County General Plan

Noise is addressed in the Tuolumne County General Plan within the Noise Element. Policies and implementation programs applicable to the proposed Project are listed below.

Policy 5.A.3: Require proponents of proposed development of new stationary noise sources or modifications of existing stationary noise sources to evaluate noise effects on existing nearby noise-sensitive land uses. This policy does not apply to noise levels associated with agricultural operations.

Implementation Program 5.A.a: Review new public and private development proposals to determine conformance with the policies and programs of this Noise Element. Determine that noise levels from new development will not exceed the noise level standards for specified land uses included in Tables 5.A (Transportation Noise), 5.B (Aircraft Noise), 5.C (Stationary Source Noise, shown here as **Table 3.13-4**), or 5.D (Cumulative Noise Increase).

TABLE 3.13-4
MAXIMUM ALLOWABLE NOISE EXPOSURE—STATIONARY NOISE SOURCES

	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq}, dB[1]	50	45
Maximum Level[2]	70	65

NOTES:

1. The sound equivalent level as measured or modeled for a one-hour sample period. The daytime or nighttime value should not be exceeded as determined at the property line of the noise-sensitive land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.
2. Similar to the hourly L_{eq}, except this level should not be exceeded for any length of time.

SOURCE: Tuolumne County, 2018.

Implementation Program 5.A.b: Require an acoustical analysis where activities associated with proposed development are likely to produce noise levels exceeding those specified in Tables 5.A, 5.B, 5.C, or 5.D of the Noise Element. The acoustical analysis shall be conducted early in the review process so that the possible effects of noise and noise mitigation can be considered in the project design.

Policy 5.A.5: This policy requires "that construction activity and temporary construction impacts do not expose existing noise-sensitive land uses to excessive noise levels. Require all new construction activities to implement all feasible noise-reducing measures as necessary to limit construction noise exposure…" Should nighttime construction activities be required (between the hours of 7 p.m. and 7 a.m.), exterior noise levels shall not exceed 65 dBA L_{max}, based on FICAN's 65 dBA SEL [sound equivalent level] for sleep disturbance (but conservatively using L_{max}, which is more appropriate for construction activities).

Implementation Program 5.A.e: The County shall ensure that, where residences or other noise sensitive uses are located within 1,900 feet of construction sites, appropriate measures shall be implemented to limit noise exposure from construction. Specific techniques may include, but are not limited to, restrictions on construction timing, use of sound blankets on construction equipment, and the use of temporary walls and noise barriers to block and deflect noise.

Implementation Program 5.A.f: Require the use of alternative pile driving techniques, where feasible, if a particular project requires pile driving within 800 feet of sensitive receptors requires pile driving.

Implementation Program 5.A.g: Require equipment and trucks used for project construction utilize the best available noise control techniques (including mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds).

Implementation Program 5.A.h: Require impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction be hydraulically or electrical powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, the use of an exhaust muffler on the compressed air exhaust is recommended to lower noise levels from the exhaust by up to about 10 dBA. When feasible, external jackets on the impact equipment should also be incorporated to achieve a further reduction of 5 dBA. Whenever feasible, require the use of quieter procedures, such as drilling rather than impact equipment operation.

Implementation Program 5.A.i: Locate stationary noise sources as far from sensitive receptors as possible. Stationary noise sources that must be located near existing receptors shall be adequately designed to minimize noise exposure at sensitive receptors such that County noise standards are met.

Discussion

a) **Less than Significant with Mitigation Incorporated.** The proposed Project would generate noise during both construction and operational phases as discussed below.

Construction

Construction of the proposed Project would take place from late-April to late June of 2025. Construction activities associated with the proposed Project are detailed in Section 1.7 of the Project Description and would include pipe installation, road resurfacing, seeding and stabilization.

Construction would involve the use of equipment that would generate substantial noise at and adjacent to construction areas. Noise impacts from construction would depend on the type of activity being undertaken and the distance to the receptor location. Construction noise impacts are most severe if construction activities take place during noise-sensitive hours (early morning, evening, or nighttime hours), in areas immediately adjoining noise-sensitive land uses, and/or when construction duration lasts over extended periods of time.

Table 3.13-5 shows typical noise levels produced by the types of construction equipment that are expected to be used for proposed Project construction.

The operation of each piece of off-road equipment at the proposed Project site would not be constant throughout the day, as equipment would be turned off when not in use. This is accounted for in the acoustical usage factor for each type of equipment, also shown in Table 3.13-5. Over a typical workday, equipment would operate at different locations on the proposed Project site and would not always be operating concurrently. Pipeline construction and installation would occur linearly; therefore, the same set of sensitive receptors would not be exposed to noise from construction equipment over the entire duration of construction. In addition, proposed Project

construction activities would be restricted to the less noise-sensitive daytime hours between 7 a.m. and 7 p.m., Monday through Saturday, thereby reducing impacts during the more noise-sensitive nighttime hours. No nighttime construction is anticipated.

TABLE 3.13-5
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Type of Equipment	L_{max} at 50 feet, dBA	Acoustical Usage factor (%)
Backhoe	78	40
Concrete Mixer Truck	79	40
Crane	81	16
Dump Truck	76	40
Excavator	81	40
Flatbed Truck	74	40
Front End Loader	79	40
Hydroseeder	75	40
Pickup Truck	75	40
Skidsteer	79	40
Water Truck	75	40

SOURCE: Federal Highway Administration 2017.

To estimate daytime construction noise levels that the closest sensitive receptors would be exposed to, consistent with the methodology recommended by the FTA in its *Transit Noise and Vibration Assessment Manual*, the two noisiest pieces of equipment used for proposed Project construction are assumed to be operating at the same time at the location closest to the nearest sensitive receptor, located approximately 1,350 feet from construction activities. Taking into account the acoustical usage factors, simultaneous operation of a excavator and a loader at the same location would generate a combined noise level of 50.4 dBA L_{eq}, at the nearest sensitive receptors. There are no quantitative standards for construction noise specified by either the Tuolumne County General Plan or the municipal code. However, Policy 5.A.5 of the General Plan requires that all new construction activities implement all feasible noise-reducing measures as necessary to limit construction noise exposure at receiving occupied land uses. Implementation of **Mitigation Measure NOI-1a** would ensure that County-identified noise reduction measures would be employed per Policy 5.A.H and **Mitigation Measure NOI-1b** would require TUD and TEDA to notify nearby residences of construction activities and designate a "disturbance coordinator" who would be responsible for responding to any complaints regarding construction noise. This impact would be less than significant with mitigation.

Mitigation Measures

Mitigation Measure NOI-1a: Construction Noise Management Plan. The following noise reduction measures shall be implemented to reduce the impact of temporary construction-related noise on nearby receptors:

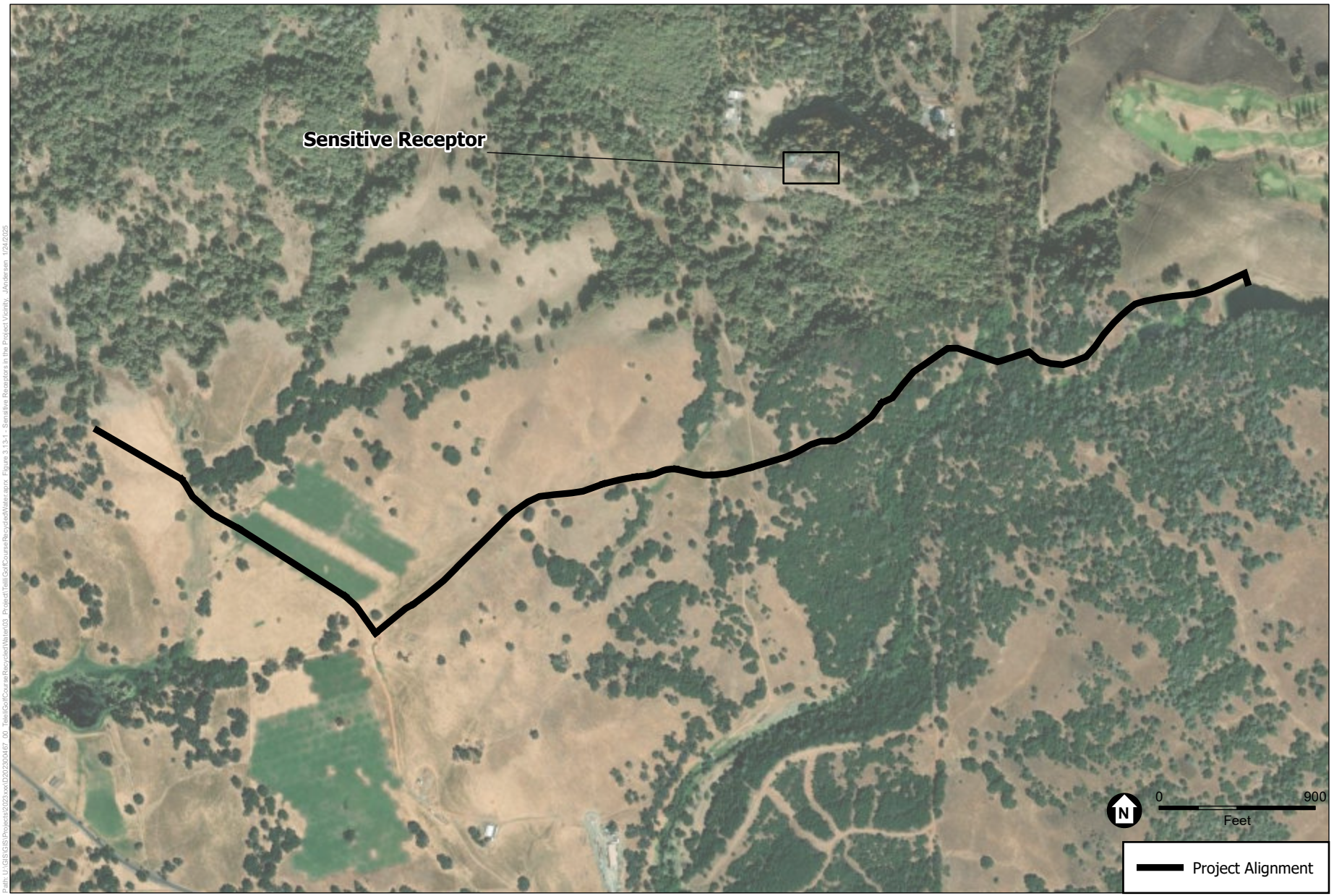
1. Require construction equipment and trucks used for project construction to utilize the best available noise control techniques (including mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds).
2. Turn off construction equipment when not in use, where applicable.
3. Locate stationary equipment, construction staging areas, and construction material areas as far from sensitive receptors as possible. Stationary noise sources that must be located near existing receptors shall be adequately designed to minimize noise exposure at sensitive receptors such that County noise standards are met.
4. Require any impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction be hydraulically or electrical powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, the use of an exhaust muffler on the compressed air exhaust is recommended to lower noise levels from the exhaust by up to about 10 dBA. When feasible, external jackets on the impact equipment should also be incorporated to achieve a further reduction of 5 dBA. In the event that external jackets on impact equipment are not feasible, other BMP techniques shall be employed to reduce noise by 5 dBA. Whenever feasible, require the use of quieter procedures, such as drilling rather than impact equipment operation (such as pile driving).

Operation

The proposed Project would require minimal maintenance, which is expected to be the same as the existing conditions, which would not be perceptible. Noise generated by operation and maintenance of the proposed Project would therefore result in a **less-than-significant impact**.

b) **Less-than-Significant Impact.** Construction activity can result in varying degrees of ground-borne vibration, depending on the type of soil, equipment, and methods employed. Operation of construction equipment can cause ground vibration that spreads through the ground and diminish in strength with distance. Buildings on the soil near the construction site respond to these vibrations with varying results, ranging from no perceptible effects at the lowest levels, low rumbling sounds and perceptible vibrations at moderate levels, and slight damage at the highest levels. While ground vibrations from construction activities do not often reach the levels that can damage structures, fragile buildings must receive special consideration.

There are no structures of historical significance in the vicinity of the proposed Project alignment that would be impacted by the proposed Project (refer to the Section 3.5, *Cultural Resources* for additional details about historic resources). The nearest sensitive receptor is located 1,350 feet from the proposed Project pipeline alignment (see **Figure 3-13.1**). However, the nearest structure is located 160 feet north of the proposed Project's pipeline alignment on the Teleli Golf Course west of the north pond. Therefore, the analysis below uses the construction vibration criteria for buildings of conventional construction.



SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 3.13-1
Sensitive Receptors in the Project Vicinity

ESA

Construction vibration may generate perceptible vibration when impact equipment or heavy earth moving equipment are used. Construction equipment expected to be used for proposed Project construction are shown in Table 3.13-5 and do not include any high vibration generating equipment such as pile drivers.

As shown in Tables 3.13-1 and 3.13-3, the FTA and Caltrans have adopted vibration standards that are used to evaluate potential impacts related to sensitive receiving land uses from vibration. The FTA identifies 0.2 in/sec PPV as the level at which potential damage could result to buildings of conventional construction. Caltrans identifies 0.24 in/sec PPV as the level at which vibration is distinctly perceivable to humans.

No extreme vibration generating equipment such as pile drivers and drills are anticipated to be used for construction of the proposed Project. Based on groundborne vibration levels for standard types of construction equipment provided by the FTA, of the equipment to be used for construction of the proposed Project, the use of a loaded truck would be expected to generate the highest vibration levels of 0.076 in/sec PPV at a distance of 25 feet (FTA 2018). The vibration levels from the operation of a loaded truck would attenuate to 0.005 in/sec PPV at the nearest structure at 160 feet from construction activities and 0.0002 in/sec PPV at the sensitive receptor at a distance of 1,350 feet from construction activities (FTA 2018). The attenuated vibration level at the nearest structure and receptor would be lower than the building damage and human annoyance vibration thresholds of 0.2 in/sec and 0.24 in/sec, respectively. Therefore, operation of construction equipment would result in less-than-significant vibration impacts to nearby structures and residences. Further, the operation and location of each piece of construction equipment at the proposed Project site would not be constant throughout the day, equipment would be operating at different locations on the pr proposed Project site and would not always be operating concurrently. Consequently, vibration levels during most of the construction period at the nearest off-site structures/residences would be much lower. Therefore, ground-borne vibration impacts during construction would be **less than significant**.

Once operational, the proposed Project would not include any new sources of vibration. Therefore, the proposed Project would have no operational impacts with regard to ground-borne noise and vibration.

c) **No Impact.** There are no airports within two miles of the proposed Project site. The nearest airport is the Columbia Airport, located approximately 6.5 miles north of the proposed Project site. Therefore, the proposed Project would not expose people residing or working in the proposed Project area to excessive noise levels from aircraft operations. There would be **no impact**.

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3.14 Population and Housing

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XIV. POPULATION AND HOUSING — Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

The proposed Project site is in unincorporated Tuolumne County in the western foothills of the Sierra Nevada Mountain range, near the community of Jamestown. The recycled water pipeline alignment generally follows unimproved ranch roads through grazing land. The proposed recycled water pipeline would extend from TUD's existing recycled water pipeline turnout and extend underground to a second connection, continuing underground and crossing over Sullivan Creek via pipe bridge and continuing along the existing access roads, terminating at Storage Pond 1 downgradient of the Teleli Golf Course. The proposed Project area is generally surrounded by forest and grasslands with some rural development. Land use and development in TUD's service area are guided by the Tuolumne County General Plan.

As of 2024, Tuolumne County has an estimated population of 54,407, which represents a decrease of 0.4 percent over the prior year of 2023 (DOF 2024). The Tuolumne County General Plan (updated in 2018 and adopted in 2019) projected that the county's population would be anticipated to increase to 63,243 people by the year 2040 (Tuolumne County 2018c). Thus, the General Plan anticipates a projected population increase of 8,325 people residing in Tuolumne County by the year 2040, representing a projected population increase of 0.6 percent annually over the next 20 years.

The proposed Project is located closest to the community of Jamestown, which is a Census Designated Place in Tuolumne County that had a population of approximately 3,478, and 1,660 housing units as of the 2020 census (U.S. Census 2020a). Based on the definitions used by the U.S. Census Bureau, urbanized areas and urban clusters are delineated primarily on the basis of residential population density measured at the census tract and census block levels of geography (U.S. Census 2020b). As part of the 2020 Census, the Jamestown Census Designated Place was not considered an urbanized area or urban cluster and is therefore considered "rural." As such, the proposed Project area and the surrounding region is a rural setting with land uses consisting of residential, agricultural, and open spaces.

Regulatory Setting

Federal

There are no federal regulations applicable to the proposed Project that pertain to Population and Housing.

State

There are no state regulations applicable to the proposed Project.

Local

Tuolumne County General Plan

The following goals and policies from the Community Development and Design Element of the Tuolumne County General Plan pertain to the proposed Project's analysis of population and housing, as discussed in the impact analysis (Tuolumne County 2018a):

> **Goal 1A:** Protect and enhance the quality of life for all residents of Tuolumne County while facilitating growth and development to meet the present and future needs of the County's residents, visitors and businesses.
>
> > ***Policy 1.A.1:*** Promote the efficient use of land to conserve natural resources.
>
> **Goal 1B:** Minimize conflicts between incompatible land uses.
>
> > ***Policy 1.B.1:*** Protect existing land uses from the infringement of and impacts associated with incompatible land uses.
> >
> > ***Policy 1.B.2:*** Protect public facilities from the infringement of incompatible land uses.

Additionally, as discussed in Section 3.11, *Land Use and Planning*, the General Plan Land Use designation for the proposed Project area consists of AG, P, O, R/P, and LDR lands.

Tuolumne County Zoning Ordinance

The proposed Project area is zoned partially as a exclusive agricultural district (AE-37), single-family residential district (R-1), open space (O), residential estate (RE-1), commercial recreational district (C-K), and general recreational district (K) according to the County's Zoning Ordinance, as discussed in Section 3.11, *Land Use and Planning* (Tuolumne 2024).

Discussion

a) **No Impact.** The proposed Project would construct and operate several thousand feet of new recycled water pipeline from TUD's existing recycled water pipeline in the West property and routed over Sullivan Creek and routed underground to the Teleli Golf Course for storage and irrigation purposes. While the construction of the proposed Project could provide temporary employment for construction activities, it is anticipated that the workers would likely be drawn from the local workforce and not result in the permanent creation of new jobs that would induce population growth. The proposed Project would not include the construction of new residences or businesses and would not result in the operation of new homes or businesses, nor would the proposed Project require additional staffing for its operation and maintenance. The proposed Project would not increase the capacity of the existing roadways and would support the level of population growth in the county as previously evaluated in the Tuolumne County General Plan. For these reasons, there would be **no impact**.

b) **No Impact**. Implementation of the proposed Project would not generate the need for new residences and residential housing and does not displace any existing residential housing. In addition, the proposed Project would not result in the construction of replacement housing at an alternate location(s). There are no residences located within the proposed Project site; the nearest residence is located approximately 0.26 miles north of the proposed Project site. Therefore, no displacement would occur, and **no impact** on population and housing would result from construction and operation of the proposed Project.

References

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3.15 Public Services

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XV. PUBLIC SERVICES —				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

Environmental Setting

Public services are those that are intended to serve and provide benefits to a community's welfare and livability. Public services include fire and police protection, schools, parks, and other public facilities (e.g., recreational facilities, hospitals). Additional discussion and analysis of public services may be found in Section 3.16, Recreation; Section 3.19, Utilities; and Section 3.20, Wildfire.

Fire Protection Services

The Tuolumne County Fire Department (TCFD), CAL FIRE, the United States Department of Agriculture Forest Service, and the National Park Service are responsible for fire protection and provide life and property emergency response services to Tuolumne County (Tuolumne County, 2018b). Additional fire protection services are provided by seven fire districts Twain Harte Fire Protection District (FPD), Tuolumne City FPD, Columbia FPD, Sonora Fire Department, Groveland Community Services District, Strawberry FPD, and Tuolumne Rancheria Fire Department (Tuolumne 2018c).

Most of unincorporated Tuolumne County falls outside of a fire district boundary and is protected by TCFD, which is managed by CAL FIRE under a contractual agreement with the County since 1975. The TCFD has 13 fire stations located in the unincorporated area of Tuolumne County and is staffed by approximately 196 firefighters (professionals, volunteers, and students). Fire stations located in the unincorporated area of Tuolumne County, excluding the Mono Village, Jamestown, and Groveland stations, are staffed by volunteer firefighters (Tuolumne County 2018c).

The proposed Project area is in the unincorporated area of Tuolumne County and fire protection would be provided by the TCFD. The closest fire stations to the proposed Project site are the Jamestown Station 76, sited approximately 1.75 miles northwest and the Mono Village Station 51 sited approximately 3.9 miles northeast (Tuolumne 2018c).

Emergency and non-emergency medical transport services for Tuolumne County is provided by Tuolumne County Ambulance Service and is staffed by approximately 60 full-time and part-time paramedics and emergency medical technicians (Tuolumne 2018c).

Police Protection Services

Law enforcement services for the proposed Project would be provided by the Tuolumne County Sheriff's Office, which provides law enforcement services to all unincorporated areas of the county. The Tuolumne County Sheriff's Office is staffed by approximately 135 authorized positions, including 63 patrol deputies, 38 adult detention deputies, and 13 dispatchers. The County has one sheriff's station, located at 28 N. Lower Sunset Drive in the City of Sonora, approximately 3.5 miles north from the proposed Project site (Tuolumne 2018c). There are also four community service units/substations in the county: in Jamestown (approximately 1.8 miles northwest), Sonora (3.3 miles northeast), Twain Harte (approximately 10.4 miles northeast), and Groveland (approximately 10.8 miles south) of the proposed Project (TCSO 2024). Tuolumne County is within the California Highway Patrol's Central Division and the California Highway Patrol provides additional traffic enforcement in the county (Tuolumne 2018c).

Public Schools and Libraries

Tuolumne County has 11 school districts that consist of two high school districts, eight elementary school districts, and one unified school district. Jamestown Elementary School is approximately 1.7 miles north of the proposed Project. In addition, four public charter schools are located in Tuolumne County.

Tuolumne County's main library is in Sonora, with branches in Groveland, Tuolumne City, and Twain Harte. The Tuolumne County Library in Sonora is 3.2 miles north of the proposed Project area (Tuolumne 2018c).

Other Public Services

Tuolumne County provides administrative services to business and residents mainly from the County Administration Office located in Sonora. Other public services within Tuolumne County includes Agricultural Commissioner, Animal Control, District Attorney, Child Support, Victim/Witness, Elections, Farm Advisor, Child Welfare Services, Community Resources Agency, Public Health, Behavioral Health, Welfare, Probation, Public Defender, Recreation, and Weights and Measurements (Tuolumne 2018c).

Regulatory

Federal

There are no mandatory federal regulations that govern the provision of local public services.

State

Uniform Fire Code

The Uniform Fire Code includes regulations pertaining to construction, maintenance, and use of buildings. Topics addressed in the Uniform Fire Code include fire department access; fire hydrants, automatic storage and use; provisions intended to protect and assist fire responders; industrial processes; and many other general and specialized fire-safety requirements for new and existing buildings and their surrounding premises. The code contains specialized technical regulations related to fire, property, and life safety.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which include regulations for building standards (as set forth in the CBC); fire protection and notification systems; fire protection devises such as extinguishers and smoke alarms; high-rise building and childcare facility standards; and fire suppression training standards.

Division of Occupational Safety and Health

In accordance with California Code of Regulations, Title 8, Sections 1270, Fire Prevention, and 6773, Fire Protection and Fire Equipment, the Division of Occupational Safety and Health has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials; fire hose sizing requirements; restrictions on the use of compressed air; access roads; and the testing, maintenance, and use of all firefighting and emergency medical equipment.

Essential Services Building Seismic Safety Act

The Essential Services Building Seismic Safety Act of 1986 (California Health and Safety Code, Sections 16000–16022) applies to fire stations, police stations, and other public facilities that respond to emergencies. This law is intended to ensure that essential-services buildings can continue to serve the public after a disaster and are designed and constructed to minimize fire hazards. In addition, these buildings and the nonstructural components vital to their operation must be able to resist, insofar as practical, the forces created by earthquakes, gravity, fire, and wind.

Emergency Response/Evacuation Plans

In 2008, Governor Schwarzenegger signed AB 38, the California Emergency Services Act, which merged the duties, powers, purposes, and responsibilities of the Governor's Office of Emergency Services and the Governor's Office of Homeland Security into a new cabinet-level agency called the California Emergency Management Agency (Cal EMA). The legislation authorizes Cal EMA to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the state withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster. Cal EMA serves as the lead state agency for emergency management and coordinates the state response to major emergencies in support of local government. The primary responsibility for emergency management resides with local government. SEMS provides the mechanism by which local government requests assistance from Cal EMA, and as such, Cal EMA maintains oversight of the state's mutual aid system. Cal EMA may task state agencies to perform work outside their day-to-day and statutory responsibilities and serves as the lead agency for obtaining federal resources.

Local

Tuolumne County Emergency Response Plan

The 2018 Multi-Jurisdictional HMP for Tuolumne County establishes the emergency organization, assigns tasks, specifies policies, and general procedures, and provides for coordination of planning efforts of the various emergency staff and service elements utilizing the National Incident Management System and the SEMS (Tuolumne County 2018d).

TCFD 2021-2025 Strategic Plan

The foundation of the TCFD's Strategic Plan is based on strategic goals designed to meet the challenges associated with providing an emergency response delivery system that not only makes up for current deficiencies but also evolves to meet changes in its demographics, society, economy, and climate (TCFD 2020). The following goals were identified:

- Stabilize funding to maintain an appropriate level of service
- Increase operational efficiency
- Provide exceptional public safety and emergency service
- Strengthen community relationships and enhance community resilience

Tuolumne County General Plan

The Tuolumne County General Plan contains the following policies and implementation programs applicable to public services (Tuolumne County 2018a).

Public Safety Element

Fire and Emergency Services Policies

Policy 9.A.4: Actively supports efforts to maintain and improve Federal and State fire service capabilities.

Policy 9.C.3: Periodically review emergency medical services to maintain an acceptable level of service as the County population changes.

Policy 9.E.2: Maintain adopted levels of fire protection service.

Policy 9.F.1: Support and implement the Tuolumne County Fire Department Service Level Stabilization Plan.

Policy 9.F.2: Construct new fire protection facilities as needed within the jurisdiction of the Tuolumne County Fire Department/CAL FIRE in order to maintain the desired Insurance Services Office (ISO) ratings.

Law Enforcement Policies

Policy 9.D.2: Provide law enforcement, such as patrol, investigation, supervision, administration, clerical support, dispatch, coroner, crime laboratory, prosecution, probation, and jail services within the unincorporated area of Tuolumne County and assure that the established level of service is maintained and maintain this level.

Policy 9.D.3: Assure that the established level of service in the criminal justice system is maintained.

Policy 9.D.4: Require new development to be designed so as to discourage criminal activity.

Education and Libraries Element

Public School Policies

Policy 12.A.1: Encourage school facilities planning and site acquisition to be coordinated between school districts and Tuolumne County in order to provide public schools that are physically and functionally integrated with their communities.

Policy 12.C.1: Maintain a goal through the Capital Improvements Program (CIP) for levels of library services throughout Tuolumne County equivalent to 325 square feet of gross floor area of adequately equipped and staffed library facilities per 1,000 population, exclusive of the Sierra Conservation Center.

Discussion

a.i-v) **No Impact**. As discussed in the Environmental Setting, there are numerous public services facilities surrounding the proposed Project area and no additional housing or increase of population would occur as a result of the proposed Project's implementation.

As discussed in Section 1.2, *Project Location*, under existing conditions, the existing recycled pipeline alignment generally follows unimproved ranch roads through grazing land for irrigation purposes on pasture lands. More specifically, the proposed Project would include the construction and operation of several thousand feet of new recycled water pipeline from TUD's existing recycled water pipeline in the West property and routed over Sullivan Creek and routed underground to the Teleli Golf Course for storage and irrigation purposes. The proposed Project represents no change in land use and is not anticipated to draw increased demand for additional public services.

The proposed Project would enable TUD to efficiently dispose of all its recycled water over the course of the year. In singular wet, and especially successive wet years, irrigation demands are low and TUD has not be able to empty the Quartz Reservoir before the beginning of the rainy season. TEDA would benefit from receiving recycled water because the proposed Project reduces raw water costs and diversifies their water supply portfolio while increasing water supply reliability and improving resiliency during droughts. The proposed Project would not include any housing or otherwise result in the need for new government facilities or altered government facilities, i.e. schools or libraries. Furthermore, the proposed Project would not result in any significantly increased demand for additional public services that would require new or altered facilities, including fire and police protection.

As discussed in Section 3.17, *Transportation*, the proposed Project is not anticipated to permanently alter conditions for emergency response. There would be no adverse impact to public service response times or performance objectives attributable to the construction or operation of the proposed Project. Therefore, because the proposed Project would not include changes that would result in the need for any new public service facilities such as construction of new schools, parks, or fire stations, nor effect response times or otherwise impact public services, there would be **no impact**.

References

TCFD (Tuolumne County Fire Department). 2020. *CAL FIRE/Tuolumne County Fire Department 2021–2025 Strategic Plan.* Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/24906/TCFD-2021-2025-STRATEGIC-PLAN-signed. Accessed November 5, 2024.

TCSO (Tuolumne County Sheriff Office). 2024. Community Service Unit. Available: https://www.tuolumnecounty.ca.gov/347/Community-Service-Unit. Accessed November 5, 2024.

Tuolumne County. 2018a. *Tuolumne County General Plan Volume 1 General Plan Policy Document*. Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/11266/Vol-I-Goals-Policies-Programs. Accessed November 4, 2024.

———. 2018b. *Tuolumne County General Plan Volume 2 Technical Background Report.* Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/11753/Vol-II-TBR--Final. Accessed November 4, 2024.

———. 2018c. *Tuolumne County General Plan Update Recirculated Draft Environmental Impact Report*. Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/11308/Tuolumne-County-GPU-Recirculated-DEIR-full-report. Accessed November 4, 2024.

———. 2018d. *Tuolumne County Multi-Jurisdictional Hazard Mitigation Plan, Volume 1: Countywide Elements.* Available: https://tuolumnecounty.ca.gov/DocumentCenter/View/8045/Tuolumne LHMP2018. Accessed November 5, 2024.

3.16 Recreation

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

Environmental Setting

Tuolumne County contains a wide variety of recreational opportunities for the public including Yosemite National Park, Stanislaus National Forest, state parks, Don Pedro Lake and Blue Oaks Recreation Area, and community-based recreation and parks districts. Recreational activities in Tuolumne County include swimming, hunting, fishing, birdwatching, camping, hiking, picnicking, sports, boating, and other outdoor activities. Other recreational attractions include golf courses, gourmet restaurants, two state historic parks, bed-and-breakfasts, train rides, wineries, a casino, five museums, historic hotels, and live theater (Tuolumne County 2018b).

The existing pipeline alignment generally follows unimproved ranch roads through grazing land. The proposed recycled water pipeline would extend from TUD's existing recycled water pipeline turnout and extend underground to a second connection, continuing underground and crossing over Sullivan Creek via pipe bridge and continuing along the existing access roads, terminating at Storage Pond 1 downgradient of the Teleli Golf Course. The proposed Project site is approximately 1.75 miles south of the community of Jamestown in unincorporated Tuolumne County. Recreational facilities within the local community include the Railtown 1897 State Historic Park approximately 1.4 miles to the northwest, Rocca Park approximately 1.8 miles northwest, Mother Lode Fairgrounds located approximately 3.2 miles to the north, and the Table Mountain Trail located approximately 3 miles west of the proposed Project site.

Regulatory Setting

Federal

There are no federal regulations pertaining to recreation that are applicable to the proposed Project.

State

There are no state regulations pertaining to recreation that are applicable to the proposed Project.

Local

Tuolumne County General Plan

While there are goals and policies included in the Tuolumne County General Plan, they are not included here because they do not apply to recreation analysis for the proposed Project (Tuolumne County 2018a).

Discussion

a, b) **No Impact.** As discussed above, the proposed Project is in an unincorporated area of Tuolumne County and generally follows unimproved ranch roads through grazing land. The proposed Project site is not within an area typically used for recreational purposes the pipeline would terminate at Pond 1 just outside of the Teleli Golf Course. The proposed Project would not result in new residential development, population growth or increase the need for or use of any existing neighborhoods or regional parks or cause the need for expansion of recreational facilities. Therefore, implementation of the proposed Project would not result in a substantial increase in the use of existing recreational facilities, compared to existing conditions and there would be **no impact.**

References

Tuolumne County. 2018a. *Tuolumne County General Plan Volume 1 General Plan Policy Document*. Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/11266/Vol-I-Goals-Policies-Programs. Accessed November 4, 2024.

———. 2018b. *Tuolumne County General Plan Volume 2 Technical Background Report.* Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/11753/Vol-II-TBR--Final. Accessed November 4, 2024.

3.17 Transportation

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

Environmental Setting

Roadway Network

State Route 49

SR 49 is a state highway that traverses the eastern portion of northern California from Madera County to Plumas County and extends through the western portion of Tuolumne County (County). SR 49 runs concurrent with SR 120 between the communities of Moccasin and Chinese Camp and runs concurrent with SR 108 through Jamestown. SR 49 runs directly through the City of Sonora and serves as the main street through the northern half of the city. SR 49 is generally a two-lane highway through the County.

SR 49 is eligible for Scenic Highway designation but has not been officially designated as a State Scenic Highway. A portion of SR 49 is identified as a scenic route[11] from the Mariposa County line to SR 120 near Moccasin Creek and from SR 120 to Chinese Camp at Calaveras County line. Tuolumne County has designated SR 49 as an "Other Principal Arterial (Functional Class Code 3)", which is a designation intended to serve major centers of metropolitan areas, provide a high degree of mobility, and provide mobility through rural areas (Tuolumne County 2018). SR 49 is approximately 2 miles north of the proposed Project area.

State Route 108

SR 108 is a state highway that runs northeast from the City of Modesto in the California Central Valley to U.S. 395 in Mono County and runs concurrent with SR 49 and SR 120 near Jamestown and the City of Sonora in the County. Throughout the County, SR 108 is generally a two-lane highway, with four-lane divided segments.

SR 108 is eligible for Scenic Highway designation but has not been officially designated as a State Scenic Highway. A portion of SR 108 is identified as a scenic route in the Tuolumne County General Plan (General Plan) from Route 49 easterly into Mono County (Tuolumne County 2018). Tuolumne County has also designated SR 108 as an Other Principal Arterial (Functional Class Code 3) (Tuolumne County, 2018). SR 108 is approximately 2 miles north of the proposed Project area.

[11] As defined in the Circulation Element of the General Plan, a scenic route is one which traverses an area of outstanding scenic quality.

Lime Kiln Road

According to the General Plan, Lime Kiln Road is designated as a "Major Collector (Functional Class Code 5)[12]" from SR 108 to Camp Seco Road and a "Minor Collector (Functional Class Code 6)[13]" from Camp Seco Road to Algerine Road (Tuolumne County 2018). proposed Project activities would potentially use Lime Kiln Road to connect to either Championship Drive or Algerine Road to access the proposed Project area.

Championship Drive

Championship Drive, which would be the primary roadway used to access the proposed Project area via Lime Kiln Road during Phase 2 (Sullivan Creek to Pond 1), is designated as a "Local Road (Functional Class Code)" and is intended to provide direct access to residential property and other areas which are not directly served by the collector or arterial system (Tuolumne County 2018).

Algerine Road

Algerine Road is designated as a "Major Collector (Functional Class Code 5)" from Jacksonville Road to Stent Cutoff Road and a "Minor Collector (Functional Class Code 6)" from Stent Cutoff Road to Lime Kiln Road (Tuolumne County 2018). Algerine Road would be the primary roadway used to access the proposed Project area during Phase 1 (West Property to Sullivan Creek).

Public Transit

There are no public transit services, including bus and rail, in the vicinity of the proposed Project area. The nearest public transit services are located approximately 2.5 miles northwest and north within the communities of Jamestown and the City of Sonora, respectively.

Bicycle and Pedestrian Facilities

There are no bicycle or pedestrian facilities in the vicinity of the proposed Project area.

Regulatory Setting

Federal

There are no federal regulations related to transportation that would be applicable to the proposed Project.

State

California Department of Transportation

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the highways. Designation as a scenic highway is determined by views of the natural landscape, scenic quality, and the extent of visual intrusion. The proposed Project area is not located in the vicinity of a state designated scenic highway.

[12] Major Collector (Functional Class Code 5) function as corridors for through traffic within local areas providing service to towns and other major traffic generators within the County. They also serve to link minor collectors and local access roads with nearby towns and communities or the arterial system (Tuolumne County 2018).

[13] Minor Collector (Functional Class Code 6) generally serve lower density areas and, therefore, do not have the traffic volume that major collectors do. Minor collector roads often serve to funnel traffic from groups of local roads onto the major collectors and arterial routes.

Senate Bill 743 and CEQA Guidelines Section 15064.3

SB 743, enacted by the California Legislature and signed into law in the fall of 2013, initiated a significant change in the way that transportation impacts are measured under CEQA. The requirements of SB 743 resulted in the addition of Section 15064.3 to the CEQA Guidelines, which calls for evaluation of a project's transportation impacts in terms of vehicular miles traveled. Vehicular miles traveled is a measure of the total number of miles (distance) traveled by vehicle trips associated with a project and is sometimes expressed as an average per trip or per person.

In accordance with SB 743, CEQA Guidelines Section 15064.3(b) indicates that vehicle miles traveled is the most appropriate measure for identifying transportation impacts. In December 2018, the Governor's Office of Planning and Research updated the Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) (OPR 2018), to provide guidance on evaluating transportation impacts under CEQA. The thresholds set forth in the updated technical advisory may be used if a county has not yet adopted vehicular miles traveled screening criteria.

Local

Tuolumne County General Plan

On January 3, 2019, the Tuolumne County Board of Supervisors adopted the 2018 General Plan Update and EIR. The General Plan provides policies regarding circulation and development within the county (Tuolumne County 2018). The following goals and policies related to transportation would be applicable to the proposed Project.

> **Goal 4a:** Preserve the County's substantial investment in the existing road system and provide for the long-range planning and development of the County's transportation system for the safe and efficient movement of people and goods.
>
> > ***Policy 4.A.1:*** Support and work with the Tuolumne County Transportation Council (TCTC) to regularly conduct assessments of the status of the highway system to determine the current level of needs in the system, and report those needs to the Board of Supervisors. (formerly 2.A.2)
> >
> > > *Implementation Program 4.A.a:* Plan, design and regulate roadways in accordance with the following functional classification system and designations which are reflected in the County's Regional Transportation Plan, and are shown on the Master Plan of Streets and Highways in Chapter 4 of the General Plan Technical Background Report:
> > >
> > > - Other Freeways and Expressways (Functional Class Code 2)
> > > - Other Principal Arterial (Functional Class Code 3)
> > > - Minor Arterial (Functional Class Code 4)
> > > - Major Collector (Functional Class Code 5)
> > > - Minor Collector (Functional Class Code 6)
> > > - Local Road (Functional Class Code 7)
> > > - Scenic Routes
> > > - Urban Streets
> > >
> > > *Implementation Program 4.A.b:* Develop and manage the County's roadway system to maintain the following minimum levels of service (LOS) using methodology adopted by the Tuolumne County Transportation Council:

Arterials, Minor Collectors, Major Collectors, Urban Streets	LOS D, unless an exception is made
Local Roads	LOS C
Minimum Peak Hour for all Intersections	LOS D

Policy 4.A.5: Consider the traffic impacts of development in relation to General Plan growth policies and require new development to provide mitigation for its fair share of impacts to the County's transportation system. Assess the needs of street and road users regularly through the land development application review process. (formerly 2.A.1)

Implementation Program 4.A.p: Evaluate and analyze the traffic impacts of proposed land uses in relation to stated goals and objectives of the General Plan since growth policies regarding land use decisions directly affect the existing and future transportation system. (formerly 2.A.4)

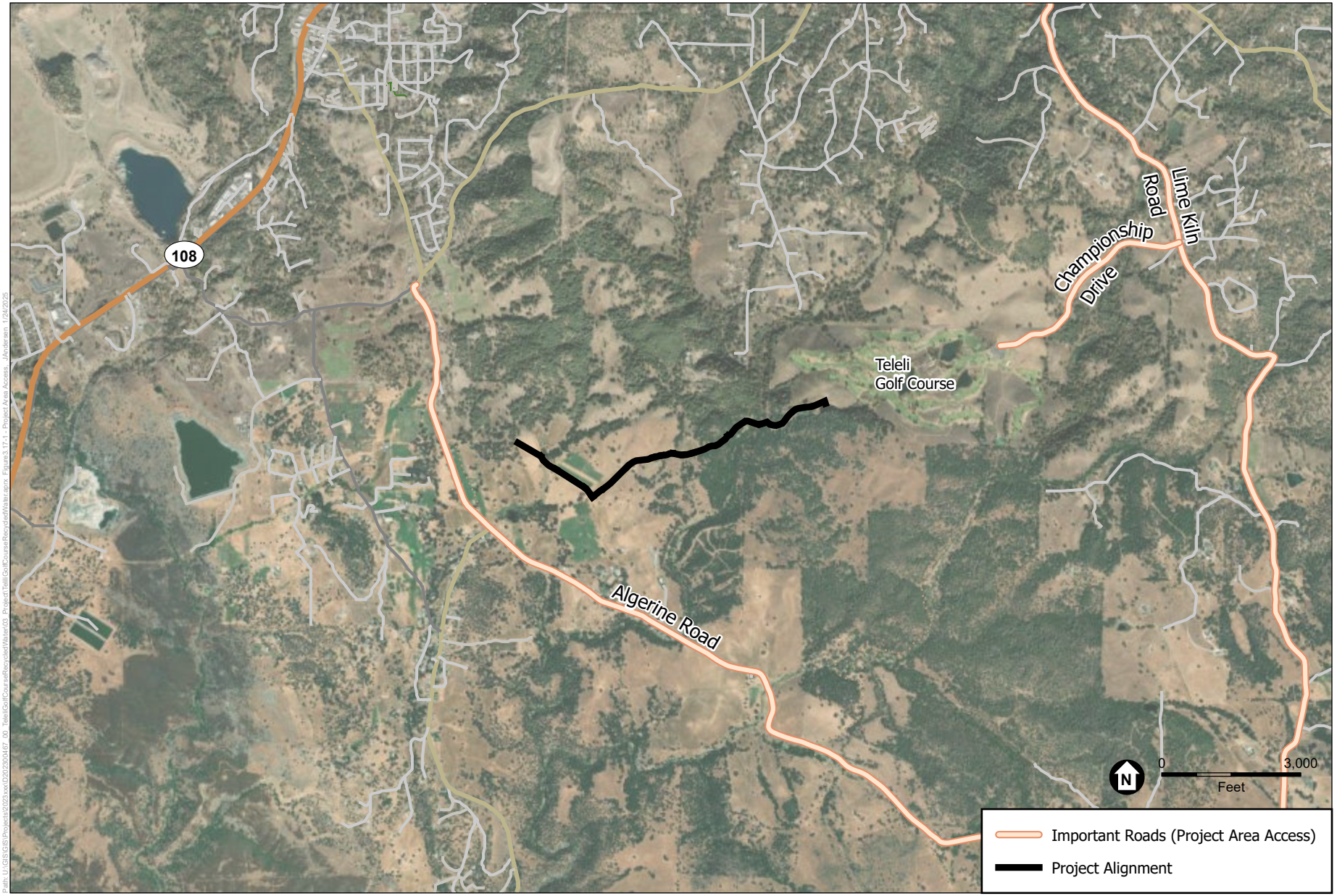
Implementation Program 4.A.q: Evaluate the impacts of new development on the County's transportation system and require such development to provide mitigation for its fair share of the impact. New development that is determined by the County to create or exacerbate an identified deficiency in the transportation system may not be approved if a plan and funding program to provide needed roadway improvements have not been approved and if the mitigation provided by the development will not correct the deficiency or if it will create an additional burden on County transportation funds. This implementation program shall not apply to new development for which the County makes a finding of overriding considerations for traffic impacts related to the new development in accordance with the California Environmental Quality Act. (formerly 2.A.r and 2.A.p)

Implementation Program 4.A.r: Consider implementing an alternative to LOS for evaluating transportation impacts, such as vehicles miles traveled, as described in the CEQA Guidelines.

Discussion

a) **No Impact.** ***Construction and Operation***. During construction, the proposed Project would include vehicle trips associated with the transportation of construction equipment, materials, and personnel, to and from the proposed Project area. Access to the proposed Project area would be available using local roadways, as described above. Construction traffic would be temporary, limited to the 3-month duration of construction, and would occur from 7 a.m. to 7 p.m. with no work on Sundays or holidays (see **Figure 3.17-1**).

Construction of the proposed Project, which would involve installation of a new recycled water pipeline, is not anticipated to require any roadway closures nor procurement of encroachment permit(s). Pipeline installation will be along unimproved or gravel roads that provide access to the golf course and surrounding undeveloped and ranch land areas. There are connecting alternate rural roads and access routes available within the proposed Project area that will be open during construction of the proposed Project. The proposed Project would not involve any new or modified land uses that would generate long-term vehicle trips or other features that may affect the local or regional transportation system. Construction of the proposed Project would temporarily increase local roadway traffic due to the transport and delivery of construction equipment and materials, as well as daily worker trips.



SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 3.17-1
Project Area Access

ESA

Once the proposed Project is in operation, it is anticipated that operation and maintenance would be similar to existing conditions and would continue to accommodate the same number of workers as the existing facility.

Based on the information provided, the proposed Project would only temporarily increase traffic during construction. In the long term, the proposed Project would operate in a similar manner to existing conditions and would be anticipated to continue to comply with existing programs, plans, ordinances, and policies related to transportation. Therefore, the proposed Project would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and there would be no impact.

b) **No Impact.** ***Construction***. The standards set forth instructs to address a project's additional permanent automobile trips or vehicle miles traveled (i.e., project operations) in lieu of an existing model or method. Because proposed Project construction would be temporary (i.e., not permanent), construction activities do not necessitate analysis under CEQA Guidelines Section 15064.3(b). Therefore, proposed Project construction would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and there would be no impact.

Operation and Maintenance. Once the proposed Project is in operation, it is anticipated that operation and maintenance would be similar to existing conditions and would continue to accommodate the same number of workers as the existing facility. Therefore, proposed Project operation would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and there would be no impact.

c) **No Impact.** ***Construction and Operation***. The proposed Project proposes installing an approximately 2-mile pipeline that generally follows unimproved ranch road through grazing land, as well as construction of an elevated crossing over Sullivan Creek and continues underground to Storage Pond 1 for storage prior to irrigation on the Teleli Golf Course. The recycled water pipeline is not anticipated to cross any public infrastructure. Based on this information, the proposed Project would not introduce any new improvements to the transportation system including roadways, bicycle, pedestrian, or transit facilities that would have the potential to introduce hazardous conditions

The proposed Project would also not introduce an incompatible land use to the proposed Project area. The proposed Project would improve the operation of existing facilities and does not propose changes to the type of land use that would occur on the site. For this reason, proposed Project construction and operation would not have any impact related to an increase of hazard due to a geometric design feature or incompatible use, and the would be no impact.

d) **Less-than-Significant Impact.** ***Construction and Operation***. Construction or operation of the proposed Project would not require lane closures and would not change the configuration of the proposed Project area's roadway network. While slow-moving construction-related vehicles could have the potential to slow traffic and create congestion that can temporarily interfere with emergency response, the transportation infrastructure surrounding the proposed Project area provides numerous entry/exit points. Further, all vehicles are required by law to yield to

responding emergency vehicles. For these reasons, proposed Project operation and maintenance would have a less-than-significant impact related to adequate emergency access.

References

Tuolumne County. 2018. *2018 Tuolumne County General Plan*. Available: https://www.tuolumnecounty.ca.gov/DocumentCenter/View/11752/Vol-I-Goals-Policies-Policies-Final. Accessed November 19, 2024.

3.18 Tribal Cultural Resources

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

Environmental Setting

The cultural, archaeological, and historical research and resources related to the proposed Project area are discussed in Section 3.5, *Cultural Resources* and expanded upon in this section in relation to tribal cultural resource sensitivity and management actions. The proposed Project is as a joint venture between TUD and TEDA. ESA archaeologists conducted the cultural resources study for the proposed Project, entailing archival research, correspondence with the California Native American Heritage Commission, and field survey of the entire proposed Project area. Correspondence with the Native American Heritage Commission included a request on October 2, 2024, for a search of the Sacred Lands File. The Native American Heritage Commission responded on October 15, 2024, stating that the results of the search were negative and thereby indicating that no known tribal cultural resources are present in the vicinity of the proposed Project.

Regulatory Setting

Federal

There are no federal regulations related to tribal cultural resources.

State

Impacts to tribal cultural resources are considered under the CEQA (PRC Section 21084.2). Section 21074(a) defines a tribal cultural resource as any of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
  - included or determined to be eligible for inclusion in the California Register; or
  - included in a local register of historical resources, as defined in PRC Section 5020.1(k).

- 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. In applying these criteria, the lead agency would consider the significance of the resource to a California Native American tribe.

Per PRC Section 21074(a)(c), a historical resource, unique archaeological resource, or non-unique archaeological resource may also be a tribal cultural resource if it is included or determined eligible for the California Register or included in a local register of historical resources.

Local

There are no local regulations related to tribal cultural resources.

Discussion

a.i/ii.) **Less than significant with mitigation incorporated.** Tribal cultural resources are: (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing, in the California Register, or local register of historical resources, as defined in PRC Section 5020.1(k); or (2) a resource determined by the CEQA lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). For a cultural landscape to be considered a tribal cultural resource, it must be geographically defined in terms of the size and scope of the landscape (PRC Section 21074[b]). A historical resource, as defined in PRC Section 21084.1, a unique archaeological resource, as defined in PRC Section 21083.2(g), or a non-unique archaeological resource, as defined in PRC Section 21083.2(h), may also be a tribal cultural resource.

Through background research at the CCIC of the California Historical Resources Information System, supplemental archival research, a query of the Native American Heritage Commission's Sacred Lands File, and field survey, no known archaeological resources that could be considered tribal cultural resources, that are listed or determined eligible for listing in the California Register, or that are included in a local register of historical resources as defined in PRC Section 5020.1(k), pursuant to PRC Section 21074(a)(1), would be impacted by the proposed Project.

No artifacts or other evidence of human burials or pre-contact human use or occupation has been identified within the proposed Project area, but one pre-contact milling station and one pre-contact lithic scatter have been documented in vicinity. Despite the proposed Project's proximity to areas of elevated sensitivity for the presence of pre-contact archaeological resources, given the environmental context and negative survey results there is a relatively low potential for the unanticipated discovery of pre-contact archaeological resources that may also qualify as tribal cultural resources during the proposed Project's ground-disturbing activities. While unlikely, archaeological resources that may also be considered tribal cultural resources may be identified during ground disturbing activities. Impacts to such resources would be potentially significant but would be reduced to a **less-than-significant** level by implementation of **Mitigation Measure CUL-1**, **CUL-2**, and **CUL-3**, as outlined in Section 3.5, *Cultural Resources*.

References

CCIC (Central California Information Center). 2024. Records Search File No. File No. 13072O. On file, ESA, October 9, 2024.

3.19 Utilities and Service Systems

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

Environmental Setting

Water and Wastewater

As discussed in Chapter 2, *Project Description*, TUD provides water and wastewater services to approximately 44,000 customers in Tuolumne County, California. TUD is the largest single water provider in Tuolumne County, with approximately 14,000 water service connections and approximately 1.4 billion gallons of treated drinking water delivered each year (TUD 2024a). Treated drinking water is provided to customers through a series of surface water treatment plants, wells, storage reservoirs, transmission and distribution canals and pipelines throughout TUD's service area.

TUD's sewer and wastewater system serves over 13,700 single family equivalent sewer connections and treats 1.2 million gallons of sewage daily at the regional wastewater treatment plant located in Sonora. TUD utilizes approximately 140 miles of pipeline to collect between 400-500 million gallons of sewage per year (TUD 2024b). TUD's Sonora Regional Wastewater Treatment Facility is regulated under waste discharge requirements r5-2024-0016. The Regional Reclamation System is regulated under a Master Reclamation Permit r5-2002-0202.

Solid Waste

Solid waste generated during construction of the proposed Project would likely be disposed of at the Cal Sierra Transfer Station (SWIS Permit No. 55-AA-0010), located at 19309 Industrial Drive in Sonora. The Cal Sierra Transfer Station is 6.2 acres, accepts non-hazardous waste, and has a maximum permitted capacity of 376 tons per day (CalRecycle 2019). Operation of the proposed Project would not generate additional waste.

Other Utilities

Electric service in Tuolumne County is provided by PG&E. There is no natural gas consumption in Tuolumne County; however, there is propane consumption (Tuolumne County 2018). AT&T Wireless and Verizon Wireless provide cell phone coverage in Tuolumne County, while Xfinity, Verizon, and T-Mobile provide internet connection (CableTV 2024).

Regulatory

State

2016 California Green Building Standards Code

The provisions of the 2016 California Green Building Standards Code apply to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure, unless otherwise indicated in the code, throughout the state of California. Section 5.408, Construction Waste Reduction, Disposal, and Recycling, of the 2016 California Green Building Standards Code requires nonresidential development to meet a local construction and demolition waste management ordinance or recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with one of the following:

- **Construction waste management plan.** The construction waste management plan must identify the construction and demolition waste materials to be diverted and how they will be sorted, the amount of construction and demolition waste materials diverted (calculated by weight or volume), and diversion facilities where construction and demolition waste materials will be taken.
- **Waste management company.** A waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section may be utilized.
- **Waste stream reduction alternative.** The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65 percent minimum requirement as approved by the enforcing agency.

California Integrated Waste Management Act—Waste Diversion

The California Integrated Waste Management Act of 1989,[14] enacted through AB 939 and modified by subsequent legislation, requires all California cities and counties to implement programs to divert at least 50 percent of all solid waste generated by the year 2000 and establishes the goal of diverting at least 75 percent of generated waste (based on per capita disposal rates) by 2020. A jurisdiction's diversion rate is the percentage of its total waste that it diverts from disposal through reduction, reuse, recycling, and composting programs. The law requires all California counties in coordination with their respective cities to develop and implement integrated waste management plans. As part of their integrated waste management plans, counties must ensure that a minimum of 15 years of disposal capacity is available to serve the county and its cities. Since 2007, the achievement of waste diversion rates has been measured based on per capita disposal rates, expressed in pounds per person per day of waste disposed of in landfills.

California Public Utilities Commission

The CPUC was established in 1911 as the Railroad Commission and was expanded in 1912 to regulate privately-owned electric, natural gas, telecommunications, water, railroad, and marine transportation

[14] California PRC Division 30, Sections 40000-49620.

companies. The CPUC's mission is to ensure that consumers receive safe and reliable utility services at reasonable rates, protect against fraud, and promote the health of California's economy (CPUC 2020).

California Independent System Operator

The California Independent System Operator was established in 1998 and is a non-profit organization that independently manages the flow of electricity in California. It provides open access to the grid, ensuring equal access and a competitive energy market. In addition, it facilitates over 28,000 market transactions each day to ensure that enough power is available to meet demands.

Utility Notification Requirements

The regulations in Title 8 CCR Section 1541 require excavators to determine the approximate locations of subsurface installations, such as sewer, telephone, fuel, electric, and water lines (or any other subsurface installations that may reasonably be encountered during excavation work) prior to opening an excavation. The California Government Code (Sections 4216 *et seq*.) requires owners and operators of underground utilities to become members of and participate in a regional notification center. According to Section 4216.1, operators of subsurface installations who are members of, participate in, and share in the costs of a regional notification center, such as Underground Services Alert of Southern California, more commonly referred to as DigAlert, are in compliance with this section of the code. DigAlert receives planned excavation reports from public and private excavators and transmits those reports to all participating members that may have underground facilities at the location of excavation. Members will mark or stake their facilities, provide information, or give clearance to dig.

Local

Tuolumne-Stanislaus Integrated Regional Water Management Authority—Tuolumne-Stanislaus Integrated Regional Water Management Plan

The Tuolumne-Stanislaus Integrated Regional Water Management Authority's Tuolumne-Stanislaus Integrated Regional Water Management Plan defines a clear vision for water resources management in the Tuolumne-Stanislaus Region (Region) and highlights important actions needed to help accomplish that vision through the year 2035. The Integrated Regional Water Management Plan provides a framework to improve collective understanding and take high-priority actions to collaboratively address the many major water-related challenges/needs and conflicts, such as water quality, local water supply reliability, better integration of water and land use management, resource stewardship and ecosystem protection. The array of goals, objectives, selected resource management strategies, and prioritized projects in the Integrated Regional Water Management Plan represent a collective view of how to improve integrated water management throughout the Region (TSTAN 2017).

Tuolumne County General Plan

The following goals and policies from Chapter 3, Utilities, of the 2018 Tuolumne County General Plan (Tuolumne County 2018) are applicable to the proposed Project:

> **Goal 3C:** Encourage consolidation of existing small water systems and discourage the creation of new ones.
>
> > ***Policy 3.C.1:*** Support the consolidation of water purveyors in the County to facilitate improvements to the infrastructure and consistency of water quality of the systems.

Policy 3.C.2: Consider the undesirability of proliferation of small water systems, as defined in the California Health and Safety Code, during the development review process.

Goal 3F: Maintain opportunities for residents and businesses to efficiently recycle or dispose of waste products.

Policy 3.F.1: Require proposed solid waste facilities and all other new development to comply with the Tuolumne County Integrated Waste Management Plan and all adopted elements thereof.

Local Enforcement Agency

The Local Enforcement Agency program operates under the authority of the CalRecycle and is responsible for ensuring the solid waste generated within Tuolumne County is transported, handled, processed, and disposed of using methods which will not create environmental, health, safety, or nuisance conditions (Tuolumne County 2020).

The Local Enforcement Agency program activities include:

- Composting and transfer facilities;
- Inspecting landfills, transfer stations, composting facilities, and refuse collection vehicles and yards;
- Investigating complaints and mitigating problems associated with illegal dumping, disposal, or storage of solid wastes;
- Monitoring disposal facilities to exclude hazardous wastes, medical wastes or liquid wastes;
- Permitting solid waste disposal; and
- Providing information to the public and industry regarding the proper disposal of solid wastes (including asbestos) (Tuolumne County, 2020).

Discussion

a) **Less-than-Significant Impact.** The purpose of the proposed Project is to provide recycled water generated by TUD to the Teleli Golf Course owned by the Tribe and operated by TEDA, in accordance with an agreement between TUD and TEDA dated April 23, 2019. The proposed Project will provide a consistent supply of recycled water that meets 22 CCR Section 60301.220 for disinfected secondary-2.2 recycled water for golf course irrigation. Phase 1 consists of installing approximately 2,050 linear feet of new 10-inch HDPE pipeline from TUD's existing 10-inch asbestos cement recycled through pasture lands and along existing ranch roads to an existing turnout at APN 059-160-08 and installing another 4,000 linear feet of eight-inch HDPE pipeline underground to a second connection near Sullivan Creek (APN 059-070-80). Phase 2 involves continuing underground and crossing over Sullivan Creek, continuing along the existing access roads up to Storage Pond 1 and prior to irrigation purposes.

Construction of the proposed Project would require minimal water usage for dust suppression, compaction and revegetation purposes, etc. No buildings or other structures would need to be demolished because of the proposed Project. Construction of the proposed Project would occur along existing rural roads or access roads and would not result in the temporary or permanent relocation of any existing utilities. Sewage and wastewater produced on site during construction would be minimal and would be limited to on-site portable sanitary waste facilities (port-a-potty)

and transported off-site for treatment and disposal. While stormwater drainage would be temporarily altered during construction, the proposed Project area would be restored to pre-construction conditions upon construction completion. Furthermore, the proposed Project construction activity would be subject to the CGP and its required SWPPP, which include BMPs to manage stormwater on-site.

Operation of the proposed Project would therefore not require additional water and would reduce existing demand for raw water at the Teleli Golf Course. The proposed Project would not result in an increase in population and thus would not create further demand for water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities; nor would the proposed construction activities require relocation of any of these services. Therefore, impacts would be **less than significant**.

b) **Less-than-Significant Impact.** During construction, the proposed Project would require the use of water intermittently during the 3-month construction period for activities such as dust control, compaction, and other construction-related purposes. The increase in water use would be temporary, ending when construction is complete.

As discussed in Section 1.3 *Project Background*, TUD has historically struggled to dispose of all its recycled water over the course of the year. In singular wet, and especially successive wet years, irrigation demands are low and TUD has not been able to empty the Quartz Reservoir before the beginning of the rainy season. TUD has sought to acquire property in fee-title that can be irrigated with recycled water and dedicated to annual disposal of recycled water. The Teleli Golf Course has been identified as an ideal candidate to receive recycled water because there is an established annual irrigation demand, a functional irrigation system, is adjacent to land already irrigated by recycled water, and competent staff that operate the system. Operation of the proposed Project would not require any additional water, as the purpose of the proposed Project is to provide recycled water generated by TUD to the Teleli Golf Course owned by the Tribe and operated by TEDA, in accordance with an agreement between TUD and TEDA dated April 23, 2019. The proposed Project will provide a consistent supply of recycled water that meets 22 CCR Section 60301.220 for disinfected secondary-2.2 recycled water for golf course irrigation. TEDA would benefit from receiving recycled water because the proposed Project reduces raw water costs and diversifies their water supply portfolio while increasing water supply reliability and improving resiliency during droughts. The proposed Project would not require additional water supply during operation.

The proposed Project would require minimal water during the twelve-week construction phases, would not require additional water supply during operation, and would diversify the existing water supply at the Teleli Golf Course, reducing overall water demand. For these reasons, the proposed Project would have sufficient water supplies available to serve the needs of the proposed Project and reasonably foreseeable future development during normal, dry, and multiple dry years, and the impact would be **less than significant**.

c) **No Impact.** As indicated above, there is no sewer service on or near the site. Any sanitary waste generated by on-site staff during the construction phases would be handled using portable

facilities and treated at a local wastewater treatment facility and disposed of in accordance with local, state and federal regulations.

Recycled water produced by TUD's Sonora Regional Wastewater Treatment Facility would be used at the Teleli Golf Course for irrigation purposes. The proposed Project would not result in increased wastewater, nor would it result in an increased demand for recycled water. The proposed Project would increase TUD's ability to dispose of recycled water. For these reasons, there would be **no impact** related to a wastewater treatment provider having inadequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments.

d, e) **Less-than-Significant Impact**. Material generated during proposed Project construction would either be balanced as fill on-site. Pipelines would be trenched, installed at three feet deep, bedded in approximately one foot of sand, and then backfilled with native soil and reseeded as appropriate. TUD will reseed trench lines and other disturbed areas outside of roadways with native plant seeds. Other construction waste is anticipated to be disposed of at Cal Sierra Transfer Station. The proposed Project would not generate solid waste during operation.

Solid waste generated by the proposed Project during construction would be disposed of in compliance with all federal, state, and local management and reduction statutes and regulations related to solid waste (described above), including the California Integrated Waste Management Act and Local Enforcement Agency standards. Solid waste generated by proposed Project construction would also comply with relevant goals and policies for Tuolumne County and therefore, would have a **less-than-significant impact** related to compliance with solid waste management and reduction statutes.

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3.20 Wildfire

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

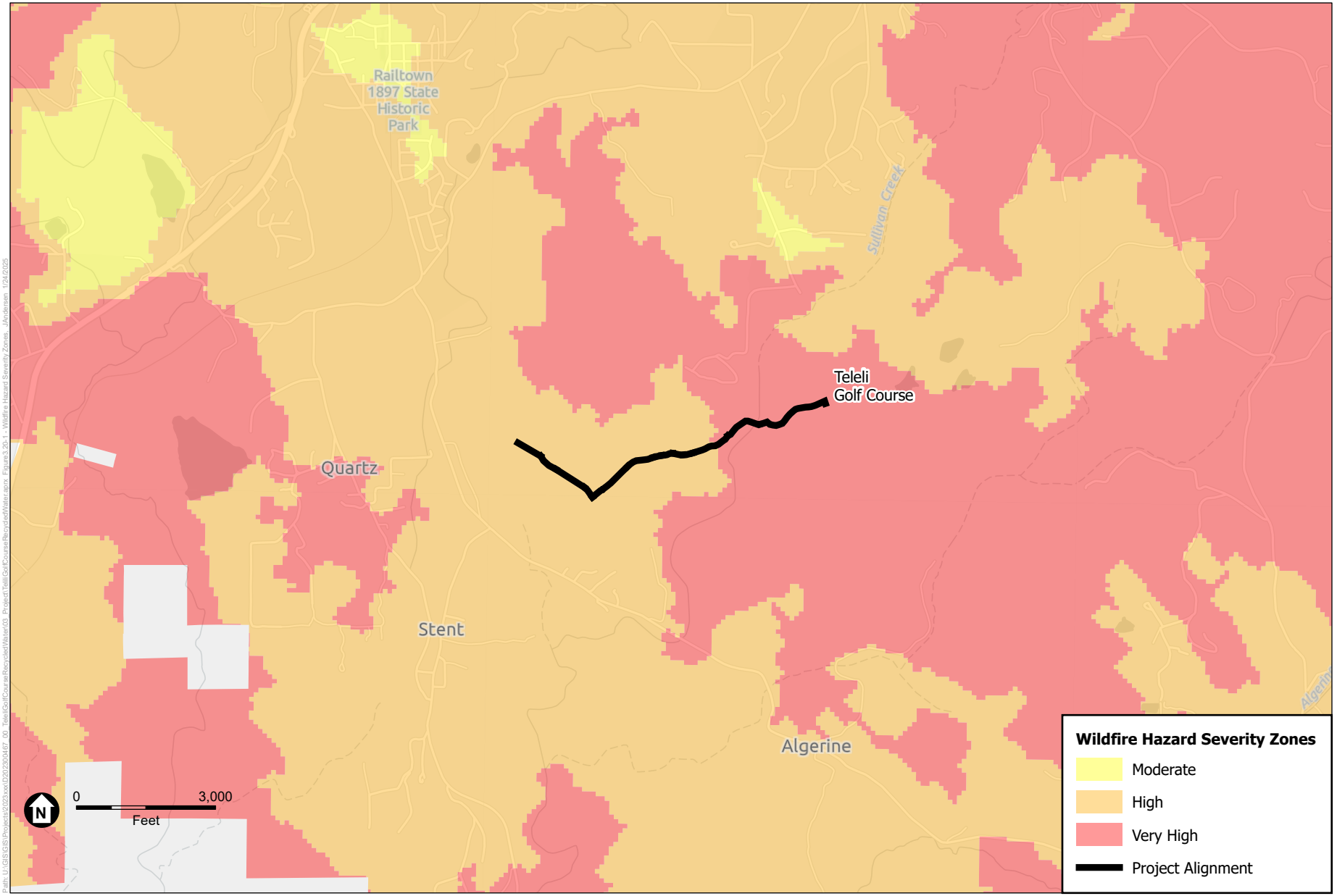
Environmental Setting

The area of Tuolumne County with the greatest wildland fire hazard, based on fuels, weather, and topography, is on the east side of the Highway 49 corridor. A large portion of western Tuolumne County is designated as a State Responsibility Area (SRA).[15] The proposed Project area is located within the SRA and designated by the CAL FIRE as a Very High Fire Hazard Severity Zone (CAL FIRE 2024). No part of the proposed Project area would be located within a Local Responsibility Area. See **Figure 3.20-1**, **Fire Hazard Severity Zones**. Approximately 70 percent of the 2,216 square miles of Tuolumne County lands are federally managed (including the Stanislaus National Forest or Yosemite National Park), and thus fall within a Federal Responsibility Area.

Fire Environment

The proposed Project area is located within an area served by Battalion 5 of the Tuolumne-Calaveras Unit (TCU) (CAL FIRE 2023). Battalion 5's area of responsibility covers approximately 144,218 acres of northern Tuolumne County, from the Stanislaus River to the Tuolumne River. The TCU is located within the Sierra Nevada mountain range and contains a wide range of topography (varying slope and elevation), fuels (vegetation), and weather (seasonally high temperatures and wind). All of these naturally occurring variables influence wildfire risk within the TCU. The TCU commonly experiences high temperatures in the summer and high wind events in the spring and fall. The convergence of significant fire weather conditions, a wide variety of topography, and a broad spectrum of fuels has resulted in a long history of large, damaging fires within the TCU (CAL FIRE 2023).

[15] SRA is a legal term defining the area where the State has financial responsibility for wildland fire protection. Incorporated cities and federal ownership are not included. The prevention and suppression of fires in all areas that are not SRAs are primarily the responsibility of local or federal agencies (CAL FIRE 2007b).



SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 3.20-1
Wildfire Hazard Severity Zones

ESA

Weather and Climate

The typical hot and dry summer weather throughout the Sierra Nevada foothills is ideal for wildland fire. Temperatures typical of fire season within the proposed Project area range from lows in the upper 50's to highs in the 90's (°F). Extreme temperatures of over 100 °F are not uncommon and can last from a couple of days to a couple of weeks. Relative humidity often runs in the mid-teens to mid-twenties during daylight hours and trails into the night. Prevailing winds generally come from the southwest to the west during the day. Overnight, strong down-canyon winds across the ridge tops adjacent to the Stanislaus and Tuolumne River drainages are common. Thunderstorms typically occur from August to September and can occur any time throughout the summer (CAL FIRE 2023).

Topography and Vegetation

Topography within Tuolumne County transitions from rolling grasslands in the foothills, to steep bluffs and tabletop benches in mid-elevations to steep canyons and slopes and rugged terrain within higher elevations. Elevations in the proposed Project area and surrounding landscape range from 1,317 feet to 1,660 feet. The pipeline alignment generally follows unimproved ranch roads through grazing land.

The TCU Strategic Plan characterizes fuels within the Battalion 5 service area as grassland and oak woodland with scattered brush fields within the western portion of the Battalion service area, which merges into brush and timber in the east. The proposed Project area is located on mostly cleared land with scattered brush and trees surrounded by conifer forests. The Tuolumne County Multi-Jurisdictional HMP classifies fuels in the county into five fire-hazard categories: Moderate to High (grasses), High (brush and hardwood), High to Very High (Woodlands), and Very High (brush and heavy timber). These fuel types are found throughout Tuolumne County at different elevations. Areas of the County under federal jurisdiction (i.e., Yosemite National Park and Stanislaus National Forest) contain high hazard fuels, such as dry brush and timber (Tuolumne County 2024a).

In recent years, forests across California have experienced high levels of tree mortality due to record drought conditions exacerbated by bark beetle infestations. Tree mortality has led to a large fuel load and an increase in wildfire threat to areas surrounding the proposed Project area and throughout California (CAL FIRE 2023).

Impact of Wildfire on Air Quality

During fire season, prevailing southwest, west and northwest winds tend to blow smog and other particulates generated in the central valley and greater Bay Area into the Mountain Counties Air Basin. Wildland fire smoke from the high country located east of Tuolumne County is moved down the river drainages by the daily cycle of air movement into more populated areas of the TCU. Smoke from wildfires occurring within the surrounding SRA generates an immediate and localized threat to air quality. See Section 3.3, *Air Quality*, for more details regarding air quality in the proposed Project area (CAL FIRE 2023).

Fire History

Tuolumne County has a long history of large, damaging fires including the 2013 Rim Fire (257,314 acres) 1987 Stanislaus Complex (145,950 acres), the 2018 Donnell Fire (36,461 acres), the 1992 Old Gulch Fire

(18,000 acres), the 2001 Darby Fire (14,280 acres), the 1996 Keystone Fire (7,000 acres), and the 2017 McCormick Fire (4,423 acres), among others (Tuolumne County 2024b).

Fire Protection Services

Fire protection within the Battalion 5 service area consist of two CAL FIRE Stations: Standard Fire Station, and Twain Harte Fire Station, which also serves as the battalion's headquarters. The Standard Fire Station would be the closest fire protection service to the proposed Project area and maintains two engines and serves the western half of the battalion service area. A portion of the TCFD also operates within the Battalion 5 service area and under the direction of the CAL FIRE Assistant Chief/Assistant County Fire Warden. CAL FIRE and TCFD maintain strong working relationships with several of the surrounding fire agencies and protection services within the battalion's operational area. The proposed Project would most likely be directly served by the Standard Fire Station or Station 76 in Jamestown. The proposed Project area would be located along rural roads and existing access roads. The nearest major arterial roadways to the proposed Project area would include Highway 49, Algerine Road, and Jacksonville Road. See Section 3.15, *Public Services*, for more information regarding fire protection services.

California Public Utilities Commission-Designated Wildfire Hazard Zones

In response to Fire Safety Rulemaking of the CPUC, the CPUC mapped high fire threat areas where more stringent inspection, maintenance, vegetation clearance, and wire clearance requirements (as required by CPUC General Orders 95, 165, and 166, described below) are required due to the elevated risk of wildfires caused by electrical lines. The CPUC Fire Threat District Map identifies three tiers of elevated risk for fires associated with utilities. The proposed Project area is located entirely within a Tier 2 Fire Threat District. Tier 2 fire-threat areas outline areas where there is a higher risk (including likelihood and potential impacts on people and property) from utility related wildfires. (CPUC 2024a, 2024b).

Regulatory

Federal

National Fire Plan

The National Fire Plan was created to address fire protection strategies for rural communities. Together, the United States Department of Agriculture Forest Service and the U.S Department of the Interior are working to successfully implement key points outlined in the NFP, including firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability (USDA 2024).

National Cohesive Wildland Fire Management Strategy

The Federal Wildland Fire Management Policy is intended to provide strategic consistency among federal agency fire management programs. The *Guidance and Implementation of Federal Wildland Fire Management Policy* (U.S. Forest Service et al. 2009) replaces the *Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy* (NASF 2003) and clarifies changes that have occurred since 2003, while provided revised direction for consistent implementation of the *Review and Update of the 1995 Federal Wildland Fire Management Policy* (USDOI 2001).

State

2024 Strategic Fire Plan for California

Developed by the Board of Forestry and Fire Protection (the Board), the Strategic Fire Plan outlines goals and objectives to implement CAL FIRE's overall policy direction and vision. The 2024 Plan concentrates and focuses on four Goals under their Mission, Vision, and Values, including: (1) Attract, hire, and retain quality employees, (2) Ensure all employees understand how the Department's various programs and job duties contribute towards efficiency achieving the CAL FIRE mission, (3) Promote a culture that values equitable access, embraces diverse backgrounds and experiences, and actively removes barriers to cultivate a more inclusive environment, and (4) Leverage technology to modernize internal human resources processes and create efficient and effective innovative solutions to promote, support, and enhance the employee experience, (5) Strengthen the Departments physical and digital infrastructure and streamline equitable access to information across core services, and (6) Identify core capabilities and strengthen operational capacity. The goals and objectives of the Plan would not directly apply to the proposed Project.

Unit Plans are developed and updated to implement the programs and goals of the 2024 Strategic Fire Plan. The 2023 TCU Strategic Fire Plan provides a comprehensive framework of how the TCU will assess their current and anticipated hazards/risk, develop objectives to mitigate those hazards/risks, establish benchmarks for success, develop strategies to meet their objectives, implement those strategies, and facilitate a monitoring system to insure the plan remains connected to the needs of the Unit and stakeholders. The goals and objectives would not be directly applicable to the proposed Project.

California Emergency Response Plan

Pursuant to the Emergency Services Act (Government Code Section 8550 et seq.), California has developed an Emergency Plan to coordinate emergency services provided by federal, state, and local governmental agencies and private persons. The plan is administered by the State Office of Emergency Services. Office of Emergency Services coordinates the responses of other agencies, including the EPA, California Highway Patrol, CDFW, the RWQCBs (for the proposed Project, the Central Valley RWQCB), the local air districts (for the proposed Project, the Mountain Counties Air Basin), and local agencies. The State Emergency Plan defines the "policies, concepts, and general protocols" for the proper implementation of the California SEMS. The SEMS is an emergency management protocol that agencies within California must follow during multi-agency response efforts.

Fire Protection in California Fire Code and Public Resources Code

The California Fire Code is contained within Title 24, Part 9 of the California Code of Regulations. Based on the International Fire Code, the California Fire Code is created by the California Buildings Standards Commission and regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. Similar to the International Fire Code, the California Fire Code and the CBC use a hazards classification system to determine the appropriate measures to incorporate to protect life and property.

The California PRC includes fire safety provisions that apply to SRAs during the time of year designated as having hazardous fire conditions. During the fire hazard season these regulations restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on equipment that has an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire-suppression equipment that must be provided on-site for various types of

work in fire-prone areas. Additional codes require that any person who owns, controls, operates, or maintains any electrical transmission or distribution line must maintain a firebreak clearing around and adjacent to any pole, tower, and conductors that carry electric current as specified in PRC Sections 4292 and 4293. Section 4292 requires that a 10-foot zone around the base of poles be cleared of all flammable vegetation. The state's Fire Prevention Standards for Electric Utilities (14 CCR Sections 1250–1258) provide specific exemptions from electric pole and tower firebreak and electric conductor clearance standards and specifies when and where standards apply.

PRC Section 4119 authorizes CAL FIRE or its authorized agent to inspect properties to determine whether they comply with state forest and fire laws, regulations, or use permits. Section 4427 limits the use of any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tarpots, or grinding devices which may generate a spark or flame if the equipment is located on or near forested land or land covered in bush or grass. Section 4427 establishes requirements such as clearing flammable material within 10 feet of the area of operation, as well as carrying of fire response equipment such as a shovel, backpack pump water type fire extinguisher.

PRC Section 4428 limits industrial operations on or near land covered by forest bush or grass between April 1 and December 1 of any year, or other times when ground litter and vegetation could sustain combustion and facilitate the spread of fire. Section 4428 requires that such work provide and maintain the following tools:

a. A sealed box of tools containing a backpack pump-type fire extinguisher filled with water, two axes, two McLeod fire tools, and a shovel for each worker on-site must be in near the operating area in a manner that would be accessible in the event of a fire;

b. At least one serviceable chainsaw or timber felling tools; and

c. Each passenger vehicle must be equipped with a shovel and an ax, every other vehicle or tractor must have a shovel.

PRC Section 4431 requires users of gasoline-fueled internal combustion-powered equipment located within 25 feet of forest, brush, or grass to keep firefighting tools at the immediate location of use. The Director of Forestry and Fire Protection administers and specifies the type and size of fire extinguisher necessary to provide at least minimum assurance of controlling fire caused by use of portable power tools under various climatic and fuel conditions. In addition, Section 4442 restricts the use and operation of any internal combustion engine that uses hydrocarbon fuels on any forest, brush, or grass areas unless the engine is equipped with a spark arrestor, as defined in PRC Section 4442(c) and pursuant to Section 4443.

State Defensible Space and the Fire Safe Regulations

State law requires a minimum clearance (defensible space) of 100-feet around structures (PRC Section 4290, 4291). Implementing regulations (the "Fire Safe Regulations") provide related requirements to be implemented in a SRA including road standards for fire equipment access (14 CCR Section 1273 et seq.); standards for signs identifying streets, roads, and buildings (14 CCR Section 1274 et seq.); requirements for minimum private water supply reserves for emergency fire use (14 CCR Section 1275 et seq.); and requirements for fuel breaks such as defensible space and greenbelts (14 CCR Sections 1272 and 1276 et seq.).

Local

Tuolumne County General Plan

The 2018 General Plan includes the overarching vision, goals, and policies that avoid the exposure of people and structures to potential substantial adverse effects, including the risk of loss, injury, or death involving natural hazards, including wildland fires in the Natural Hazards Element (Tuolumne County 2018a). Environmental documents supporting the General Plan Update provide discussion of wildfire risk (in the Hazards and Hazardous Materials Chapter) and further analysis of CAL FIRE designated fire hazard zones, and communities at risk (Tuolumne County 2018b).

Tuolumne County Community Wildfire Protection Plan

The Tuolumne County Community Wildfire Protection Plan describes measures necessary to reduce the risk of catastrophic fire and restore healthy forest ecological conditions on Stanislaus National Forest lands, and the greater Tuolumne County area. The plan includes a high level recommendation to implement specific projects within the analysis area. It is the responsibility of individual cooperating property owners in collaboration with the Stanislaus National Forest, CAL FIRE, and the Bureau of Land Management to plan and implement federal, state, and joint or community-wide projects to accomplish the goals of this plan.

Tuolumne County Multi-Jurisdictional Hazard Mitigation Plan

The Tuolumne County Multi-Jurisdictional HMP is based upon risk assessments that identified and evaluated natural and man-made hazards. The risk and vulnerability assessments were used to determine mitigation goals and objectives to minimize long-term vulnerabilities to the identified hazards and are the foundation behind the development of a comprehensive range of specific attainable mitigation actions created for each jurisdiction. The Tuolumne County Multi-Jurisdictional HMP provides a risk and vulnerability assessments for the Twain Harte Community Services District and the TUD in Annex C and Annex F, respectively, of the HMP (Tuolumne County 2018c). The following goals, objectives, and mitigation actions are listed in the TUD jurisdiction (Annex F) of the Multi-Jurisdictional HMP:

Goal 2: Ensure that future development is protected from natural disasters.

Goal 3: Build and support local capacity and commitment to minimize the jurisdictions within Tuolumne County's vulnerability to potential hazards.

Objective 3.1: Improve existing capabilities to manage emergency situations.

Action 3.2C: Work with Fire Safe Councils and the County to identify opportunities for additional evacuation routes within single-access areas.

Action 3.2D: TUD will study and seek funding to increase the raw water storage or establish a secure conveyance from Lyons Reservoir to ensure service for both domestic consumption and urban fire protection.

Tuolumne County Emergency Operations Plan

The Tuolumne County EOP delineates the County's procedures and policies in response to a significant disaster, including extreme weather, flood or dam failure, earthquakes, hazardous materials, terrorism or civil disturbance, transportation accidents, and wildland fires. The EOP establishes and outlines the response organization, command authority, responsibilities, functions and interaction required to mitigate

the damaging effects of a large-scale or major wildland fire affecting the county (Tuolumne County 2023). The ESP is compatible with other city, County, and state emergency response plans.

Discussion

a) **Less-than-Significant Impact**. As described above, under existing conditions there are no designated emergency routes within or adjacent to the proposed Project area. The proposed Project would be located along existing ranch roads and access roads located near the Teleli Golf Course. The proposed Project area will be accessed from Algerine Road and through an existing access gate onto a gravel road through the West Ranch. No major road or lane closures would be required as part of the proposed Project. Furthermore, the proposed Project would not obstruct any designated emergency evacuation routes or conflict with any evacuation plans described in the Tuolumne General Plan, Tuolumne County Multi-Jurisdictional HMP, Tuolumne County EOP, or the CAL FIRE 2023 Tuolumne-Calaveras Strategic Fire Plan.

Multiple truck trips would be required during construction of the proposed Project for import and export of materials, equipment, and staff to the proposed Project area for an estimated 12 weeks. Although no major evacuation routes would be closed or blocked due to proposed Project construction, the use of heavy duty equipment (i.e., dump trucks and loaders would have the potential to block local access routes that could be used in the case of evacuation. Rural road and access road closures are anticipated to be required during the proposed Project's pipeline installation within the utility easements along portions of Phase 1 and 2 of the proposed Project's alignment. However, pipeline installation will be along unimproved or gravel roads that provide access to the golf course and surrounding undeveloped and ranch land areas. There are connecting alternate rural roads and access routes available within the proposed Project area that will be open during proposed Project construction. Therefore, the proposed Project would not obstruct any designated emergency evacuation routes or conflict with any evacuation, plans, or fuel breaks described in the Tuolumne General Plan, Tuolumne County Multi-Jurisdictional HMP, Tuolumne County EOP, or the CAL FIRE 2023 Tuolumne-Calaveras Strategic Fire Plan.

As described in Section 3.17, *Transportation*, proposed Project operations would utilize existing TUD and TEDA staff. Travel by operations staff would be reduced as a result of the proposed Project due to the consolidation of existing dispersed treatment facilities. The Project would be designed to allow for circulation along the facility's main access road. No road or lane closures are anticipated during operation and maintenance of the proposed Project. Operation and maintenance of the proposed Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. Under this criterion, impacts would be **less than significant**.

b) **Less than Significant with Mitigation Incorporated**. The proposed Project is a pipeline through TUD and TEDA jurisdiction, with a creek crossing at Sullivan Creek, and continuing through the Teleli Golf Course for storage in Pond 1; no residential (inhabited) structures would be constructed as part of the proposed Project. After construction, the proposed Project area would be restored to pre-construction conditions. Given that the water pipeline would be underground and would not change the land use in the proposed Project area, operation of the proposed Project would not increase wildfire risk in the proposed Project area. Therefore, the following analysis

focuses on the potential for the proposed Project to result in a heightened risk of wildfire during construction of the proposed Project.

As discussed in the Environmental Setting and shown on Figure 3.20-1, the proposed Project area is located within a Very High Fire Hazard Severity Zone. The proposed Project would also be located in a CPUC Tier 3 Fire Threat District. The primary fire hazards during construction of the proposed Project would involve the use of vehicles and equipment. Heat or sparks from vehicles and equipment could ignite dry vegetation and result in a fire, particularly during drier, warmer conditions. Therefore, an increase in potential ignition sources associated with proposed Project construction activities could exacerbate wildfire risk in the proposed Project area. As discussed in the Environmental Setting, wildfires release large amounts of air pollutants, which can lead to harmful exposure for surrounding communities, residences, first responders, and have the potential to reach distant populations. Due to an increase in sources of ignition posed by proposed Project construction activities, the existing wildfire-prone nature of the proposed Project's location, and the potential for uncontrolled spread of wildfire and associated pollution, the proposed Project could result in a potentially significant impact.

To reduce wildfire ignition risks during construction, implementation of **Mitigation Measure WIL-1, Fire Prevention Plan** (FPP) would be required. The implementation of a Project-specific FPP would reduce potential sources of ignition during construction and to respond to a wildfire if such an ignition were to occur. The FPP would require that when a Red Flag Warning is issued by the National Weather Service (an alert that high winds and dry conditions could lead to rapid or dramatic increases in wildfire activity) that TUD, TEDA, and their contractors cease all non-emergency work in areas where vegetation would be susceptible to accidental ignition by proposed Project activities, to respond to changes in fire risk. Additionally, the FPP would require work crews to practice construction techniques that would reduce potential ignition threats, particularly those related to welding activities and any activities that could produce sparks or otherwise be a source for potential ignitions. Workers would also be required to be prepared with fire suppression equipment to respond quickly to any on-site ignitions caused by construction activities. The incorporation of the FPP would reduce impacts from proposed Project construction to a less-than-significant level.

Mitigation Measures

Mitigation Measure WIL-1: Fire Prevention Plan.

TUD, TEDA and/or its contractors shall prepare and implement a FPP to ensure the health and safety of construction workers, Project staff, and the public from fire-related hazards during both the Project's construction and its operation and maintenance phases. Prior to construction, TUD or its designated contractor shall contact and consult with the Tuolumne-Calaveras Unit of CAL FIRE and the Standard Fire Station to determine the appropriate fire equipment to be carried on construction vehicles and appropriate prevention measures to be taken. TUD, TEDA or the designated contractor shall make the FPP available to all construction crew members prior to construction of the proposed Project. The FPP shall list fire safety measures including fire prevention procedures, as well as specific emergency response and evacuation measures that would be followed during emergency situations for all construction workers and staff; examples are listed below. The FPP shall also provide perimeter sprinklers proximal to welding operations and fire-related rules for smoking, storage and parking areas, usage of spark arrestors on

construction equipment, and fire-suppression tools and equipment. The FPP shall include or require, but not be limited to, the following:

- As construction may occur simultaneously at several locations, each construction site shall be equipped with fire extinguishers and fire-fighting equipment sufficient to extinguish small fires.
- TUD, TEDA shall instruct construction personnel to park vehicles within roads, road shoulders, graveled areas, and/or cleared areas (i.e., away from dry vegetation) wherever such surfaces are present at the construction site.
- TUD, TEDA and their contractors shall cease construction related activities such as hot work, i.e. welding, during Red Flag Warning events in areas where vegetation would be susceptible to accidental ignition; other proposed Project construction activities can continue and proceed.
- TUD, TEDA and/or its contractors shall have water tanks, water trucks, or portable water backpacks (where space or access for a water truck or water tank is limited) sited/available in the study area for fire protection.
- During construction of the proposed Project, TUD, TEDA and/or their contractors shall implement ongoing fire patrols during construction hours as applicable, during the dry season (May to November) unless conditions warrant more or less fire patrols.
- All construction crews and inspectors shall be provided with radio and cellular telephone access that is operational along the entire length of the approved route to allow communications with other vehicles and construction crews. All fires shall be reported immediately upon detection.
- All internal combustion engines, stationery and mobile, shall be equipped with spark arresters in good working order.
- Light trucks and cars with factory-installed mufflers shall be used only on roads where the roadway is cleared of vegetation.
- Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable material.
- A fire conditions monitoring program to monitor meteorological data during construction and operation.
- A monitoring and inspection protocol for electrical infrastructure, as needed.
- Prohibition of smoking in wildland areas, with smoking limited to paved areas or areas cleared of all vegetation.
- All construction vehicles shall be equipped with fire suppression equipment.
- TUD, TEDA, or their designated contractor shall ensure that all construction workers and operational staff receive training on the proper use of fire-fighting equipment and procedures to be followed in the event of a fire.

Successful implementation of **Mitigation Measure WIL-1 (FPP)** would be demonstrated by the development of an FPP in consultation with local fire authorities which is shared with all

construction workers and staff. Additionally, successful implementation of Mitigation Measure WIL-1 would require that TUD, TEDA and their contractor comply with all components of the FPP, that ignition from proposed Project construction activities be promptly reported to the fire department(s) with jurisdiction, and that when it is safe to do so, any Project-caused ignition is suppressed immediately.

The implementation of MM WIL-1 would provide construction workers with the equipment and procedures necessary to manage the risk of fire from the proposed Project through collaboration with area fire protection agencies. The mitigation measure would provide TUD, TEDA and its contractors with fire safety measures to prevent fire and be prepared to respond immediately and effectively if a fire were to occur from proposed Project construction. Implementation of MM WIL-1 would reduce the risk of fire from construction of the proposed Project to a level of risk comparable to existing conditions. Therefore, the impact of the proposed Project would be reduced to **less-than-significant levels with mitigation incorporated**.

c) **Less than Significant.** As discussed above, the proposed Project would include the installation of underground water pipes and an above-ground creek crossing across Sullivan Creek. No new roads, fuel breaks, emergency water sources, powerlines, or other utilities would be installed as part of the proposed Projects. Infrastructure associated with construction of the proposed Project and ongoing maintenance is analyzed and mitigated, as appropriate, throughout this IS/MND (e.g., in Section 3.4, *Biological Resources*, as relevant to wildlife habitat that would be removed to maintain clearances). Based upon these considerations, this impact would be less than significant.

d) **Less than Significant with Mitigation Incorporated**. The proposed Project does not include any habitable structures; therefore, the proposed Project would not expose occupants to increased risk associated with flooding, landslides, or post-fire slope instability as a result of locating housing near such existing risks. Described above in Question b), the proposed Project would increase sources of ignition during construction which could exacerbate wildfire risks. However, implementation of MM WIL-1 would reduce potential sources of ignition and equip personnel with proper safety training and equipment to contain the spread of wildfire in the event of an emergency during construction.

Post-fire conditions can increase the potential for erosion and flooding due to the loss of vegetation that holds soils in place, causing increased erosion, and the loss of the water-absorbing properties of soils, causing increased runoff. As identified in Section 3.10, *Hydrology and Water Quality*, the implementation of a SWPPP and BMPs related to erosion control would reduce potential impacts during construction. Following construction, the site would be maintained by TUD staff in a manner that would not generate conditions of substantial runoff or contribute to flooding or stormwater exceedances. Maintenance of the stormwater collection system would function to capture runoff from the proposed Project's impervious surfaces and convey stormwater to the proposed Project's detention basin and prevent off-site flooding. Therefore, the proposed Project would not result in changes to runoff or drainage patterns which could exacerbate downslope or downstream flooding thereby exposing people or structures to associated risk. The incorporation of a SWPPP, BMPs, and with implementation of MM WIL-1,

impacts associated with risks for post-fire flooding or landslide would be reduced to less-than-significant levels.

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3.21 Mandatory Findings of Significance

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

Discussion

a) **Less than Significant with Mitigation Incorporated.** TUD and TEDA are proposing to install and operate approximately 2 miles of 8- and 10-inch recycled water pipeline from TUD's existing discharge point at the West property continuing underground TEDA's underground pipeline and crossing over Sullivan Creek and continuing underground up to Storage Pond 1 for storage prior to irrigation purposes. The proposed Project would include the construction and operation of the extended underground pipeline, including a creek crossing adjacent to the existing pump building at the Creek.

As described in Section 3.4, *Biological Resources*, the proposed Project would involve both temporary and permanent impacts to habitats, including protected waters of the U.S. as defined in Section 404 of the CWA, riparian vegetation, and state jurisdictional waters. However, potential effects associated with the proposed Project's construction would be addressed through the implementation of **Mitigation Measures (BIO 3–BIO 8)**. The proposed Project is not located on a site that contains historic structures, however, there is potential that the proposed Project could alter archeologic resources which could be considered historical or cultural resources. To ensure that these cultural, historic, and tribal cultural resources are not degraded by proposed Project activities, **Mitigation Measures CUL-1, CUL-2, and CUL-3** would be implemented reduce or eliminate potential effects to these resources. **Mitigation Measure GEO-1** would reduce impacts to paleontological resources associated with construction activities that may disturb geologic units with high paleontological sensitivity. As discussed in Section 3.13, *Noise and Vibration*, there are no structures of historical significance in the vicinity of the proposed Project alignment that would be impacted by the proposed Project, as no extreme vibration generating equipment such as pile drivers and drills are anticipated to be used for proposed Project construction. With implementation of these mitigation measures, potential impacts to existing habitats, or to

individual species that have the potential to occur in the proposed Project environments, would be reduced to less than significant levels.

Impact analyses in the various resource sections (presented in Chapter 3) demonstrate that the proposed Project would not significantly degrade the quality of the environment. Potential impacts associated with air quality, biological and cultural resources, hazards and hazardous materials, noise and vibration, transportation, and wildfire during construction or operation of the proposed Project would be reduced to **less than significant levels with mitigation implemented**.

b) **Less-than-Significant Impact**. The proposed Project would not achieve short-term environmental goals to the disadvantage of long-term environmental goals. Rather, the proposed Project will advance long-term environmental goals by utilizing recycled water for irrigation and diversifying irrigation supply sources at the Teleli Golf Course. Changing to recycled water for golf course irrigation would offset surface water diversions and improve raw water reliability in Tuolumne County. Therefore, with this understanding the proposed Project will have no impact on long-term goals for short-term benefits.

CEQA Guidelines Section 15130 requires a discussion of the cumulative impacts of a project when the project's incremental contribution to a significant cumulative effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed along with the effects of past, current, and reasonably foreseeable future projects. An incremental, project-specific contribution to a cumulative impact is less than cumulatively considerable, and thus is not significant, if, for example, the project is required to implement mitigation measures designed to alleviate the cumulative impact.

Consistent with CEQA Guidelines Section 15130(b), the environmental analysis presented in this document includes an evaluation of past, present, and reasonably anticipated future projects that could produce related or cumulative impacts, including those projects outside the control of the lead agency (TUD) and also considered regional planning documents to evaluate potential effects of the proposed Project's implementation within a regional context. Existing conditions within the cumulative impacts area of effect reflect a combination of the natural condition and the effects of past actions in the affected area. The following factors also were used to determine an appropriate list of projects to be considered in this cumulative analysis:

Similar Environmental Impacts—A relevant project is defined as a "reasonably foreseeable" project that would contribute to effects on resources also affected by the proposed Project. For the purpose of this analysis, relevant projects with potential similar environmental impacts include, for example, other public utility-related projects.

Geographic Scope—The appropriate geographic area of cumulative consideration is identified on a resource-by-resource basis as dictated by relevant physical and/or environmental boundaries (such as the extent of the groundwater basin or the roadways traveled by proposed Project vehicles).

Timing and Temporal Scope—Incremental impacts of the proposed Project could combine with the incremental impacts of other projects to cause or contribute to cumulative effects if the

proposed Project's construction, operation, and maintenance periods coincide in terms of timing with the effects of the other projects.

TUD has numerous active projects in the County, however, none in the proposed Project's vicinity. The Sierra Pines Regional Water Treatment Facility Consolidation Project presents an exceptional opportunity for TUD to consolidate up to six of its aging surface water treatment plants. However, construction of the Sierra Pines Regional Water Treatment Facility would not begin construction until 2026, which would not overlap with the proposed Project's construction timeline. Similar projects in Tuolumne County also include the Longeway Loop Water Mainline Project and the Techite Pipeline Project, both approximately 7-8 miles away in the community of Crystal Falls. Future TUD projects also include the Jamestown Distribution Improvements, which would include water infrastructure improvements in the community of Jamestown, approximately 2 miles from the proposed Project area, during 2025. TEDA has completed renovations of the Teleli Golf Course as of April 2024.

None of these projects are located in proximity to the proposed Project, nor would these projects be constructed during the proposed Project. Currently no other projects of similar, size, scale or complexity are planned during the same period of construction as this project which would result in cumulative effects.

c) **Less than Significant with Mitigation Incorporated.** Potentially significant impacts on human beings either directly or indirectly are identified in this IS/MND. These are primarily associated with construction of the proposed Project generating potentially significant impacts on Air Quality (Section 3.3), Hazards and Hazardous Materials (Section 3.9), Noise (Section 3.13), Transportation (Section 3.17), Tribal Cultural Resources (Section 3.18), and Wildfire (Section 3.20).

Moreover, as described in Section 3.9, *Hazards and Hazardous Materials*, and Section 3.20, *Wildfire*, operation of the proposed Project could also involve potentially significant impacts on human beings (either directly or indirectly). As discussed in Section 3.9, Section 3.17, and 3.20, proposed Project construction could potentially impede potential evacuation routes. However, the implementation of **Mitigation Measure HAZ-**1, Construction Traffic Management Plan, which would reduce the risk of traffic obstruction during construction of the proposed Project to a level of risk comparable to existing conditions. Furthermore, the proposed Project would implement a FPP under **Mitigation Measure WIL-1**. As discussed in Section 3.3, *Air Quality*, construction of the proposed Project could emit dust that could potentially impact sensitive receptors. Implementation of **Mitigation Measure AQ-1**: Dust Control Measures during Construction would reduce dust emissions to a less-than-significant level. The proposed Project would also implement **Mitigation Measure NOI-1a:** Construction Noise Management Plan**,** reducing impacts of temporary construction-related noise on nearby receptors.

As discussed above, resource avoidance and impact minimization measures, identified mitigation measures, and compliance with federal, state, and local agency statutes and regulations are necessary and would be implemented to reduce these potential impacts to **less than significant** levels.

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CHAPTER 4
Report Preparers

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Nick Reynoso	Noise and Vibration

APPENDICES

A. California Emissions Estimator Model (CalEEMod) Modeling Assumptions
B. Biological Resources Assessment
C. Aquatic Resources Delineation Report
D. Special-Status Species with the Potential to Occur at the Project Area

Appendix A

California Emissions Estimator Model (CalEEMod) Modeling Assumptions

APPENDIX A

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Teleli Golf course Pipeline
Construction Start Date	5/15/2025
Lead Agency	
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.1
Precipitation (days)	41.4
Location	37.932538, -120.384548
County	Tuolumne
City	Unincorporated
Air District	Tuolumne County APCD
Air Basin	Mountain Counties
TAZ	3026
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area	Landscape A	Special Land	Population	Description
User Defined Linear	1.11	Mile	0	0				Phase 1 – West Property to Sullivan Creek
User Defined Linear	0.79	Mile	0	0	0			Phase 2 - Sullivan Creek to Pond 1

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Un/Mit.	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Daily, Summer (Max)																	
Unmit.	2.65	2.23	18.2	16.5	0.06	0.9	1.83	2.42	0.83	0.27	0.96		6271	6271	0.2	0.37	6358
Average Daily (Max)																	
Unmit.	0.19	0.16	1.26	1.23	< 0.005	0.05	0.06	0.11	0.05	0.01	0.06		376	376	0.01	0.01	380
Annual (Max)																	
Unmit.	0.03	0.03	0.23	0.22	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01		62.3	62.3	< 0.005	< 0.005	62.9

2.2. Construction Emissions by Year, Unmitigated

Year	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Daily - Summer (Max)																	
2025	2.65	2.23	18.2	16.5	0.06	0.9	1.83	2.42	0.83	0.27	0.96		6271	6271	0.2	0.37	6358
Daily - Winter (Max)																	
Average Daily																	
2025	0.19	0.16	1.26	1.23	< 0.005	0.05	0.06	0.11	0.05	0.01	0.06		376	376	0.01	0.01	380
Annual																	
2025	0.03	0.03	0.23	0.22	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01		62.3	62.3	< 0.005	< 0.005	62.9

3. Construction Emissions Details

3.1. Phase 2-Utility Bridge Abutments (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e

Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment		0.29	0.24	2.02	2.44	< 0.005	0.08		0.08	0.07		0.07	380	380	0.02	< 0.005	381
Dust From Material Movement								< 0.005	< 0.005		< 0.005	< 0.005					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment	< 0.005	< 0.005		0.02	0.02	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	3.12	3.12	< 0.005	< 0.005	3.14
Dust From Material Movement								< 0.005	< 0.005		< 0.005	< 0.005					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		0.52	0.52	< 0.005	< 0.005	0.52
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Worker		0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02	106	106	0.01	< 0.005	108
Vendor	< 0.005	< 0.005		0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	60.6	60.6	< 0.005	0.01	63.4
Hauling		0.01	0.01	0.45	0.04	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	220	220	< 0.005	0.03	230
Daily, Winter (Max)																	
Average Daily																	
Worker	< 0.005	< 0.005	< 0.005	0.01	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.81	0.81	< 0.005	< 0.005	0.83
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.5	0.5	< 0.005	< 0.005	0.52
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		1.8	1.8	< 0.005	< 0.005	1.89
Annual																	
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.13	0.13	< 0.005	< 0.005	0.14
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.08	0.08	< 0.005	< 0.005	0.09
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.3	0.3	< 0.005	< 0.005	0.31

3.3. Phase 2-Crane Pad Rough Grade (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment		0.32	0.27	2.27	2.58	< 0.005	0.09		0.09	0.08		0.08	469	469	0.02	< 0.005	470
Dust From Material Movement								0.01	0.01		< 0.005	< 0.005					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment	< 0.005	< 0.005		0.01	0.01	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	1.28	1.28	< 0.005	< 0.005	1.29
Dust From Material Movement								< 0.005	< 0.005		< 0.005	< 0.005					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		0.21	0.21	< 0.005	< 0.005	0.21
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Worker		0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02	106	106	0.01	< 0.005	108
Vendor	< 0.005	< 0.005		0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	60.6	60.6	< 0.005	0.01	63.4
Hauling		0.08	0.07	4.51	0.4	0.02	0.04	0.5	0.54	0.04	0.14	0.17	2223	2223	< 0.005	0.35	2332
Daily, Winter (Max)																	
Average Daily																	

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.27	0.27	< 0.005	< 0.005	0.28			
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.17	0.17	< 0.005	< 0.005	0.17			
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	6.09	6.09	< 0.005	< 0.005	6.38			
Annual																			
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	0.05			
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	0.03			
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.01	1.01	< 0.005	< 0.005	1.06			

3.5. Phase 1-Valve and Meter Vault Structures (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment		1.28	1.07	10.2	9.25	0.03	0.39		0.39	0.35		0.35	2750	2750	0.11	0.02	2760
Dust From Material Movement								1.33	1.33		0.14	0.14					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment		0.02	0.01	0.14	0.13	< 0.005	0.01		0.01	< 0.005		< 0.005	37.7	37.7	< 0.005	< 0.005	37.8
Dust From Material Movement								0.02	0.02		< 0.005	< 0.005					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		6.24	6.24	< 0.005	< 0.005	6.26
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Worker		0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02	106	106	0.01	< 0.005	108
Vendor	< 0.005	< 0.005	0.12	0.02	< 0.005	< 0.005		0.02	0.02	< 0.005	< 0.005	< 0.005	60.6	60.6	< 0.005	0.01	63.4
Hauling		0.04	0.04	2.57	0.23	0.01	0.02	0.29	0.31	0.02	0.08	0.1	1268	1268	< 0.005	0.2	1330
Daily, Winter (Max)																	
Average Daily																	
Worker	< 0.005	< 0.005	< 0.005	0.01	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		1.36	1.36	< 0.005	< 0.005	1.38
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.83	0.83	< 0.005	< 0.005	0.87
Hauling	< 0.005	< 0.005	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		17.4	17.4	< 0.005	< 0.005	18.2
Annual																	
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.22	0.22	< 0.005	< 0.005	0.23
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.14	0.14	< 0.005	< 0.005	0.14
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		2.88	2.88	< 0.005	< 0.005	3.01

3.7. Phase 1-Connection to Existing Main (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment		1.19	1	9.62	8.94	0.02	0.36		0.36	0.33		0.33	2674	2674	0.11	0.02	2683
Dust From Material Movement								1.33	1.33		0.14	0.14					
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		7.33	7.33	< 0.005	< 0.005	7.35
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	

Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		1.21	1.21	< 0.005	< 0.005		1.22
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005							
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		0
Offsite																		
Daily, Summer (Max)																		
Worker	0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02		106	106	0.01	< 0.005		108
Vendor	< 0.005	< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005		60.6	60.6	< 0.005	0.01		63.4
Hauling	0.03	0.03	1.84	0.16	0.01	0.01	0.2	0.22	0.01	0.06	0.07		906	906	< 0.005	0.14		950
Daily, Winter (Max)																		
Average Daily																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.27	0.27	< 0.005	< 0.005		0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.17	0.17	< 0.005	< 0.005		0.17
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		2.48	2.48	< 0.005	< 0.005		2.6
Annual																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.04	0.04	< 0.005	< 0.005		0.05
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.03	0.03	< 0.005	< 0.005		0.03
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.41	0.41	< 0.005	< 0.005		0.43

3.9. Phase 2-Pump Station Foundation (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment	0.7	0.59	5.19	4.95	0.01	0.19		0.19	0.18		0.18		1514	1514	0.06	0.01	1519
Dust From Material Movement							0.53	0.53		0.06	0.06						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment	0.01	0.01	0.06	0.05	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		16.6	16.6	< 0.005	< 0.005	16.6
Dust From Material Movement							0.01	0.01		< 0.005	< 0.005						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		2.75	2.75	< 0.005	< 0.005	2.76
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Worker	0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02		106	106	0.01	< 0.005	108
Vendor	< 0.005	< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005		60.6	60.6	< 0.005	0.01	63.4
Hauling	0.01	0.01	0.75	0.07	< 0.005	0.01	0.08	0.09	0.01	0.02	0.03		371	371	< 0.005	0.06	389
Daily, Winter (Max)																	
Average Daily																	
Worker	< 0.005	< 0.005	< 0.005	0.01	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		1.08	1.08	< 0.005	< 0.005	1.1
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.66	0.66	< 0.005	< 0.005	0.69
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		4.06	4.06	< 0.005	< 0.005	4.25
Annual																	
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.18	0.18	< 0.005	< 0.005	0.18
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.11	0.11	< 0.005	< 0.005	0.11
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.67	0.67	< 0.005	< 0.005	0.7

3.11. Phase 2-Offload and Stage Utility Bridge, Pick and Set Utility Bridge, Pick and Set Steel Pipeline (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	

Daily, Summer (Max)																	
Off-Road Equipment		0.82	0.69	5.95	6.6	0.02	0.23		0.23	0.21		0.21	1896	1896	0.08	0.02	1902
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment		0.01	0.01	0.05	0.05	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	15.6	15.6	< 0.005	< 0.005	15.6
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005	< 0.005		0.01	0.01	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	2.58	2.58	< 0.005	< 0.005	2.59
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Worker		0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02	106	106	0.01	< 0.005	108
Vendor	< 0.005	< 0.005		0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	60.6	60.6	< 0.005	0.01	63.4
Hauling	< 0.005	< 0.005		0.11	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	54.9	54.9	< 0.005	0.01	57.6
Daily, Winter (Max)																	
Average Daily																	
Worker	< 0.005	< 0.005	< 0.005		0.01	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.81	0.81	< 0.005	< 0.005	0.83
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.5	0.5	< 0.005	< 0.005	0.52
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.45	0.45	< 0.005	< 0.005	0.47
Annual																	
Worker	< 0.005	< 0.005	< 0.005	< 0.005		0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.13	0.13	< 0.005	< 0.005	0.14
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.08	0.08	< 0.005	< 0.005	0.09
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.07	0.07	< 0.005	< 0.005	0.08

3.13. Phase 2-Pump Station Building Shell (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment		0.92	0.77	6.77	6.48	0.02	0.26		0.26	0.24		0.24	2095	2095	0.08	0.02	2103
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment		0.04	0.03	0.28	0.27	< 0.005	0.01		0.01	0.01		0.01	86.1	86.1	< 0.005	< 0.005	86.4
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	
Off-Road Equipment		0.01	0.01	0.05	0.05	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005	14.3	14.3	< 0.005	< 0.005	14.3
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Worker		0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02	106	106	0.01	< 0.005	108
Vendor	< 0.005	< 0.005		0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	60.6	60.6	< 0.005	0.01	63.4
Hauling	< 0.005	< 0.005		0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	11	11	< 0.005	< 0.005	11.5
Daily, Winter (Max)																	
Average Daily																	
Worker	< 0.005	< 0.005	< 0.005		0.03	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	4.07	4.07	< 0.005	< 0.005	4.13

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.49	2.49	< 0.005	< 0.005	2.6
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.45	0.45	< 0.005	< 0.005	0.47
Annual																
Worker	< 0.005	< 0.005	< 0.005	0.01	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.67	0.67	< 0.005	< 0.005	0.68
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.41	0.41	< 0.005	< 0.005	0.43
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.07	0.07	< 0.005	< 0.005	0.08

3.15. Phase 2 -Pump Station Mechanical and Electrical (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment	0.45	0.38	3.05	4	0.01	0.11		0.11	0.1		0.1		1124	1124	0.05	0.01	1128
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		30.8	30.8	< 0.005	< 0.005	30.9
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		5.1	5.1	< 0.005	< 0.005	5.12
Dust From Material Movement							< 0.005	< 0.005		< 0.005	< 0.005						
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Worker	0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02		106	106	0.01	< 0.005	108
Vendor	< 0.005	< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005		60.6	60.6	< 0.005	0.01	63.4
Hauling	< 0.005	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		16.5	16.5	< 0.005	< 0.005	17.3
Daily, Winter (Max)																	
Average Daily																	
Worker	< 0.005	< 0.005	< 0.005	0.02	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		2.71	2.71	< 0.005	< 0.005	2.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		1.66	1.66	< 0.005	< 0.005	1.73
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.45	0.45	< 0.005	< 0.005	0.47
Annual																	
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.45	0.45	< 0.005	< 0.005	0.46
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.27	0.27	< 0.005	< 0.005	0.29
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.07	0.07	< 0.005	< 0.005	0.08

3.17. Phase 1-Seeding and Stabilization (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment	0.75	0.63	4.11	4.89	0.02	0.15		0.15	0.14		0.14		1847	1847	0.07	0.01	1853
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		10.1	10.1	< 0.005	< 0.005	10.2
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		1.68	1.68	< 0.005	< 0.005	1.68
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Offsite																	

Daily, Summer (Max)																		
Worker		0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02	106	106	0.01	< 0.005	108	
Vendor	< 0.005	< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	60.6	60.6	< 0.005	0.01	63.4		
Hauling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Daily, Winter (Max)																		
Average Daily																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.54	0.54	< 0.005	< 0.005	0.55		
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.33	0.33	< 0.005	< 0.005	0.35		
Hauling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Annual																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.09	0.09	< 0.005	< 0.005	0.09		
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	< 0.005	0.06		
Hauling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

3.19. Phase 1-Road Resurfacing (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment	1.58	1.32	10.3	4.72	0.01	0.7	0.7	0.65	0.65	698	698	0.03	0.01	700			
Onsite truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment	0.03	0.03	0.23	0.1	< 0.005	0.02	0.02	0.01	0.01	15.3	15.3	< 0.005	< 0.005	15.3			
Onsite truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual																	
Off-Road Equipment	0.01	0.01	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.53	2.53	< 0.005	< 0.005	2.54			
Onsite truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Worker		0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02	106	106	0.01	< 0.005	108	
Vendor	< 0.005	< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	60.6	60.6	< 0.005	0.01	63.4		
Hauling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Daily, Winter (Max)																		
Average Daily																		
Worker	< 0.005	< 0.005	< 0.005	0.02	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	2.17	2.17	< 0.005	< 0.005	2.2		
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.33	1.33	< 0.005	< 0.005	1.39		
Hauling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Annual																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005	0.36	0.36	< 0.005	< 0.005	0.36		
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.22	0.22	< 0.005	< 0.005	0.23		
Hauling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

3.21. Phase 2-Road Resurfacing (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment	0.39	0.32	2.65	3.44	0.01	0.1	0.1	0.09	0.09	773	773	0.03	0.01	776			
Onsite truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	4.23	4.23	< 0.005	< 0.005	4.25			
Onsite truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual																		
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		0.7	0.7	< 0.005	< 0.005		0.7
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		0
Offsite																		
Daily, Summer (Max)																		
Worker	0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02		106	106	0.01	< 0.005		108
Vendor	< 0.005	< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005		60.6	60.6	< 0.005	0.01		63.4
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		0
Daily, Winter (Max)																		
Average Daily																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.54	0.54	< 0.005	< 0.005		0.55
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.33	0.33	< 0.005	< 0.005		0.35
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		0
Annual																		
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.09	0.09	< 0.005	< 0.005		0.09
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.05	0.05	< 0.005	< 0.005		0.06
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		0

3.23. Phase 2 -Seeding and Stabilization (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment	0.83	0.69	4.8	6.08	0.02	0.17		0.17	0.16		0.16		2028	2028	0.08	0.02	2035
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		11.1	11.1	< 0.005	< 0.005	11.2
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																	
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		1.84	1.84	< 0.005	< 0.005	1.85
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Offsite																	
Daily, Summer (Max)																	
Worker	0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02		106	106	0.01	< 0.005	108
Vendor	< 0.005	< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005		60.6	60.6	< 0.005	0.01	63.4
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.54	0.54	< 0.005	< 0.005	0.55
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.33	0.33	< 0.005	< 0.005	0.35
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																	
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.09	0.09	< 0.005	< 0.005	0.09
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.05	0.05	< 0.005	< 0.005	0.06
Hauling	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0

3.25. Phase 1-Pipeline Installation (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment	0.37	0.31	2.31	2.33	0.01	0.08		0.08	0.07		0.07		587	587	0.02	< 0.005	589
Onsite truck	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0

Daily, Winter (Max)																		
Average Daily																		
Off-Road Equipment		0.01	0.01	0.07	0.07	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		17.7	17.7	< 0.005	< 0.005	17.7
Onsite truck		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																		
Off-Road Equipment	< 0.005		< 0.005	0.01	0.01	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		2.93	2.93	< 0.005	< 0.005	2.94
Onsite truck		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Offsite																		
Daily, Summer (Max)																		
Worker		0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02		106	106	0.01	< 0.005	108
Vendor	< 0.005		< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005		60.6	60.6	< 0.005	0.01	63.4
Hauling		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Daily, Winter (Max)																		
Average Daily																		
Worker	< 0.005		< 0.005	< 0.005	0.02	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		2.98	2.98	< 0.005	< 0.005	3.03
Vendor	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		1.83	1.83	< 0.005	< 0.005	1.91
Hauling		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																		
Worker	< 0.005		< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.49	0.49	< 0.005	< 0.005	0.5
Vendor	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.3	0.3	< 0.005	< 0.005	0.32
Hauling		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0

3.27. Phase 2-UG Pipeline Installation (2025) - Unmitigated

Location	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Onsite																	
Daily, Summer (Max)																	
Off-Road Equipment		0.9	0.76	5.05	5.28	0.02	0.18	0.18	0.16	0.16		1919	1919	0.08	0.02	1925	
Onsite truck		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily, Winter (Max)																	
Average Daily																	
Off-Road Equipment		0.02	0.02	0.14	0.14	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		52.6	52.6	< 0.005	< 0.005	52.8
Onsite truck		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																		
Off-Road Equipment	< 0.005		< 0.005	0.03	0.03	< 0.005	< 0.005		< 0.005	< 0.005		< 0.005		8.7	8.7	< 0.005	< 0.005	8.73
Onsite truck		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Offsite																		
Daily, Summer (Max)																		
Worker		0.08	0.07	0.05	0.85	0	0	0.09	0.09	0	0.02	0.02		106	106	0.01	< 0.005	108
Vendor	< 0.005		< 0.005	0.12	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005		60.6	60.6	< 0.005	0.01	63.4
Hauling		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Daily, Winter (Max)																		
Average Daily																		
Worker	< 0.005		< 0.005	< 0.005	0.02	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		2.71	2.71	< 0.005	< 0.005	2.75
Vendor	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		1.66	1.66	< 0.005	< 0.005	1.73
Hauling		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
Annual																		
Worker	< 0.005		< 0.005	< 0.005	< 0.005	0	0	< 0.005	< 0.005	0	< 0.005	< 0.005		0.45	0.45	< 0.005	< 0.005	0.46
Vendor	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		0.27	0.27	< 0.005	< 0.005	0.29
Hauling		0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Vegetation	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Daily, Summer (Max)																	
Total																	
Daily, Winter (Max)																	
Total																	
Annual																	
Total																	

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

Land Use	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Daily, Summer (Max)																	
Total																	
Daily, Winter (Max)																	
Total																	
Annual																	
Total																	

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Species	TOG	ROG	NOx	CO	SO_2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO_2	$NBCO_2$	CO_2T	CH_4	N_2O	CO_2e
Daily, Summer (Max)																	
Avoided																	
Subtotal																	
Sequestered																	
Subtotal																	
Removed																	
Subtotal																	
Daily, Winter (Max)																	
Avoided																	
Subtotal																	
Sequestered																	
Subtotal																	
Removed																	
Subtotal																	
Annual																	
Avoided																	
Subtotal																	
Sequestered																	
Subtotal																	
Removed																	
Subtotal																	

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per We	Work Days p	Phase Description
Phase 2-Utility Bridge Abutments	Linear, Grading & Exca	6/20/2025	6/22/2025	5	3	Utility Bridge Abutments
Phase 2-Crane Pad Rough Grade	Linear, Grading & Exca	6/23/2025	6/23/2025	5	1	Crane Pad Rough Grade
Phase 1-Valve and Meter Vault Structure	Linear, Drainage, Utilit	4/30/2025	5/6/2025	5	5	Valve and Meter Vault Structures
Phase 1-Connection to Existing Main	Linear, Drainage, Utilit	5/7/2025	5/7/2025	5	1	Connection to Existing Main

Phase 2-Pump Station Foundation	Linear, Drainage, Utilit	5/19/2025	5/22/2025	5	4	Pump Station Foundation,
Phase 2-Offload and Stage Utility Bridge	Linear, Drainage, Utilit	6/24/2025	6/26/2025	5	3	Offload and Stage Utility Bridge, Pick and Set Utility Bridge, Pick and Set Steel Pipeline
Phase 2-Pump Station Building Shell	Linear, Drainage, Utilit	5/23/2025	6/9/2025	5	15	Pump Station Building Shell
Phase 2 -Pump Station Mechanical and	Linear, Drainage, Utilit	6/10/2025	6/19/2025	5	10	Pump Station Mechanical and Electrical
Phase 1-Seeding and Stabilization	Linear, Paving	5/20/2025	5/21/2025	5	2	Seeding and Stabilization
Phase 1-Road Resurfacing	Linear, Paving	5/8/2025	5/19/2025	5	8	Road Resurfacing
Phase 2-Road Resurfacing	Linear, Paving	6/27/2025	6/30/2025	5	2	Road Resurfacing
Phase 2 -Seeding and Stabilization	Linear, Paving	7/1/2025	7/2/2025	5	2	Seeding and Stabilization
Phase 1-Pipeline Installation	Linear, Trenching	4/15/2025	4/29/2025	5	11	Pipeline Installation
Phase 2-UG Pipeline Installation	Linear, Trenching	5/5/2025	5/18/2025	5	10	UG Pipeline Installation

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per	Hours Per D	Horsepower	Load Factor
Phase 2-Utility Bridge Abutments	Excavators	Diesel	Average	1	2	36	0.38
Phase 2-Utility Bridge Abutments	Dumpers/Tenders	Diesel	Average	1	10	16	0.38
Phase 2-Utility Bridge Abutments	Off-Highway Tractors	Diesel	Average	1	4	38	0.44
Phase 2-Utility Bridge Abutments	Tractors/Loaders/Back	Diesel	Average	1	5	84	0.37
Phase 2-Crane Pad Rough Grade	Dumpers/Tenders	Diesel	Average	1	10	16	0.38
Phase 2-Crane Pad Rough Grade	Off-Highway Tractors	Diesel	Average	1	4	38	0.44
Phase 2-Crane Pad Rough Grade	Cranes	Diesel	Average	1	1	367	0.29
Phase 2-Crane Pad Rough Grade	Tractors/Loaders/Back	Diesel	Average	1	5	84	0.37
Phase 1-Valve and Meter Vault Structure	Scrapers	Diesel	Average	1	10	423	0.48
Phase 1-Valve and Meter Vault Structure	Dumpers/Tenders	Diesel	Average	1	10	16	0.38
Phase 1-Valve and Meter Vault Structure	Skid Steer Loaders	Diesel	Average	1	10	71	0.37
Phase 1-Connection to Existing Main	Scrapers	Diesel	Average	1	10	423	0.48
Phase 1-Connection to Existing Main	Skid Steer Loaders	Diesel	Average	1	10	71	0.37
Phase 2-Pump Station Foundation	Excavators	Diesel	Average	1	2	36	0.38
Phase 2-Pump Station Foundation	Scrapers	Diesel	Average	1	4	423	0.48
Phase 2-Pump Station Foundation	Dumpers/Tenders	Diesel	Average	1	5	16	0.38
Phase 2-Pump Station Foundation	Off-Highway Trucks	Diesel	Average	1	2	376	0.38
Phase 2-Pump Station Foundation	Skid Steer Loaders	Diesel	Average	1	5	71	0.37
Phase 2-Pump Station Foundation	Cement and Mortar Mi	Diesel	Average	1	1	10	0.56
Phase 2-Offload and Stage Utility Bridge	Off-Highway Trucks	Diesel	Average	1	4	376	0.38
Phase 2-Offload and Stage Utility Bridge	Cranes	Diesel	Average	1	5	367	0.29
Phase 2-Offload and Stage Utility Bridge	Cranes	Diesel	Average	1	2	367	0.29
Phase 2-Offload and Stage Utility Bridge	Tractors/Loaders/Back	Diesel	Average	1	10	84	0.37
Phase 2-Pump Station Building Shell	Off-Highway Trucks	Diesel	Average	1	4	376	0.38
Phase 2-Pump Station Building Shell	Skid Steer Loaders	Diesel	Average	1	5	71	0.37
Phase 2-Pump Station Building Shell	Cranes	Diesel	Average	1	10	367	0.29
Phase 2-Pump Station Building Shell	Dumpers/Tenders	Diesel	Average	1	5	16	0.38
Phase 2 -Pump Station Mechanical and	Off-Highway Trucks	Diesel	Average	1	4	376	0.38
Phase 2 -Pump Station Mechanical and	Skid Steer Loaders	Diesel	Average	1	5	71	0.37
Phase 2 -Pump Station Mechanical and	Tractors/Loaders/Back	Diesel	Average	1	5	84	0.37
Phase 2 -Pump Station Mechanical and	Cranes	Diesel	Average	1	1	367	0.29
Phase 1-Seeding and Stabilization	Tractors/Loaders/Back	Diesel	Average	1	5	84	0.37
Phase 1-Seeding and Stabilization	Off-Highway Trucks	Diesel	Average	1	10	376	0.38
Phase 1-Road Resurfacing	Tractors/Loaders/Back	Diesel	Average	1	10	71	0.37
Phase 1-Road Resurfacing	Dumpers/Tenders	Diesel	Average	1	10	84	0.37
Phase 2-Road Resurfacing	Tractors/Loaders/Back	Diesel	Average	1	10	84	0.37
Phase 2-Road Resurfacing	Dumpers/Tenders	Diesel	Average	1	10	16	0.38
Phase 2-Road Resurfacing	Off-Highway Trucks	Diesel	Average	1	2	376	0.38

Phase 2 -Seeding and Stabilization	Off-Highway Trucks	Diesel	Average	1	10	376	0.38
Phase 2 -Seeding and Stabilization	Tractors/Loaders/Bacl	Diesel	Average	1	10	84	0.37
Phase 1-Pipeline Installation	Excavators	Diesel	Average	1	10	36	0.38
Phase 1-Pipeline Installation	Dumpers/Tenders	Diesel	Average	1	10	16	0.38
Phase 1-Pipeline Installation	Off-Highway Trucks	Diesel	Average	1	2	376	0.38
Phase 2-UG Pipeline Installation	Excavators	Diesel	Average	1	10	36	0.38
Phase 2-UG Pipeline Installation	Dumpers/Tenders	Diesel	Average	1	10	16	0.38
Phase 2-UG Pipeline Installation	Off-Highway Trucks	Diesel	Average	1	10	376	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Tri	Miles per Tri	Vehicle Mix
Phase 1-Valve and Meter Vault Structures				
Phase 1-Valve and Meter Vault Structure	Worker	10	13	LDA,LDT1,LDT2
Phase 1-Valve and Meter Vault Structure	Vendor	2	8.76	HHDT,MHDT
Phase 1-Valve and Meter Vault Structure	Hauling	15.4	20	HHDT
Phase 1-Valve and Meter Vault Structure	Onsite truck			HHDT
Phase 1-Road Resurfacing				
Phase 1-Road Resurfacing	Worker	10	13	LDA,LDT1,LDT2
Phase 1-Road Resurfacing	Vendor	2	8.76	HHDT,MHDT
Phase 1-Road Resurfacing	Hauling	0	20	HHDT
Phase 1-Road Resurfacing	Onsite truck			HHDT
Phase 1-Pipeline Installation				
Phase 1-Pipeline Installation	Worker	10	13	LDA,LDT1,LDT2
Phase 1-Pipeline Installation	Vendor	2	8.76	HHDT,MHDT
Phase 1-Pipeline Installation	Hauling	0	20	HHDT
Phase 1-Pipeline Installation	Onsite truck			HHDT
Phase 1-Seeding and Stabilization				
Phase 1-Seeding and Stabilization	Worker	10	13	LDA,LDT1,LDT2
Phase 1-Seeding and Stabilization	Vendor	2	8.76	HHDT,MHDT
Phase 1-Seeding and Stabilization	Hauling	0	20	HHDT
Phase 1-Seeding and Stabilization	Onsite truck			HHDT
Phase 1-Connection to Existing Main				
Phase 1-Connection to Existing Main	Worker	10	13	LDA,LDT1,LDT2
Phase 1-Connection to Existing Main	Vendor	2	8.76	HHDT,MHDT
Phase 1-Connection to Existing Main	Hauling	11	20	HHDT
Phase 1-Connection to Existing Main	Onsite truck			HHDT
Phase 2-Utility Bridge Abutments				
Phase 2-Utility Bridge Abutments	Worker	10	13	LDA,LDT1,LDT2
Phase 2-Utility Bridge Abutments	Vendor	2	8.76	HHDT,MHDT
Phase 2-Utility Bridge Abutments	Hauling	2.67	20	HHDT
Phase 2-Utility Bridge Abutments	Onsite truck			HHDT
Phase 2-Crane Pad Rough Grade				
Phase 2-Crane Pad Rough Grade	Worker	10	13	LDA,LDT1,LDT2
Phase 2-Crane Pad Rough Grade	Vendor	2	8.76	HHDT,MHDT
Phase 2-Crane Pad Rough Grade	Hauling	27	20	HHDT
Phase 2-Crane Pad Rough Grade	Onsite truck			HHDT
Phase 2-Pump Station Foundation				
Phase 2-Pump Station Foundation	Worker	10	13	LDA,LDT1,LDT2
Phase 2-Pump Station Foundation	Vendor	2	8.76	HHDT,MHDT
Phase 2-Pump Station Foundation	Hauling	4.5	20	HHDT
Phase 2-Pump Station Foundation	Onsite truck			HHDT

Phase 2-Offload and Stage Utility Bridge, Pick and Set Utility Bridge, Pick and Set Steel Pipeline				
Phase 2-Offload and Stage Utility Bridge	Worker	10	13	LDA,LDT1,LDT2
Phase 2-Offload and Stage Utility Bridge	Vendor	2	8.76	HHDT,MHDT
Phase 2-Offload and Stage Utility Bridge	Hauling	0.67	20	HHDT
Phase 2-Offload and Stage Utility Bridge	Onsite truck			HHDT
Phase 2-Road Resurfacing				
Phase 2-Road Resurfacing	Worker	10	13	LDA,LDT1,LDT2
Phase 2-Road Resurfacing	Vendor	2	8.76	HHDT,MHDT
Phase 2-Road Resurfacing	Hauling	0	20	HHDT
Phase 2-Road Resurfacing	Onsite truck			HHDT
Phase 2 -Seeding and Stabilization				
Phase 2 -Seeding and Stabilization	Worker	10	13	LDA,LDT1,LDT2
Phase 2 -Seeding and Stabilization	Vendor	2	8.76	HHDT,MHDT
Phase 2 -Seeding and Stabilization	Hauling	0	20	HHDT
Phase 2 -Seeding and Stabilization	Onsite truck			HHDT
Phase 2-UG Pipeline Installation				
Phase 2-UG Pipeline Installation	Worker	10	13	LDA,LDT1,LDT2
Phase 2-UG Pipeline Installation	Vendor	2	8.76	HHDT,MHDT
Phase 2-UG Pipeline Installation	Hauling	0	20	HHDT
Phase 2-UG Pipeline Installation	Onsite truck			HHDT
Phase 2-Pump Station Building Shell				
Phase 2-Pump Station Building Shell	Worker	10	13	LDA,LDT1,LDT2
Phase 2-Pump Station Building Shell	Vendor	2	8.76	HHDT,MHDT
Phase 2-Pump Station Building Shell	Hauling	0.13	20	HHDT
Phase 2-Pump Station Building Shell	Onsite truck			HHDT
Phase 2 -Pump Station Mechanical and Electrical				
Phase 2 -Pump Station Mechanical and	Worker	10	13	LDA,LDT1,LDT2
Phase 2 -Pump Station Mechanical and	Vendor	2	8.76	HHDT,MHDT
Phase 2 -Pump Station Mechanical and	Hauling	0.2	20	HHDT
Phase 2 -Pump Station Mechanical and	Onsite truck			HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55	55
Limit vehicle speeds on unpaved roads t	44	44

5.5. Architectural Coatings

Phase Name	Residential Interior Are	Residential E	Non-Resider	Non-Resider Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cu	Material Exp	Acres Grade	Material Den	Acres Paved (acres)
Phase 2-Utility Bridge Abutments	40	17	0	0	
Phase 2-Crane Pad Rough Grade	150	63	0	0	
Phase 1-Valve and Meter Vault Structure	394	219	0	0	
Phase 1-Connection to Existing Main	56	31	0	0	
Phase 2-Pump Station Foundation	100	42	0	0	
Phase 2-Offload and Stage Utility Bridge	10	4	0	0	
Phase 2-Pump Station Building Shell	10	4	0	0	
Phase 2 -Pump Station Mechanical and	10	4	0	0	

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduc	PM2.5 Reduction
Water Demolished Area	2	36	36

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Linear	0	100
User Defined Linear	0	100

5.8. Construction Electricity Consumption and Emissions Factors

Year	kWh per Year	CO2	CH4	N2O
2025	0	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Loca	Unit
Temperature and Extreme Heat	29.2	annual days of extreme heat
Extreme Precipitation	9.4	annual days with precipitation above 20 mm
Sea Level Rise		meters of inundation depth
Wildfire	17.8	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES),
Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Sc	Adaptive Ca	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	0	0	0	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Sc	Adaptive Ca	Vulnerability Score	
Temperature and Extreme Heat	N/A	N/A	N/A	N/A	
Extreme Precipitation	2	1	1		3
Sea Level Rise	N/A	N/A	N/A	N/A	
Wildfire	1	1	1		2
Flooding	N/A	N/A	N/A	N/A	
Drought	N/A	N/A	N/A	N/A	
Snowpack Reduction	1	1	1		2
Air Quality Degradation	N/A	N/A	N/A	N/A	

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	
AQ-Ozone	75.1
AQ-PM	25

AQ-DPM	8.04
Drinking Water	76.2
Lead Risk Housing	25.2
Pesticides	25.4
Toxic Releases	8.5
Traffic	10.3
Effect Indicators	
CleanUp Sites	74.9
Groundwater	89.7
Haz Waste Facilities/Generators	59.8
Impaired Water Bodies	43.8
Solid Waste	95.7
Sensitive Population	
Asthma	66.7
Cardio-vascular	79
Low Birth Weights	13.9
Socioeconomic Factor Indicators	
Education	32.9
Housing	27.2
Linguistic	0
Poverty	67.4
Unemployment	83.6

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	
Above Poverty	42.21737457
Employed	5.3124599
Median HI	32.25972026
Education	
Bachelor's or higher	33.13229822
High school enrollment	100
Preschool enrollment	18.04183241
Transportation	
Auto Access	68.11240857
Active commuting	15.47542666
Social	
2-parent households	20.30026947
Voting	67.68895162
Neighborhood	
Alcohol availability	81.49621455
Park access	22.13524958
Retail density	6.03105351
Supermarket access	13.20415758
Tree canopy	96.99730527
Housing	
Homeownership	73.30938021
Housing habitability	78.09572693
Low-inc homeowner severe housing cos	49.18516617
Low-inc renter severe housing cost burd	64.67342487
Uncrowded housing	66.03361992

Health Outcomes	
Insured adults	53.31707943
Arthritis	0
Asthma ER Admissions	43
High Blood Pressure	0
Cancer (excluding skin)	0
Asthma	0
Coronary Heart Disease	0
Chronic Obstructive Pulmonary Disease	0
Diagnosed Diabetes	0
Life Expectancy at Birth	16
Cognitively Disabled	4.9
Physically Disabled	4.7
Heart Attack ER Admissions	26
Mental Health Not Good	0
Chronic Kidney Disease	0
Obesity	0
Pedestrian Injuries	56
Physical Health Not Good	0
Stroke	0
Health Risk Behaviors	
Binge Drinking	0
Current Smoker	0
No Leisure Time for Physical Activity	0
Climate Change Exposures	
Wildfire Risk	35
SLR Inundation Area	0
Children	80
Elderly	6
English Speaking	95
Foreign-born	2.2
Outdoor Workers	23
Climate Change Adaptive Capacity	
Impervious Surface Cover	95
Traffic Density	7.2
Traffic Access	0
Other Indices	
Hardship	61
Other Decision Support	
2016 Voting	79

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Lo	54
Healthy Places Index Score for Project L	33
Project Located in a Designated Disadva	No
Project Located in a Low-Income Comm	Yes
Project Located in a Community Air Prot	No

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

7.4. Health & Equity Measures

Measure Title	Co-Benefits Achieved

7.5. Evaluation Scorecard

Category	Number of Applicable	Total Points	Max Possible	Weighted Score

7.6. Health & Equity Custom Measures

Measure Title	Sponsor

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	project specific
Construction: Off-Road Equipment	Project specific
Construction: Trips and VMT	project specific

Appendix B
Biological Resources Assessment

Draft-Updated

TELELI GOLF COURSE RECYCLED WATER LINE

Biological Resources Assessment
Tuolumne County, California

Prepared for
Tuolumne Band of Me-Wuk Indians and
Tuolumne Utilities District

February 2025

Draft-Updated

TELELI GOLF COURSE RECYCLED WATER LINE

Biological Resources Assessment
Tuolumne County, California

Prepared for
Tuolumne Band of Me-Wuk Indians and
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February 2025

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Teleli Golf Course Recycled Water Line Biological Resources Assessment

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CHAPTER 1
Introduction

1.1 Background and Purpose

The proposed Teleli Golf Course Recycled Water Pipeline Project (Project) is an agreement between the Tuolumne Band of Me-Wuk Indians (Tribe), Tuolumne Economic Development Authority (TEDA) and the Tuolumne Utilities District (TUD) to allow the Teleli Golf Course operated by TEDA to receive tertiary treated recycled water from TUD's wastewater treatment facility in Sonora, Tuolumne County. TUD currently delivers treated wastewater to several properties for discharge to land via spray irrigation and disposal. For the Tribe to use the recycled water, several thousand feet of new pipeline would need to be constructed and connected to TUD's existing recycled water pipeline and routed over Sullivan Creek then underground to the Tribe's Teleli Golf Course.

The proposed recycled water pipeline will be constructed in two parts: 1) TUD will construct and install the recycled water pipeline from its existing turnout connection in the West property; 2) TEDA will connect to TUD's turnout and construct and install the recycled water pipeline over Sullivan Creek and up to Storage Pond 1 for storage and prior to use as irrigation on the Teleli Golf Course.

Part 1 of the Project will install approximately 6,000 feet of new ten-inch high density polyethylene (HDPE) pipeline from TUD's existing 10-inch asbestos cement recycled water pipeline through pasture lands and along existing ranch roads to an existing turnout at Assessor's Parcel Number (APN) 059-160-08, and installing another 1,700 linear feet of eight-inch HDPE pipeline underground to a second connection near Sullivan Creek (APN 059-070-80). The new recycled water main will include air vacuum valves, isolation valves, two above ground metering vault structures, a recycled water filling station, and include road surface restoration and reseeding. Part 1 of the Project area will be accessed from Algerine Road and through an existing access gate onto a gravel road through the West Ranch. TUD will stake the pipeline alignment to ensure construction occurs within the easement. Staging and parking will be on existing disturbed ranch land.

Part 2 involves continuing underground and crossing over Sullivan Creek, continuing along the existing access roads for storage in Storage Pond 1 prior to irrigation purposes at the Teleli Golf Course. The eight-inch steel pipeline will cross over Sullivan Creek on a prefabricated steel utility pipe bridge. The pipe bridge will "clear span" the breadth of the Sullivan Creek and be fitted to abutments or piers on each side of the creek outside of the top of bank. A pad for a crane to pick and set the pipe bridge will be graded and prepared on the east side of Sullivan Creek. Work will be done during the dry season when precipitation events are unlikely, and stream flows are low. Excavations will be outside the ordinary high-water mark (OHWM) of Sullivan Creek. Silt fences will be placed along the edge of Sullivan Creek in the work zone, to prevent loose soil and sediments from entering Sullivan Creek.

After crossing Sullivan Creek, the new eight-inch pipeline will transition to purple polyvinyl chloride (PVC) C900 pipe before going underground. The new pipeline will then follow the alignment of an existing gravel road and be discharged into Storage Pond 1. The water from Storage Pond 1 will be introduced into the golf course's existing irrigation system. The tertiary treated recycled water pumped into Storage Pond 1 will be mixed with existing raw water either through the existing raw water from Sullivan Creek or natural runoff collecting in Storage Pond 1. Once tertiary water is mixed, water will then be pumped up to the golf course for distribution through augmented pressures to various holding ponds, ultimately irrigating the golf course.

Part 2 of the Project area will be accessed by public roads to the Teleli Golf Course which is located on Championship Drive. TEDA will stage equipment outside of the golf course roughs and beyond the field of play.

All pipelines would be trenched, installed at three feet deep, bedded in approximately one foot of sand, and then backfilled with native soil and reseeded as appropriate. Roadways will be restored with baserock. TUD will reseed trenchlines and other disturbed areas outside of roadways with native plant seeds.

The purpose of this report is to assess the suitability of the Study Area to support special-status species and other sensitive biological resources, describe the biological resources that would be affected by the Project, and recommend conservation measures to avoid or minimize potential impacts on special-status species and other sensitive biological resources. This report presents the findings of vegetation, wildlife, and wetland surveys that identify the potential presence and distribution of special-status plant and wildlife species, sensitive natural communities, and federally and state-regulated waters and wetlands.

1.2 Project Location

The Project site is in a rural area of Tuolumne County outside the community of Jamestown. The new pipeline would extend from TUD's existing recycled water pipeline turnout at Assessor's Parcel Number (APN) 059-160-08 and extend underground approximately 6,000 linear feet to a second connection at APN 059-070-80, continuing underground and then crossing over Sullivan Creek via pipe bridge and continuing along the existing access roads, and terminating at Storage Pond 1 (See **Figure 1)**. The new recycled water pipeline alignment generally follows unimproved ranch roads through grazing land and gravel access roads from Sullivan Creek to Storage Pond 1. A 190-foot utility-grade pipe bridge would be used to "clear span" Sullivan Creek. The Project site is located on the Sonora U.S. Geological Survey topographic quadrangle (quad) (T1N, R14E, Section 33 and T11N, R6E, Sections 23 and 24). Elevations in the Study Area range from approximately 1,350 feet to 1,550 feet. **Figure 2** is a vicinity map of the Study Area.

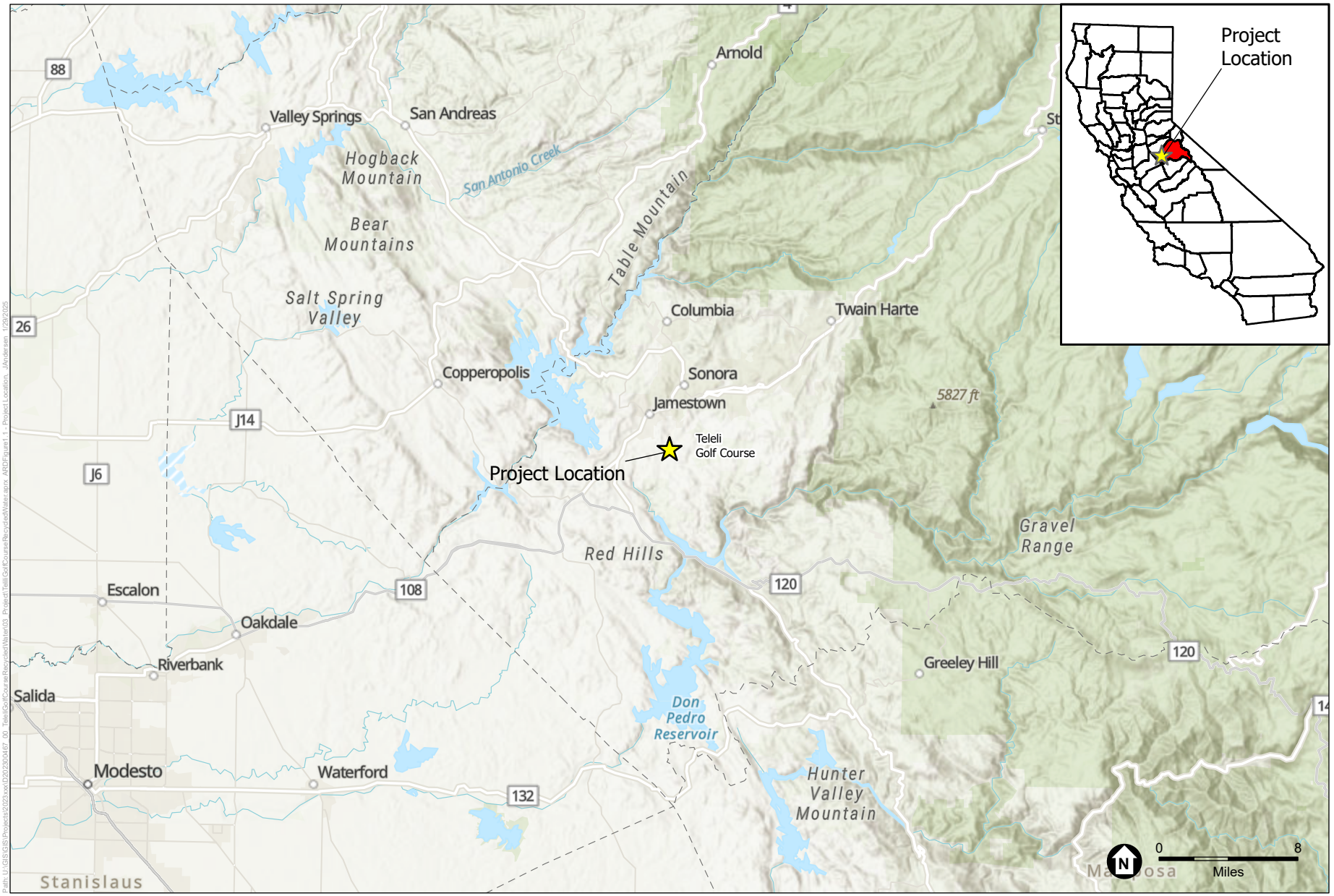
1.3 Regulatory Context

Biological resources in the Study Area may fall under the jurisdiction of various regulatory agencies and be subject to their regulations. In general, the greatest legal protections are provided for plant and wildlife

species that are formally listed by the federal or state government. The following regulations and laws are commonly associated with projects that have the potential to affect biological resources:

- Federal Endangered Species Act (FESA)
- Federal Migratory Bird Treaty Act
- Federal Bald and Golden Eagle Protection Act
- Federal Clean Water Act, Section 404
- California Endangered Species Act (CESA)
- California Fish and Game Code Sections 3500–3705, Migratory Bird Protection
- California Native Plant Protection Act
- California Fish and Game Code Section 1600, Lake or Streambed Alterations
- California Porter-Cologne Water Quality Control Act
- California Environmental Quality Act (CEQA) Guidelines Section 15380

These regulations are presented and discussed in **Attachment A**, Regulatory Context.



SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 1 Project Location

ESA

SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 2
Project Vicinity

ESA

CHAPTER 2
Methods

2.1 Study Area

The term Study Area in this report specifically refers to the approximately 7.76 acres which includes the footprint of the approximately 1.5-mile-long proposed new pipeline alignment and areas within 25 feet of work. The Study Area includes two proposed crossings at Sullivan Creek: the proposed southern crossing which requires crossing of an intermittent creek on the east bank, and an alternative northern crossing which would not require crossing the intermittent creek.

2.2 Review of Background Information

ESA biologists reviewed publicly available and subscription-based biological resource data to establish baseline Project conditions that would be evaluated and confirmed by field surveys. A list of special-status wildlife and plant species with potential to occur in or near the Study Area was compiled from nine-quad searches of the CNDDB (CDFW 2024) and CNPS's Rare Plant Inventory (CNPS 2024); a search of the USFWS Information for Planning and Consultation database (USFWS 2024a); and review of biological literature of the region for the following 7.5-minute USGS topographic quadrangles:

Angels Camp	Columbia	Columbia SE
New Melones Dam	Sonora	Standard
Keystone	Chinese Camp	Moccasin

From the full list of species, each species was individually assessed based on habitat requirements and distribution relative to the vegetation communities present in and around the Study Area, and on the results of previous surveys. The results of the database queries are in **Attachment B**.

The following data sources assisted in this analysis:

- Sonora and Standard USGS topographic map
- Historic and current aerial imagery (Google Earth 2024)
- Soil maps and information from the National Resources Conservation Service (NRCS 2024)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2024)
- The California Native Plant Society (CNPS) online database (CNPS 2024)
- A U.S. Fish and Wildlife Service Information for Planning and Consultation species list (USFWS 2024a)

2.3 Survey Methodology

2.3.1 Survey Dates and Personnel

ESA biologist Jessica Orsolini and botanist Seth Kirby conducted the general biological field survey, botanical survey, and wetland delineation on May 30, 2024. A follow-up field survey was conducted by ESA biologists Amanda Segura-Moon and Alissa Lun on December 19, 2024, to survey expanded portions of the Study Area around Sullivan Creek and Storage Pond 1. The surveys were conducted to observe and characterize vegetation communities in the Study Area, surveys for special-status plants, and to assess habitat quality and the potential for common and special-status wildlife species and special-status plant species.

2.3.2 Biological Surveys

The biological surveys consisted of walking through the Study Area to evaluate vegetative communities, record plant and wildlife species observed, and document habitat for special-status species with the potential to occur. The survey performed on May 30, 2024, was conducted during the evident and identifiable period of special-status plants with potential to occur in the Study Area. During the May 30, 2024, survey, the entire alignment was walked during the survey with searches of different microhabitats more suitable for special-status plants, or to identify additional plants. Approximately 21 person hours were spent in the field during the survey. All plants found in the Study Area were identified to the taxonomic level necessary to determine legal status. A list of plants observed in the Study Area is in **Appendix C**. Scientific nomenclature follows the Jepson Flora Project (Jepson 2019), based on Baldwin et al. (2012). Natural community boundaries were identified based on field notes and aerial photographs. A list of wildlife species observed during surveys is included as **Attachment D.**

Through the aquatic resource delineation, potential federal and state jurisdictional wetlands were identified within the Study Area. The wetland delineation used the "Routine Determination Method" as described in the 1987 *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987), hereafter called the "1987 Manual." The 1987 Manual was used in conjunction with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (U.S. Army Corps of Engineers [USACE], 2008), hereafter called the "Arid West Supplement." For areas where the 1987 Manual and the Arid West Supplement differ, the Arid West Supplement was followed. Presence or absence of positive indicators for wetland vegetation, soils, and hydrology was assessed using the 1987 Manual and Arid West Supplement.

2.4 Special-Status Species

Several species known to occur in or near the Study Area are regulated pursuant to federal and/or State endangered species laws or have been designated as Species of Special Concern by CDFW. In addition, Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines defines rare, endangered, or threatened species that are not included in any listing.[1] Species recognized under these

[1] For example, vascular plants listed as rare or endangered or as Rare Plant Rank 1 or 2 by CDFW are considered to meet the requirements of CEQA Guidelines Section 15380(b).

terms are collectively referred to as special-status species. Special-status species or natural communities evaluated in this report are defined as:

1. Species listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (FESA) (50 Cod of Federal Regulations [CFR] 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species])

2. Species that are candidates for possible future listing as threatened or endangered under the FESA (61 FR 40, February 28, 1996)

3. Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (California Code of Regulations [CCR], Title 14, Section 670.5)

4. Plants listed as rare or endangered under the California Native Plant Protection Act (NPPA) (Fish and Game Code, Section 1900 et seq.)

5. Animal species of special concern to CDFW

6. Animals fully protected under Fish and Game Code (Fish and Game Code, Section 3511 [birds], Section 4700 [mammals], and Section 5050 [reptiles and amphibians])

7. Species that meet the definitions of rare and endangered under the California Environmental Quality Act (CEQA); a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists (State CEQA Guidelines, Section 15380)

8. Plants ranked by CNPS as "rare, threatened, or endangered in California" (California Rare Plant Ranks [CRPRs] 1A, 1B, and 2) meet CEQA significance criteria and State Fish and Game Code sections 1901, 2062, and 2067 criteria as rare, threatened, or endangered species

9. Natural communities that are waters, wetlands, riparian communities, or any biological community ranked S1, S2, or S3 by CDFW (2023)

Laws and regulations that may apply to special-status species or sensitive natural communities are further described in Attachment A. Each of the special-status species or natural communities from the queries in Attachment B is evaluated in the table in **Attachment E**. The table provides a summary of the special-status species, their general habitat requirements, and an assessment of their potential to occur in the Study Area. The "Potential for Occurrence" categories are defined as follows:

- **None:** The Study Area does not support suitable habitat for a particular species, does not provide soils required for the species to inhabit, or is outside of the species known elevation or geographic range;
- **Low:** The Study Area only provides limited amounts and low-quality habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate Study Area;
- **Moderate:** The Study Area provides suitable habitat for a particular species;
- **High:** The Study Area provides ideal habitat conditions for a particular species and/or known populations occur in immediate area and/or within the Study Area; or
- **Present:** The species was observed during biological surveys within the Study Area.

Species with a moderate or higher potential to occur are further discussed in Chapter 3.

CHAPTER 3
Environmental Setting

This chapter summarizes the results of the background information gathering and field surveys to establish the environmental baseline of natural communities and habitats, wetlands, and special-status species within the Study Area.

3.1 Soil Types

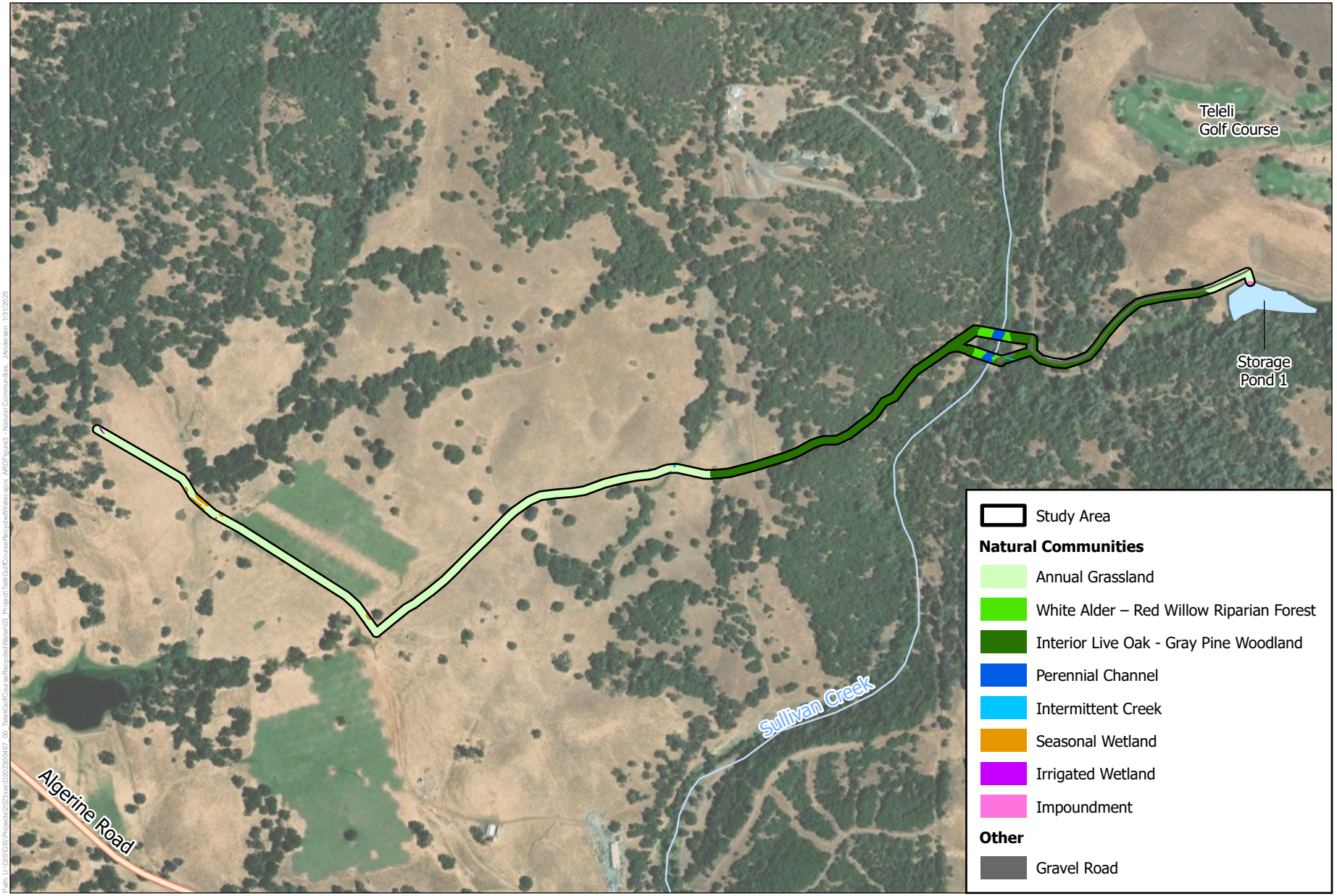
The *Custom Soil Resource Report* (**Attachment F**) identifies five map units in the Study Area: Loafercreek-Bonanza complex, 3 to 15 percent slopes, Deerflat-Millvilla complex, 3 to 15 percent slopes, Millvilla-Luckymine complex, 15 to 30 percent slopes, Wardsferry-Millvilla complex, 30 to 60 percent slopes, and Cumulic Humixerepts-Riverwash complex, 0 to 8 percent slopes. These soil types are well-drained and formed in colluvium over residuum weathered from metavolvanic rocks, phyllite, schist, and other metasedimentary rocks. They are underlain by bedrock at 22 to 77 inches. These soils typically range from moderately to slightly acidic. These soil map units are not serpentine or gabbroic and are not considered hydric, though minor components in drainageways comprising about five percent of the Millvilla map unit and minor components in floodplain steps comprising about five percent of the Riverwash map unit are considered hydric (NRCS 2024).

3.2 Natural Communities and Other Land Covers

Natural communities are assemblages of plant species that are defined by species composition and relative abundance. Other land covers consist of unvegetated areas or areas significantly disturbed by human activities. The natural communities described herein correlate where applicable with the list of terrestrial biological communities recognized by the CNDDB (CDFW 2023). Eight habitat types were identified within the Study Area. They can be divided into two main classifications: uplands (natural and other) and aquatic habitats. **Table 1** and **Figure 3** identify the natural communities and other land covers that occur in the Study Area. **Appendix G** contains representative photos of the natural communities in the Study Area.

TABLE 1
ACREAGES OF NATURAL COMMUNITIES AND OTHER LAND COVERS IN THE STUDY AREA

Natural Community and Other Land Covers	CDFW Name, Code	Acreage
Upland Habitats – Natural Communities		
Interior live oak – gray pine woodland	Quercus wislizeni – Pinus sabiniana / annual grass – herb, 71.080.42	2.839
Annual grassland	Annual Brome Grasslands, 42.027.00	3.927
White alder – red willow riparian forest	Alnus rhombifolia – Salix laevigata, 61.420.13	0.248
Upland Habitats – Other Land Covers		
Gravel road	None	0.495
Aquatic Habitats		
Seasonal wetland	None	0.080
Irrigated wetland	None	0.007
Sullivan Creek (Perennial Creek)	None	0.132
Intermittent creek	None	0.016
Impoundment (Storage Pond 1)	None	0.014
	Total	**7.758**



SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 3
Natural Communities and
Other Land Covers

ESA

3.2.1 Natural Communities

Interior Live Oak – Gray Pine Woodland

Within the Study Area, interior live oak-gray pine woodland occurs in the uplands surrounding Sullivan Creek. This community type is dominated by an overstory of interior live oak (*Quercus wislizeni*), blue oak (*Quercus douglasii*), and gray pine (*Pinus sabiniana*). Openings in this type of woodland are common and can be occupied by an understory of shrubs or grasslands. Common shrubs encountered include common whiteleaf manzanita (*Arctostaphylos viscida* ssp. *viscida*), poison oak (*Toxicodendron diversilobum*), wedgeleaf ceanothus (*Ceanothus cuneatus var. cuneatus*), California coffeeberry (*Frangula californica* ssp. *tomentella*), and California yerba santa (*Eriodictyon californicum*). The herbaceous layer in this community is similar to the composition of grasses and forbs in the annual grassland community. Interior live oak-gray pine woodland is not considered a sensitive natural community by CDFW (CDFW 2023).

Annual Grassland

Annual grassland occurs in the uplands in the western half of the Project site and adjacent to the eastern end of the gravel road east of Sullivan Creek. The dominant species of this community are ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum*), wild oat (*Avena fatua*), Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), short podded mustard (*Hirschfeldia incana*), yellow star-thistle (*Centaurea solstitialis*) and several species of clover (*Trifolium* spp.). Within the annual grassland is an unimproved ranch road where the majority of the proposed pipeline will be constructed. The ranch road has a species composition similar to the annual grassland in which in crosses through, though has more areas of barren ground and is routinely disturbed by vehicles and farm equipment. Annual brome grassland is not considered a sensitive natural community by CDFW (CDFW 2023).

White Alder-Red Willow Riparian Forest

White alder – red willow riparian forest occurs along Sullivan Creek in the Study Area. This natural community is dominated by several species of trees which include white alder (*Alnus rhombifolia*), red willow (*Salix laevigata*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), Oregon ash (*Fraxinus latifolia*), and Goodding's black willow (*Salix gooddingii)*. Shrubs in the understory include western buttonwillow (*Cephalanthus occidentalis*), California wild grape (*Vitis californica*), Himalayan blackberry (*Rubus armeniacus*), and California wild rose (*Rosa californica*). Along the creek's edge ad within the OHWM of Sullivan Creek, herbaceous species include torrent sedge (*Carex nudata*), common plantain (*Plantago major*), spikerush (*Eleocharis macrostachya*), Mexican rush (*Juncus mexicanus*), mugwort (*Artemesia douglasianna*), spearmint (*Mentha spicata*), and peppermint (*Mentha × piperita*). White alder – red willow riparian forest is considered a sensitive natural community by CDFW (CDFW 2023).

Seasonal Wetlands

Four seasonal wetlands occur in a drainage near the western end of the Study Area; two of these seasonal wetlands are located north of the ranch road alignment, and two are located south of the ranch road alignment. The seasonal wetlands on the north side of the road are connected to the seasonal wetlands on the south side of the road through approximately 24-inch diameter culverts under the road. Dominant

species in these seasonal wetlands are Italian ryegrass (*Festuca perennis*), low manna grass (*Glyceria declinata*), seaside barley (*Hordeum marinum*), and Bermuda grass (*Cynodon dactylon*). The drainage in which these seasonal wetlands are located is tributary to Sullivan Creek downstream of the Study Area. Based on a review of Google Earth imagery, the hydrology of these seasonal wetlands is supplemented by irrigation water.

Two additional seasonal wetlands occur in a drainage in the western third of the Study Area near the proposed staging area. The seasonal wetlands occur on either side of the ranch road and are connected through an approximately 12-inch diameter culvert. Dominant species in these seasonal wetlands are Italian ryegrass and seaside barley. The drainage in which these seasonal wetlands are located is tributary to Sullivan Creek downstream of the Study Area. During the field survey, standing water was observed around the outfall of a PVC water pipe valve. Based on a review of Google Earth imagery and observed field conditions, the hydrology of these seasonal wetlands is supplemented by irrigation water.

Irrigated Wetland

An irrigated wetland occurs at the western end of the Study Area near the proposed TUD connection point. This irrigated wetland is the result of a broken water pipe, which was observed spilling water during field work. The irrigated supports hydrophytic vegetation and was dominated by Italian ryegrass. The irrigated wetland has no connection to any other seasonal wetlands and is not tributary to any downstream aquatic features.

Sullivan Creek (Perennial Creek)

Sullivan Creek is a perennial feature that flows from north to south through the center of the Study Area. Water in Sullivan Creek was approximately six to eighteen inches deep during the survey. Sullivan Creek has a rocky bottom with flows consisting of a mix of pools, riffles, and runs. The white alder-red willow riparian forest occurs along the edges and within portions of the flowing stream. The OHWM is indicated by scour, a natural line impressed on the bank, changes in soil character, and a change in plant community.

Intermittent Creek

Intermittent creeks have flowing water during certain times of the year. Groundwater is the primary component of flow, and runoff from precipitation supplements the surface water flows. Intermittent creeks are generally dry by mid to late summer. Two unnamed intermittent creeks are in the Study Area. One intermittent creek (IC 1) originates in the foothills north of the Study Area, crosses through the center of the Study Area through a culvert and drains south to Sullivan Creek outside the Study Area. During the survey, water was approximately two to six inches deep. The substrate primarily consisted of mud with scattered large rocks. Vegetation in the creek was dominated by seep monkey flower (*Erythranthe guttata*), watercress (*Nasturtium officinale*), and spinyfruit buttercup (*Ranunculus muricatus*). Hundreds of Sierran treefrog (*Pseudacris sierra*) adults and tadpoles were observed in this creek during the field survey. The OHWM is indicated by scour and a change in plant community.

A second intermittent creek (IC 2) crosses through the Study Area just east of Sullivan Creek. IC 2 originates at the golf course, is impounded in several areas, crosses over the gravel access road, then drains into Sullivan Creek. Under current conditions, water in IC 2 is supplemented by irrigation water

that is diverted from Sullivan Creek, temporarily stored in Storage Pond 1 (an impoundment of IC 2), then used as irrigation water at the golf course. During the survey, water was approximately two to six inches deep. The substrate primarily consisted of gravel and mud. Dominant vegetation along the banks of this intermittent creek consists of Himalayan blackberry (*Rubus armeniacus*); close to its outfall into Sullivan Creek it crosses through the white alder – red willow riparian forest. The OHWM is indicated by scour and a natural line impressed on the bank.

Impoundment (Storage Pond 1)

A small portion of the northern edge of an impoundment (Storage Pond 1) occurs at the eastern end of the Study Area. Storage Pond 1 is an impoundment of IC 2. Storage Pond 1 is used to hold water pumped from Sullivan Creek which is then used as irrigation water for the golf course. The substrate of the pond consists of sediment and small cobble. Within the Study Area, vegetation on the banks of Storage Pond 1 consists of annual grassland with emergent sedges (*Cyperus eragrostis*) growing along the water line. The existing pump structure and outfall pipe are located above the OHWM. During the survey, small fish and aquatic invertebrates were observed in the water.

3.2.2 Other Land Covers

Gravel Road

The Study Area follows a single lane gravel road from the eastern edge of Sullivan Creek to the western edge of the Teleli Golf Course. The gravel road is generally devoid of vegetation, with the exception of a few scattered weedy herbaceous species.

3.3 Potential Waters of the United States and State

The seasonal wetlands, intermittent creeks, Sullivan creek, and Storage Pond 1 are sensitive natural communities because they are potential waters of the United States or State subject to regulation by the USACE and the Central Valley Water Quality Control Board. See Attachment A for more details.

3.4 Sensitive Natural Communities

A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or federal agencies. Most sensitive natural communities are given special consideration because they perform important ecological functions, such as maintaining water quality and providing essential habitat for plants and wildlife. Some natural communities support a unique or diverse assemblage of plant species and therefore are considered sensitive from a botanical standpoint. CEQA may identify the elimination of such communities as a significant impact.

Sensitive natural communities include: (a) habitats and natural communities that are regulated by federal and State resource agencies, (b) natural communities ranked S1, S2, or S3 by CDFW, and (c) areas protected by County ordinance. The CNDDB generates a list of ecologically sensitive and/or threatened habitat types within the state of California. There are no sensitive natural communities mapped in the CNDDB on the nine quads centered on the Study Area. The seasonal wetlands, intermittent creeks, Sullivan Creek, and Storage Pond 1 in the Study Area are sensitive natural communities because they are

regulated by federal and State resource agencies. The white alder – red willow riparian forest is considered a sensitive natural community by CDFW (CDFW 2023).

3.5 Special-Status Species

A total of five special-status wildlife species were identified as having moderate or high potential to occur in or near the Study Area. The special-status wildlife species are Crotch's bumble bee (*Bombus crotchii*), Central California roach (*Hesperoleucus symmetricus symmetricus*), foothill yellow-legged frog - south Sierra Distinct Population Segment (DPS) (*Rana boylii pop. 5*), northwestern pond turtle (*Emys (=Actinemys) marmorata*), and western red bat (*Lasiurus frantzii*).

Habitat potentially suitable for six special-status plants occurs in the Study Area. These species are beaked clarkia (*Clarkia rostrata*), Tuolumne button-celery (*Eryngium pinnatisectum*), Spiny-sepaled button-celery (*Eryngium spinosepalum*), Stanislaus monkeyflower (*Erythranthe marmorata*), Tuolumne fawn lily (*Erythronium tuolumnense*), and Tuolumne iris (*Iris hartwegii* ssp. *columbiana*). None of these special-status plants were found during the survey conducted in the evident and identifiable period and are therefore presumed to not occur in the Study Area. Habitat descriptions for these plants are included in Attachment E and are not discussed further in this report.

3.5.1 Special-Status Wildlife Species

Crotch's Bumble Bee

Crotch's bumble bee is a State Candidate Endangered species. Crotch's bumble bee is primarily found in the foothills of the Central Valley between San Diego and Redding. This species was historically common throughout the Central Valley, but now is mostly absent (CDFW 2019). It inhabits open grassland and scrub habitats, requiring a hotter and drier environment than other bumble bee species, and can only tolerate a very narrow range of climatic conditions. Crotch bumble bees primarily nest underground in abandoned rodent dens (iNaturalist 2024) but are occasionally observed in old logs and cavities in trees, among other aboveground locations (CDFW 2019). They are nonmigratory and likely overwinter in soft disturbed soil or under leaf litter (iNaturalist 2024, CDFW 2019).

Its food plants include milkweeds (*Asclepias* spp.), dustymaidens (*Chaenactis douglasii*), lupines (*Lupinus* spp.), medics (*Medicago* spp.), phacelias (*Phacelia* spp.), and sages (*Salvia* spp.). It also feeds on snapdragons (*Antirrhinum* spp.), Clarkia (*Clarkia* spp.), poppies (*Eschscholzia* spp. and *Dendromecon* spp.), and wild buckwheats (*Eriogonum* spp.). Milkweed is a favorite nectar source of Crotch's bumble bee. Due to the wide range of host plants visited by Crotch's bumble bee, it is characterized as a dietary generalist (iNaturalist 2024).

There is one CNDDB record of Crotch's bumble bee on the nine quads centered on the Study Area. This record is from collections made in 1915 and 1919 in the general vicinity of the community of Jamestown (CDFW 2024). An additional two records are recorded in iNaturalist on the nine-quad area. One of these records is from June 10, 2023, and is located at the southern end of New Melones Lake, approximately 2.8 miles west of the Study Area. The second record is from August 2, 2023, and is located south of Tuolumne Road, approximately 5 miles northeast of the Study Area (iNaturalist 2024).

While no Crotch's bumble bees were observed in the Study Area during field surveys, they could use the thatch, small mammal burrows, leaf litter, and soil cracks in and adjacent to the Study Area as nesting and overwintering sites. Floral resources in and adjacent to the Study Area, including the preferred genera *Clarkia*, provide potential foraging habitat. Therefore, Crotch's bumble bees have moderate potential to occur in the Study Area.

Central California Roach

Central California roach is a CDFW species of special concern. They are found in the Sacramento and San Joaquin drainages, except the Pit River, as well as tributaries draining to San Francisco Bay. They are most abundant in mid-elevation streams in the Sierra foothills and in the lower reaches of some coastal streams (Moyle 2002).

California roach are capable of adapting to varying habitats from coastal streams to mountain foothill streams. They are predominantly found in small warm streams but are capable of thriving in larger colder streams with diverse conditions. They may occupy different habitat types within the stream, ranging from stream margins to deep pools, depending on geography and presence of predators. In smaller rivers roach feed mostly on filamentous algae, supplementing their diet with crustaceans and insects. In larger rivers these fish may focus on a diet of aquatic insects year-round. Spawning occurs in March through early July, and timing is temperature dependent. California roach breed in gravel beds or riffles where groups of females lay eggs on and into the substrate. Each female may produce 250-2,000 eggs per year depending on body size. The eggs hatch in 2-3 days, but the larvae remain in the protection of the gravel substrate before emerging to swim (CalFish 2024).

There are seven CNDDB records of central California roach within the nine quad area centered on the Study Area. One of these records is mapped in Sullivan Creek and includes the Study Area. Three adults were collected from this location in November 1998.

While no Central California roach were observed during field surveys, Sullivan Creek in the Study Area provides suitable habitat. In addition, this species was recorded from the Study Area in 1998. Therefore, Central California roach have moderate potential to occur in the Study Area.

Foothill Yellow-Legged Frog - South Sierra DPS (FYLF)

FYLF is a Federal and State Endangered species. Historically, this species was known from most Pacific drainages from the Santiam River system (Marion County, OR) to the San Gabriel River system (Los Angeles County, CA) from sea level to 6,700 ft. In California, FYLF currently occurs in the Coast Ranges from the Oregon border south to the Transverse Mountains in Los Angeles County, in most of Northern California west of the Cascade Crest, and along the western flank of the Sierra south to Kern County from near sea level to 6,370 feet. Isolated populations have been reported in San Joaquin County and mountains of Los Angeles (CWHR 2024). FYLF consists of six geographically and genetically distinct population segments (DPS). The South Sierra DPS generally consists of the western flank of the Sierra Nevada from approximately the Placer/ El Dorado County line south to the Tehachapi Mountains (USFWS 2023).

FYLF are found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub,

mixed chaparral, and wet meadow types (CWHR 2024). FYLF require shallow, flowing water, preferably in small to moderate sized streams with at least some cobble-sized substrate (Thomson et al. 2016). Adults bask on exposed rock surfaces near streams, diving into the water for refuge when disturbed. During periods of inactivity, especially during cold weather, FYLF seeks cover under rocks in the steams or on shore within a few meters of water. This species is rarely encountered far from permanent water, even on rainy nights (CWHR 2024).

In California, breeding and egg-laying occur at the end of spring flooding, from mid-March to May depending on local water conditions and lasts about two weeks (CWHR 2024). Breeding and oviposition occur at the margins of relatively wide and shallow channel sections, where flow variation is limited. Breeding sites are often near tributary confluences (Thomson et al. 2016). Females lay a single cluster of up to 2,000 eggs attached to pebble or cobble substrates or to bedrock in gentle moving water near stream margins. Eggs hatch in about two to three weeks, depending on water temperature (Thomson et al. 2016). Metamorphosis takes three to four months (CWHR 2024).

There are 30 CNDDB records of FYLF on the nine quads centered on the Study Area. None of these records are from Sullivan Creek. The closest CNDDB record is located approximately 3.7 miles south of Study Area and from 1932 and considered extirpated due to subsequent inundation from Don Pedro Reservoir. The closest CNDDB record considered extant is located approximately 6.7 miles southeast of the Study Area along the Tuolumne River between Turnback Creek and North Fork Tuolumne River. One metamorph FYLF was found at this location on August 22, 2020.

While no FYLF were observed in the Study Area during field surveys, Sullivan Creek is a rocky, perennial stream that provides suitable habitat. Therefore, FYLF have moderate potential to occur in the Study Area.

Northwestern Pond Turtle

Northwestern pond turtle is a CDFW species of special concern and Federally Proposed Threatened. Northwestern pond turtles occur throughout California west of the Sierra-Cascade crest and are absent from desert regions, except the Mojave Desert along the Mojave River and its tributaries. Elevation range of this species extends from near sea level to 4,690 feet (CWHR 2024).

Northwestern pond turtle is a highly aquatic species that inhabits permanent or nearly permanent water in a wide variety of habitat types, such as ponds, lakes, streams, irrigation ditches, and permanent pools along intermittent streams. Northwestern pond turtles will also temporarily use semipermanent and ephemeral water bodies, including stock ponds, vernal pools, and seasonal wetlands (Thomson et al. 2016). Northwestern pond turtles require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks (CWHR 2024). The diet is generalized and consists of a variety of small aquatic invertebrates (including insects, crustaceans, and mollusks) and a wide variety of algae and other plant material (Thomson et al. 2016).

Northwestern pond turtles require upland habitat that is suitable for nesting and overwintering use. Localized soil conditions, as well as the frequency and degree of disturbance in the upland habitat, probably limit their distribution. Soils need to be loose enough to allow nest excavation, while disturbance needs to be infrequent enough or of sufficiently low intensity that nests are not disturbed

(Thomson et al. 2016). Nests are usually located within 330 feet of a water body, although nests as far away as 0.3 mile have occasionally been reported (Thomson et al. 2016). Nests have been observed in many soil types from sandy to very hard. Soil must usually be at least 4 inches deep for nesting. Nests must have a relatively high internal humidity for eggs to develop and hatch properly. Generally, 3–11 eggs are laid from March to August depending on local conditions (CWHR 2024). Eggs hatch in the fall and hatchlings often remain in the nest through the first winter, emerging the following spring (Thomson et al. 2016).

There are four CNDDB recorded occurrences of northwestern pond turtle within the nine quad area centered on the Study Area. There are no CNDDB records of northwestern pond turtles in Sullivan Creek. The closest CNDDB record of northwestern pond turtle occurs approximately 6 miles southwest of the Study Area within the Yosemite Estates Subdivision. Three adults and an empty carapace were observed at this location in April 1999; and three adults were observed in April 2023. Habitat at the site consisted of a large, perennial stock pond with mature willows (CDFW 2024).

While no northwestern pond turtles were observed during surveys, Sullivan Creek and Storage Pond 1 in the Study Area provide suitable habitat. The intermittent creeks do not provide sufficient water for use by northwestern pond turtles. Impoundments within 330 feet of the Study Area provide suitable aquatic habitat for northwestern pond turtle. Northwestern pond turtles have moderate potential to occur in the Study Area.

Nesting Birds

The federal Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703-711) regulates most native bird species and their nests. Any disturbance that causes direct injury, death, nest abandonment, or forced fledging is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of young is considered a ‘take’ of the species under federal law.

California Fish and Game Code §3503 regulates most birds and their nests. California Fish and Game Code §3503.5 further regulates all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). Birds of prey include raptors, falcons, and owls. The Code makes it unlawful to take or needlessly destroy the nest or eggs of most bird species.

The Study Area provides potential nesting habitat for birds regulated by the MBTA and California Fish and Game Code. Birds may nest in trees, shrubs, in or on the ground, or on structures depending on species. No active bird nests were observed during the survey, but nests could be established in the future. The nesting season for most species is typically February 1 through August 31.

Western Red Bat

Western red bat is a CDFW species of special concern. Western red bats are locally common in some areas of California, occurring from Shasta County south to the Mexican border west of the Sierra Nevada/Cascade crest and deserts. The winter range includes western lowlands and coastal regions south of San Francisco Bay. There is migration between summer and winter ranges, and migrants may be found outside the normal range (CWHR 2024).

Western red bats are a nocturnal species that roost almost exclusively in trees. They prefer edge habitats in riparian areas near water, and roost in sycamore (*Platanus* spp.), cottonwood (*Populus* spp.), and ash (*Fraxinus* spp.), among other trees. In the Central Valley, western red bats can also be found in fruit and nut orchards (BCI 2024, CWHR 2024). They prefer roost sites that are protected from above, open below, and located above dark groundcover. They feed over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands (CWHR 2024). Western red bats typically hunt in more open-space areas along forest edges and are commonly spotted feeding around streetlights. They feed on a variety of insects such as moths, flies, cicadas, and ants (BCI 2024).

Mating occurs in August and September and births occur from late May through early July. Most females bear 2 or 3 young which become capable of flight between 3-6 weeks of age. Females may move the young between roost sites (CWHR 2024).

There are two CNDDB recorded occurrences of western red bat within the nine quad area centered on the Study Area. The closest CNDDB record is located approximately 6.2 miles north-northwest of the Study Area along the Stanislaus River at Horseshoe Bend. Western red bats were detected at this location in August 1999.

The riparian area along Sullivan Creek in the Study Area provides habitat for western red bat. Therefore, western red bat has moderate potential to occur in the Study Area.

3.6 Critical Habitat for Listed Fish and Wildlife Species

USFWS defines the term critical habitat in the FESA as a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. There are no critical habitat designations within the Study Area.

CHAPTER 4
Project Impacts and Recommendations

This section describes potential impacts to special-status species as a result of the Project and recommends measures for avoiding or minimizing such impacts.

4.1 Sensitive Natural Communities

4.1.1 Impacts

Sullivan Creek, Intermittent Creeks, Seasonal Wetlands, and Riparian

Sullivan Creek, the two intermittent creeks, the seasonal wetlands, and Storage Pond 1 are potentially jurisdictional waters of the United States and State. The white alder – red willow riparian forest is a CDFW sensitive natural community. The Project will avoid all impacts to IC 1, IC 2, the seasonal wetlands, and Storage Pond 1. No permanent impacts or placement of fill will occur within the OHWM of Sullivan Creek. The permanent impacts associated with the implementation of the Project will result from the construction of three approximately eight-foot-square concrete abutments to support the aerial pipe bridge over Sullivan Creek. Two of these abutments will be constructed outside Sullivan Creek and the adjacent white alder – red willow riparian forest and the third abutment is proposed for placement in the white alder – red willow riparian forest.

Temporary impacts to Sullivan Creek and the white alder – red willow riparian forest will occur where construction of the pipeline crosses through these features. Some pruning of trees and vegetation in the riparian forest will likely occur for placement of the new pipeline. Work in Sullivan Creek will be conducted during the dry season when precipitation events are unlikely, and stream flows are low. Excavations will be outside the OHWM of Sullivan Creek; silt fences will be placed along the edge of the Sullivan Creek in the work zone, to prevent loose soil and sediment from entering Sullivan Creek. **Figure 4** shows the impacts to natural communities anticipated as a result of Project construction. **Table 2** identifies the permanent and temporary impacts to natural communities and other land covers that will occur as a result of construction of the Project.

TABLE 2
PROJECT IMPACTS TO NATURAL COMMUNITIES AND OTHER LAND COVERS

Natural Community and Other Land Covers	Permanent Impacts	Temporary Impacts
Interior live oak – gray pine woodland	0.001	2.838
Annual grassland	0	3.927
Gravel road	0.001	N/A [1]
Sullivan Creek (Perennial Creek)	0	0.132

Natural Community and Other Land Covers	Permanent Impacts	Temporary Impacts
Intermittent Creek 1	0	0
Intermittent Creek 2	0	0
Seasonal Wetlands	0	0
Impoundment (Storage Pond 1)	0	0
White alder – red willow riparian forest	0.001	0.248
Total [1]	**0.004**	**7.140**

SOURCE: ESA 2024

[1] Gravel road is a previously impacted land cover type, thus temporary impacts are not applicable.

[2] Totals are not exact sums due to rounding of GIS calculations.

5SOURCE: ESA, 2025

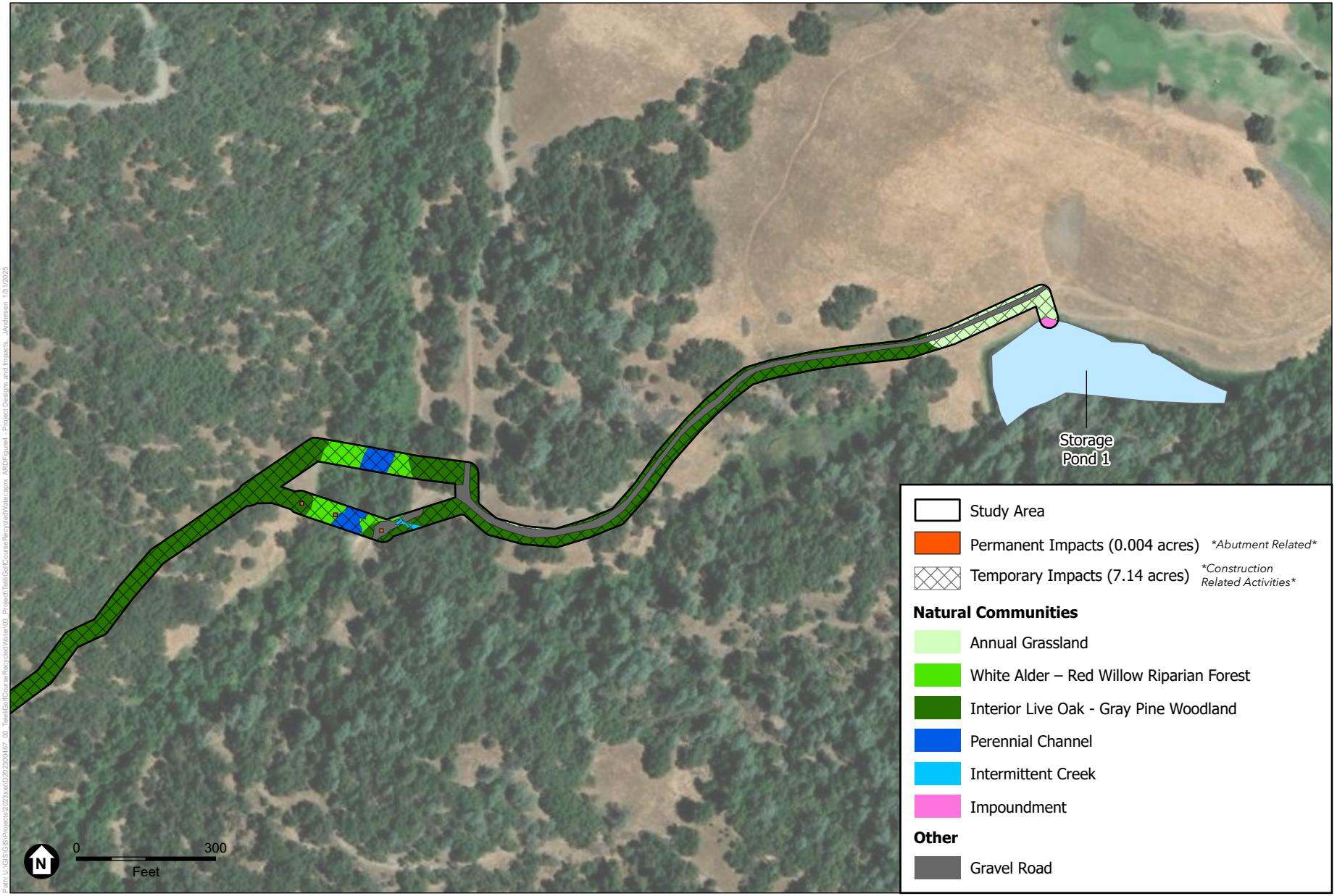
Teleli Golf Course Recycled Water Line

Figure 4
Project Impacts
Page 1

5SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 4
Project Impacts
Page 2



5SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 4
Project Impacts
Page 3

4.1.2 Recommendations

There measures below are recommended to protect sensitive natural communities during construction:

- All equipment and tools will be inspected for the presence of undesirable species and cleaned prior to entering the work area at each location to reduce the risk of introducing nonnative plant or animal species.

- Staging and storage areas for equipment, materials, fuels, lubricants, and solvents will not be located within 150 feet of the stream. Stationary equipment such as motors, pumps, generators, compressors and welders, will be positioned over drip-pans. Vehicles will be moved at least 150 feet from the stream prior to refueling and lubrication.

- Raw cement, concrete or washings thereof, asphalt, equipment fluids or lubricants, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to fish or wildlife resulting from or disturbed by Project-related activities, will be prevented from contaminating the soil and/or entering waterways.

- All personnel involved in the use of hazardous materials should be trained in emergency response and spill control.

- No litter or debris will be allowed to enter any waterway or placed in a location where it could be washed into a waterway. All such debris will be picked up daily and properly disposed of at an offsite location.

- If trees in the riparian natural community are removed, the Project proponent will prepare an on-site tree replacement plan. The plan shall include replacement of removed trees at least at a 1:1 ratio. The plan shall be submitted to CDFW as an attachment to an application for a 1600 Lake and Stream Alternation Agreement.

- If the Project will result in in permanent loss of jurisdictional wetlands or other waters, the Project proponent shall demonstrate that there is no net loss of wetlands and other waters of the United States and state protected waters/wetlands. To ensure this, wetland mitigation shall be developed as a part of the permitting process. The exact mitigation ratio would be determined in consultation with the applicable permitting agencies, which may include USACE, CDFW, and/or RWQCB. The amount of mitigation will be based on the type and value of the waters/wetlands affected by the Project, but the Project shall compensate for impacted waters/wetlands at a ratio of no less than 1:1 per state policy. Compensation shall take the form of preservation, creation, or restoration in accordance with USACE, RWQCB and/or CDFW mitigation requirements, as required under Project permits. Preservation, creation, and restoration may occur off-site through purchasing credits at an USACE, CDFW, and/or RWQCB-approved mitigation bank.

4.2 Special-Status Wildlife Species

4.2.1 Impacts

Crotch's Bumble Bee

Crotch's bumble bee could use the thatch, small mammal burrows, leaf litter, soil cracks, and floral resources in habitats throughout the Project site. If Crotch's bumble bees occur within the area of impact during construction, take could occur if they are crushed by construction equipment.

4.2.2 Recommendations

Implementing the following conservation measures would reduce the potential for impacts to Crotch's bumble bee should it occur in the Project impact area.

- Before the start of construction activities, a qualified biologist would conduct a pre-construction survey during the flight period for worker and male bees late March through September, within the construction disturbance area for active Crotch's bumble bee nests. If an active bumble bee nest is located, recommendations for avoiding or minimizing disturbance of the nest would be developed (e.g., establishing a buffer surrounding entry/exits and avoiding direct disturbance). If avoidance is not possible, the Project applicant should consult with CDFW and obtain appropriate take authorization pursuant to Fish and Game Code, § 2080 et seq (i.e. an incidental take permit).

4.2.3 Impacts

Central California Roach

Sullivan Creek in the Study Area provides suitable habitat for Central California roach. In addition, this species was recorded from the Study Area in 1998. Work in Sullivan Creek will be conducted during the dry season (assumed to be May through October) when precipitation events are unlikely, and stream flows are low. Dewatering of the creek will not be required. Excavations will be outside the OHWM of Sullivan Creek and silt fences will be placed along the edge of the creek in the work zone to ensure no sediment is transported into the creek. Impacts to Central California roach could occur if they are crushed by construction equipment or if excess sediment or hazardous materials enter the creek.

4.2.4 Recommendations

Measures recommended to protect sensitive natural communities will also protect Central California roach. In addition, the following measures are recommended to protect Central California roach:

- No construction equipment will be allowed to enter or drive through the creek.
- If construction personnel need to enter the creek on foot during the spawning season (March through early July), a qualified biologist will survey the creek for eggs of Central California roach. If found, the eggs will be avoided by at least 20 feet to reduce the potential for disturbance.

4.2.5 Impacts

Foothill Yellow-Legged Frog – South Sierra DPS

Sullivan Creek in the Study Area provides breeding and foraging habitat for FYLF. The adjacent riparian habitat provides potential basking, resting, and foraging habitat. FYLF could occur in Sullivan Creek or the adjacent riparian habitat during construction. Work in Sullivan Creek will be conducted during the dry season (assumed to be May through October) when precipitation events are unlikely, and stream flows are low. Dewatering of the creek will not be required. Excavations will be outside the OHWM of Sullivan Creek and silt fences will be placed along the edge of the creek in the work zone to ensure no sediment is transported into the creek. If FYLF are present in the area of impact during construction, take could occur if they or their eggs are crushed by construction equipment. Additional impacts could occur if excess sediment or hazardous materials enter the creek while they are present.

FYLF is a federal- and state-endangered species. Project impacts may require incidental take permits from USFWS and CDFW. As currently designed, handling FYLF during Project construction is not proposed. Before construction, the TUD and TEDA should consult with these agencies to determine if handling permits are needed. If required, the Project applicant would comply with all conditions of permits received.

4.2.6 Recommendations

Measures recommended to protect sensitive natural communities and Central California roach will also protect FYLF. In addition, the following measures are recommended to protect FYLF:

- A qualified biologist will conduct worker environmental awareness training for all construction personnel prior to the start of construction. The training will include a discussion of the biology and general behavior of FYLF, its habitat needs, its legal status, Project-specific protective measures, and what to do if found. Upon completion of the training, each attending shall sign a form stating they attended the training and understand all protection measures.

- A preconstruction survey for FYLF will be conducted by a qualified biologist within 24 hours prior to work in Sullivan Creek or the adjacent riparian habitat. If FYLF are found in the work area, they will be allowed to leave the work area on their own.

- Immediately after completion of the preconstruction survey, an exclusion fence will be installed around the work area to prevent the entry of FYLF into the work area. The exclusion fence will consist of silt fence, or equivalent, buried 6 inches into the ground and should fully encompass the work area within 100 feet of the riparian habitat.

- A qualified biologist will be present during vegetation removal activities in the riparian community and Sullivan Creek. If FYLF are found in the work area, construction within 50 feet of the observation will be stopped and the FYLF will be allowed to leave the work area on its own.

- If at any time during preconstruction surveys or Project implementation individual FYLF (including adults, juveniles, larvae, or eggs) are found in the work area, any work that could

potentially harm FYLF will be halted within 100 feet of the observation. FYLF will be allowed to leave the work area on their own. No relocation of FYLF may occur without the appropriate incidental take permits from USFWS and CDFW. Construction may resume after the FYLF has left the work area and is no longer in danger of being harmed.

- The qualified biologist will follow all disinfectant practices developed by the Declining Amphibian Population Task Force.
- No monofilament plastic will be used for erosion control. Non-monofilament substitutes including coconut coir matting and tackified hydroseeding compounds.
- All vehicle travel will be restricted to established roadways and access routes. The speed limit will be observed where posted, and where there is no posted speed limit, vehicles will travel no more than 15 miles per hour.
- Trenches or holes more than 6 inches deep within 100 feet of the riparian area will be provided with one or more escape ramps constructed of earth fill or wooden planks and will be inspected by a qualified biologist prior to being filled. Any such features that are left open overnight will be searched each day by trained construction personnel or qualified biologist prior to construction activities to ensure no FYLF are trapped. If FYLF is found in the work area, they will be allowed to leave on their own via a ramp.
- Trained construction personnel or a qualified biologist will inspect under construction equipment and material left onsite within 100 feet of the riparian area prior to moving the equipment or material to look for FYLF that may have become trapped or are seeking refuge. If FYLF are found in the work area, they will be allowed to leave the work area on their own.

4.2.7 Impacts

Northwestern Pond Turtle

Sullivan Creek in the Study Area and offsite impoundments within 330 feet of the Study Area provide suitable aquatic habitat for northwestern pond turtle. The adjacent riparian and grassland habitats provide suitable breeding habitat. Dewatering of the creek will not be required. Excavations will be outside the riparian areas of Sullivan Creek and silt fences will be placed along the edge of the creek in the work zone to ensure no sediment is transported into the creek. Work within suitable aquatic habitat or upland habitat within 330 feet of suitable aquatic habitat could impact northwestern pond turtle through direct take or destruction of their nests.

4.2.8 Recommendations

Measures recommended to protect sensitive natural communities, Central California roach, and FYLF will also protect northwestern pond turtle. In addition, the following measures are recommended to protect northwestern pond turtles where work will occur within 330 feet of Sullivan Creek, Stock Pond 1, or offsite ponds and impoundments.

- A qualified biologist will conduct worker environmental awareness training for all construction personnel prior to the start of construction. The training will include a discussion of the biology and general behavior of northwestern pond turtle, its habitat needs, its legal status, Project-specific protective measures, and what to do if found. Upon completion of the training, each attending shall sign a form stating they attended the training and understand all protection measures.

- For any work occurring within 330 feet of Sullivan Creek, Stock Pond 1, or offsite ponds and impoundments, a pre-construction survey for northwestern pond turtles and their nests will be conducted by a qualified biologist within 48 hours of Project activities. If northwestern pond turtle nests are found, a 100-foot no-disturbance buffer will be established around the nest. The buffer will remain in place until the eggs have hatched, the juvenile turtles have dispersed, and the nest is no longer active.

- If northwestern pond turtles are found at the Project site or adjacent to work areas during Project implementation, work will stop within 100 feet of the turtle and a qualified biologist will be notified immediately. If the turtle does not leave the work area on its own, the qualified biologist will capture and relocate the turtle to suitable habitat away from the construction zone. If the turtle does not voluntarily leave the maintenance area and cannot be captured and relocated unharmed, construction activities within approximately 100 feet of the turtle shall stop to prevent harm to the turtle, and CDFW shall be consulted to identify the next steps, if needed. Work may resume once the turtle has left the area and is no longer in danger of being harmed.

4.2.9 Impacts

Migratory Birds, and Birds of Prey

Migratory birds and birds of prey, protected under 50 CFR 10, the Migratory Bird Treaty Act, and/or Section 3503 of the Fish and Game Code, have the potential to nest in and adjacent to the Study Area. Project activities could result in direct mortality to nesting migratory birds or birds of prey should they be present on or adjacent to the Project site at the time of Project implementation through removal of, damage to, or abandonment of eggs or young.

4.2.10 Recommendations

Implementing the following conservation mitigation measures would reduce the potential for impacts to migratory birds and birds of prey should they occur in the Project impact area.

- For construction activities occurring during the nesting season (February 1 through September 1), a qualified biologist shall conduct a preconstruction pedestrian-level survey for active nests of raptors within 500 feet and active nests of non-raptors within 250 feet of the Project site. The survey shall be conducted using binoculars, from publicly accessible areas outside of the proposed Project site, no more than 5 days before the start of construction.

- If no active nests are identified during the preconstruction survey, no further mitigation is necessary. If construction stops for a period of two weeks or longer at any time during the nesting season, preconstruction surveys shall be conducted before construction resumes.

- If active nests of protected regulated birds are found in the survey area, a worker education and awareness program shall be provided to all on-site personnel by a qualified biologist before the commencement of materials staging or ground-disturbing activities. The biologist shall explain to construction workers how best to avoid impacts to nesting birds and shall include topics on species identification, life history, descriptions, and habitat requirements. The crew members shall sign a sign-in sheet documenting that they received the training.

- If active nests of raptors are found within 500 feet or active nests of non-raptors are found within 250 feet of the Project site, the contractor shall wait until the nests are not active to start construction, to the extent feasible. If construction must occur while the nest is active, an appropriate avoidance buffer zone shall be established around the nest, as determined by the qualified biologist. The biologist shall mark the avoidance buffer zone with construction tape or pin flags and shall maintain the buffer zone until the young have fledged or the nest is no longer active, as determined by the qualified biologist. Buffer zones are typically 500 feet for a bird of prey nest and 250 feet for all other protected regulated birds. Buffer size shall be determined by the qualified biologist based on the species of bird, the location of the nest relative to the Project, Project activities during the time the nest is active, and other Project-specific conditions.

- If establishing the typical buffer zone is impractical, the qualified biologist may reduce the buffer depending on the species. Project activities that may affect nesting birds shall be monitored by a qualified biologist either continuously or periodically during work, as determined by the qualified biologist. The qualified biologist shall be empowered to stop construction activities that, in the biologist's opinion, threaten to cause unanticipated and/or unpermitted nest abandonment.

4.2.11 Impacts

Western Red Bat

Western red bat could occur in the trees in the riparian zone adjacent to Sullivan Creek. Direct disturbance or mortality of western red bat could occur if they are roosting in the trees requiring removal. Indirect impacts on western red bat maternity roosts could also occur from noise and vibration caused by construction activity nearby.

4.2.12 Recommendations

Implementing the following conservation mitigation measures would reduce the potential for impacts to western red bat:

- Within 14 days prior to tree removal in the riparian habitat, a preconstruction survey for roosting bats shall be conducted by a qualified biologist to identify active roost sites within the Project site. If no active bat roosts are found, no further avoidance and minimization measures are required. If active bat roosts are found in trees to be removed, or maternity or hibernation roosts are found within 100 feet of trees to be removed, the following measures shall be implemented:

    - To the extent feasible, tree removal shall occur when bats are active, approximately March 1 through April 15 and August 31 through October 15. These windows are outside of the bat

maternity roosting season that occurs approximately April 15 through August 31 and months of winter torpor that occurs approximately October 15 through February 28.

- If removal of trees during the periods when bats are active is not feasible and active bat roosts being used for maternity or hibernation purposes are found on or in the immediate vicinity of where tree removal is planned, a no-disturbance buffer of 100 feet shall be established around these roost sites until they are determined to be no longer active by the qualified biologist.

- The qualified biologist shall be present during tree removal if active bat roosts that are not being used for maternity or hibernation purposes are present. Trees with active roosts shall be removed only when no rain is occurring or is forecast to occur for 3 days and when daytime temperatures are at least 50 degrees Fahrenheit.

- Removal of trees with active or potentially active roost sites shall follow a two-step removal process:

    - On the first day of tree removal and under supervision of the qualified biologist, branches and limbs not containing cavities or fissures in which bats could roost, shall be cut only using chain saws.

    - On the following day and under the supervision of the qualified biologist, the remainder of the tree may be removed, using either chain saws or other equipment (e.g., excavator or backhoe).

CHAPTER 5
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Attachment A
Regulatory Context

ATTACHMENT A
Regulatory Context

Federal

U.S. Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (FESA) (16 United States Code [USC] 153 et seq.), the Migratory Bird Treaty Act (MBTA) (16 USC 703–711), and the Bald and Golden Eagle Protection Act (16 USC 668). These regulations are described below.

Federal Endangered Species Act

Under the FESA, the Secretary of the Interior and Secretary of Commerce have joint authority to list a species as threatened or endangered (16 USC Section 1533[c]). Two federal agencies oversee the FESA: USFWS has jurisdiction over plants, wildlife, and resident fish, while the National Marine Fisheries Service (NMFS) has jurisdiction over anadromous fish and marine fish and mammals. Section 7 of the FESA mandates that federal agencies consult with USFWS and NMFS to ensure that federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. The FESA prohibits the "take"[2] of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery.

Section 10 requires the issuance of an incidental take permit before any public or private action may be taken that could take an endangered or threatened species. The permit requires preparation and implementation of a habitat conservation plan that would offset the take of individuals that may occur, incidental to implementation of a proposed project, by providing for the protection of the affected species.

The FESA specifies that a federal agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species may be present in the project area, and whether the proposed action will have a potentially significant impact on such species. The agency also must determine whether the proposed action is likely to jeopardize the continued existence of any species proposed to be listed under the FESA, or to result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC Sections 1536[3] and 1536[4]). No federal actions apply to the current Study Area.

[2] *Take* is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct.

Critical Habitat

USFWS designates *critical habitat* for listed species under the FESA. Critical habitat designations are specific areas within the geographic region that are occupied by a listed species and are determined to be critical to the species' survival and recovery in accordance with the FESA. Federal entities issuing permits or acting as lead agencies must show that their actions do not negatively affect the critical habitat to the extent that it impedes the recovery of the species. The Study Area is not within designated critical habitat.

Migratory Bird Treaty Act

The MBTA (16 USC Sections 703–711) affirms and implements a commitment by the United States to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. This law prohibits intentionally pursuing, hunting, taking, capturing, or killing migratory birds anywhere in the United States, unless and except as permitted by regulations. The law also applies to the intentional disturbance and removal of nests occupied by migratory birds or their eggs during the breeding season.

On December 22, 2017, the United States Department of the Interior redefined *incidental take* under the MBTA to state that "the MBTA's prohibition on pursuing, hunting, taking, capturing, killing, or attempting to do the same applies only to direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control."[3] Thus, the federal MBTA definition of *take* does not prohibit or penalize the incidental take of migratory birds that results from actions that are performed without motivation to harm birds. This interpretation differs from the prior federal interpretation of take, which prohibited all incidental take of migratory birds, whether intentional or incidental.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act, enforced by USFWS, makes it illegal to import, export, take (which includes molest or disturb), sell, purchase, or barter any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*) or parts thereof.

United States Army Corps of Engineers

Clean Water Act, Section 404

The United States Army Corps of Engineers administers Section 404 of the Clean Water Act. Section 404 regulates activities in wetlands and "other waters of the United States." Wetlands are a subset of waters of the United States that are defined as follows in Code of Federal Regulations (CFR) Title 33, Section 328.3(a) and Title 40, Section 230.3(s) (33 CFR 328.3[a] and 40 CFR 230.3[s]):

(1) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide.

[3] United States Department of the Interior. 2017. *The Migratory Bird Treaty Act Does Not Prohibit Incidental Take*. Office of the Solicitor, Memorandum (M-37050) to Secretary, Deputy Secretary, Assistant Secretary for Land and Minerals Management, and Assistant Secretary for Fish and Wildlife and Parks Department, December 22, 2017.

(2) All interstate waters including interstate wetlands. (Wetlands are defined by the federal government [33 CFR 328.3(b), 1991] as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances support, a prevalence of vegetation typically adapted for life in saturated soil conditions).

(3) All other waters—such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds—the use, degradation, or destruction of which could affect interstate or foreign commerce. This includes any waters with the following current or potential uses:

- That are or could be used by interstate or foreign travelers for recreational or other purposes,
- From which fish or shellfish are or could be taken and sold in interstate or foreign commerce, or
- That are used or could be used for industrial purposes by industries in interstate commerce.

(4) All impoundments of waters otherwise defined as waters of the United States under the definition.

(5) Tributaries of waters identified in paragraphs (1) through (4).

(6) Territorial seas.

(7) Wetlands next to waters identified in paragraphs (1) through (6).

(8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding the Clean Water Act jurisdiction remains with the U. S. Environmental Protection Agency (328.3[a][8] added 58 CFR 45035, August 25, 1993).

Regulatory waters under the jurisdiction of the United States Army Corps of Engineers do not occur in the Study Area and would not be affected by proposed activities.

State

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) administers laws and programs designed to protect fish and wildlife resources under the Fish and Game Code, such as the California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et seq.), Fully Protected Species (Section 3511), the Native Plant Protection Act (Sections 1900 to 1913), and the Lake or Streambed Alteration Agreement Program (Sections 1600 to 1616). These regulations are described below.

California Endangered Species Act

In 1984, the State of California implemented the CESA, which prohibits the take of state-listed endangered and threatened species, although habitat destruction is not included in the state's definition of take. Section 2090 requires state agencies to comply with endangered species protection and recovery laws and regulations and to promote conservation of these species. CDFW administers the act and authorizes take through California Fish and Game Code Section 2081 agreements (except for designated fully protected species; see below). Unlike its federal counterpart, the CESA also applies to candidate species that have been petitioned for listing.

Regarding listed rare and endangered plant species, CESA defers to the California Native Plant Protection Act (described below).

California Fish and Game Code Sections 3503, 3503.5, and 3513

Under these sections of the Fish and Game Code, the project operator is not allowed to conduct activities that would result in the take, possession, or destruction of any birds of prey; the take or possession of any migratory nongame bird; the take, possession, or needless destruction of the nest or eggs of any raptors or nongame birds; or the take of any nongame bird pursuant to Fish and Game Code Section 3800. Section 3513 adopts the United States Department of the Interior's take provisions under the MBTA.[4]

Native Plant Protection Act

California Fish and Game Code Section 1900–1913, also known as the Native Plant Protection Act, is intended to preserve, protect, and enhance endangered or rare native plants in California. The act directs CDFW to establish criteria for determining which native plants are endangered or rare. Under Section 1901, a species is considered *endangered* when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is considered *rare* when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered. The act also directs the California Fish and Game Commission to adopt regulations governing the take, possession, propagation, or sale of any endangered or rare native plant.

Vascular plants that are identified as rare by CDFW, but that may have no designated status or protection under federal or state endangered species laws or regulations, are defined using the following California Rare Plant Ranks (CRPRs):

- **Rank 1A:** Plants presumed extinct.
- **Rank 1B:** Plants rare, threatened, or endangered in California and elsewhere.
- **Rank 2:** Plants rare, threatened, or endangered in California, but more numerous elsewhere.
- **Rank 3:** Plants about which more information is needed—a review list.
- **Rank 4:** Plants of limited distribution—a watch list.

In general, CRPR 1A, 1B, and 2 plants are considered to meet the criteria of California Environmental Quality Act (CEQA) Guidelines Section 15380, and effects on these species are considered "significant" in environmental impact reports. CRPR 1A, 1B or 2 plants also meet the definition of Section 1901, Chapter 10 (Native Plant Protection Act) and Sections 2062 and 2067 (California Endangered Species Act) of the California Fish and Game Code.

[4] Assembly Bill 2627, introduced in February 2018, would amend Section 3513 of the Fish and Game Code relating to migratory birds. The bill would amend California law to clarify that the State of California may issue orders, rules, or regulations that are more protective of migratory nongame birds than the rules or policies set forth by the United States Department of the Interior. Assembly Bill 2627 would not, in itself, restore incidental take protection to migratory nongame birds in California.

Lake or Streambed Alteration Program

CDFW regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. Fish and Game Code Section 1602 requires that CDFW be notified of lake or stream alteration activities. If, after the notification is complete, CDFW determines that the activity may substantially adversely affect an existing fish and wildlife resource, CDFW is authorized to issue a streambed alteration agreement under Fish and Game Code Section 1603.

Requirements to protect the integrity of biological resources and water quality are often conditions of streambed alteration agreements. These requirements may include avoiding or minimizing the use of heavy equipment within stream zones, limiting work periods to avoid impacts on wildlife and fisheries resources, and restoring degraded sites or compensating for permanent habitat losses.

Species of Special Concern

CDFW maintains lists for candidate-endangered species and candidate-threatened species. California candidate species are afforded the same level of protection as listed species. California also designates *species of special concern*, which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species or fully protected species but may be added to official lists in the future. CDFW intends the species of special concern list to be a management tool for consideration in future land use decisions.

State Water Resources Control Board

Porter-Cologne Water Quality Control Act

The State Water Resources Control Board, through its nine regional water quality control boards, regulates waters of the state through the California Clean Water Act (i.e., Porter-Cologne Water Quality Control Act). If the United States Army Corps of Engineers determines that wetlands or other waters are isolated waters and not subject to regulation under the federal Clean Water Act, the regional water quality control board may choose to exert its jurisdiction over these waters under the Porter-Cologne Water Quality Control Act as waters of the state. Waters of the State determined to be jurisdictional would require, if impacted, waste discharge permitting and/or a CWA Section 401 certification (in the case of the required USACE permit).

CEQA Guidelines Section 15380

CEQA Guidelines Section 15380(b) provides that a species not on the federal or state list of legally protected threatened or endangered species may be considered rare or endangered if the species can be shown to meet certain specific criteria. These criteria have been modeled after the definition of the FESA and the section of the Fish and Game Code that discusses rare or endangered plants or animals. This section was included in the CEQA Guidelines primarily for situations in which a public agency is reviewing a project that may have a significant effect on a candidate species that has not yet been listed by CDFW or USFWS. CEQA provides the ability to protect species from potential project impacts until the respective agencies have the opportunity to designate the species' protection.

CEQA also specifies the protection of other locally or regionally significant resources, including natural communities or habitats. Although natural communities do not presently have legal protection, CEQA requires an assessment of such communities and potential project impacts. Natural communities identified as sensitive in the CNDDB are considered by CDFW to be significant resources and fall under the CEQA Guidelines for addressing impacts. Local planning documents such as general and area plans often identify natural communities.

Attachment B
Database Queries

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Columbia (3812014) OR Columbia SE (3812013) OR Angels Camp (3812015) OR New Melones Dam (3712085) OR Sonora (3712084) OR Standard (3712083) OR Keystone (3712075) OR Chinese Camp (3712074) OR Moccasin (3712073))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Agrostis hendersonii Henderson's bent grass	PMPOA040K0	None	None	G2Q	S2	3.2
Allium jepsonii Jepson's onion	PMLIL022V0	None	None	G2	S2	1B.2
Allium tuolumnense Rawhide Hill onion	PMLIL022W0	None	None	G2	S2	1B.2
Anodonta californiensis California floater	IMBIV04220	None	None	G3	S2?	
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aphrastochthonius grubbsi Grubbs' Cave pseudoscorpion	ILARA37010	None	None	G1	S1	
Aphrastochthonius similis Carlow's Cave pseudoscorpion	ILARA37020	None	None	G1	S1	
Arctostaphylos nissenana Nissenan manzanita	PDERI040V0	None	None	G1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S2	SSC
Atractelmis wawona Wawona riffle beetle	IICOL58010	None	None	G3	S1S2	
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Banksula martinorum Martins' cave harvestman	ILARA14070	None	None	G1	S1	
Banksula melones Melones Cave harvestman	ILARA14010	None	None	G1	S1	
Bombus crotchii Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Brodiaea pallida Chinese Camp brodiaea	PMLIL0C0C0	Threatened	Endangered	G1	S1	1B.1
Calycadenia hooveri Hoover's calycadenia	PDAST1P040	None	None	G2	S2	1B.3
Calycadenia spicata spicate calycadenia	PDAST1P090	None	None	G3?	S3	1B.3
Camissonia lacustris grassland suncup	PDONA030W0	None	None	G2	S2	1B.2
Chlorogalum grandiflorum Red Hills soaproot	PMLIL0G020	None	None	G3	S3	1B.2
Clarkia biloba ssp. australis Mariposa clarkia	PDONA05051	None	None	G4G5T3	S3	1B.2
Clarkia rostrata beaked clarkia	PDONA050Y0	None	None	G2G3	S2S3	1B.3
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Cryptantha mariposae Mariposa cryptantha	PDBOR0A1Q0	None	None	G2G3	S2S3	1B.3
Cryptantha spithamaea Red Hills cryptantha	PDBOR0A2M2	None	None	G2	S2	1B.3
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
Diplacus pulchellus yellow-lip pansy monkeyflower	PDSCR1B280	None	None	G2	S2	1B.2
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eryngium pinnatisectum Tuolumne button-celery	PDAPI0Z0P0	None	None	G2	S2	1B.2
Eryngium spinosepalum spiny-sepaled button-celery	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Erythranthe marmorata Stanislaus monkeyflower	PDPHR01130	None	None	G2?	S2?	1B.1
Erythronium tuolumnense Tuolumne fawn lily	PMLIL0U0H0	None	None	G2G3	S2S3	1B.2
Euderma maculatum spotted bat	AMACC07010	None	None	G4	S3	SSC
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3	4.2
Githopsis tenella delicate bluecup	PDCAM07070	None	None	G2	S2	1B.3
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
Hesperoleucus symmetricus serpentinus Red Hills roach	AFCJB19028	None	None	GNRT1	S1	SSC
Hesperoleucus symmetricus symmetricus central California roach	AFCJB19021	None	None	GNRT3	S3	SSC
Horkelia parryi Parry's horkelia	PDROS0W0C0	None	None	G2	S2	1B.2
Hosackia oblongifolia var. cuprea copper-flowered bird's-foot trefoil	PDFAB2A0W1	None	None	G5T2	S2	1B.3
Iris hartwegii ssp. columbiana Tuolumne iris	PMIRI090D2	None	None	G4T1	S1	1B.2
Lagophylla dichotoma forked hare-leaf	PDAST5J070	None	None	G2	S2	1B.1
Larca laceyi Lacey's Cave pseudoscorpion	ILARA39010	None	None	G1	S1	
Lasiurus cinereus hoary bat	AMACC05032	None	None	G3G4	S4	
Lasiurus frantzii western red bat	AMACC05080	None	None	G4	S3	SSC
Lomatium congdonii Congdon's lomatium	PDAPI1B0B0	None	None	G2	S2	1B.2
Lupinus spectabilis shaggyhair lupine	PDFAB2B3P0	None	None	G2	S2	1B.2
Monadenia circumcarinata keeled sideband	IMGASC7020	None	None	G3	S3	
Monadenia mormonum buttoni Button's Sierra sideband	IMGASC7071	None	None	G2T1T2	S1S2	
Monadenia mormonum hirsuta hirsute Sierra sideband	IMGASC7072	None	None	G2T1	S1	
Monadenia tuolumneana Tuolumne sideband	IMGASC7100	None	None	G1	S1	
Monardella venosa veiny monardella	PDLAM18082	None	None	G1	S1	1B.1
Myotis volans long-legged myotis	AMACC01110	None	None	G4G5	S3	
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Navarretia miwukensis Mi-Wuk navarretia	PDPLM0C210	None	None	G1G2	S1S2	1B.2
Navarretia paradoxiclara Patterson's navarretia	PDPLM0C150	None	None	G2	S2	1B.3
Packera layneae Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G4	S4	SSC
Pseudogarypus orpheus Music Hall Cave pseudoscorpion	ILARA40010	None	None	G1	S1	
Punctum hannai Trinity Spot	IMGAS47080	None	None	G1G2	S1S2	
Rana boylii pop. 5 foothill yellow-legged frog - south Sierra DPS	AAABH01055	Endangered	Endangered	G3T2	S2	
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Senecio clevelandii var. heterophyllus Red Hills ragwort	PDAST8H0R2	None	None	G4?T2Q	S2	1B.2
Strix nebulosa great gray owl	ABNSB12040	None	Endangered	G5	S1	
Stygobromus gradyi Grady's Cave amphipod	ICMAL05460	None	None	G1	S1	
Stygobromus harai Hara's Cave amphipod	ICMAL05470	None	None	G1	S1	
Verbena californica Red Hills vervain	PDVER0N050	Threatened	Threatened	G2	S2	1B.1

Record Count: 74

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

33 matches found. Click on scientific name for details

Search Criteria: CRPR is one of **[1A:1B:2A:2B]** , Quad is one of **[3812015:3712085:3712075:3812014:3712084:3712074:3812013:3712083:3712073]**

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	GENERAL HABITATS	MICROHABITATS	LOWEST ELEVATION (FT)	HIGHEST ELEVATION (FT)	PHOTO
Allium jepsonii	Jepson's onion	Alliaceae	perennial bulbiferous herb	Apr-Aug	None	None	1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest	Serpentine, Volcanic	985	4330	 © 2019 Steven Perry
Allium tuolumnense	Rawhide Hill onion	Alliaceae	perennial bulbiferous herb	Mar-May	None	None	1B.2	Cismontane woodland (serpentinite)		985	1970	 © 2010 Steven Perry
Arctostaphylos nissenana	Nissenan manzanita	Ericaceae	perennial evergreen shrub	Feb-Mar	None	None	1B.2	Chaparral, Closed-cone coniferous forest	Rocky	1475	3610	No Photo Available
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	None	None	1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland	Serpentine (sometimes)	150	5100	 ©1998 Dean Wm. Taylor
Brodiaea pallida	Chinese Camp brodiaea	Themidaceae	perennial bulbiferous herb	May-Jun	FT	CE	1B.1	Cismontane woodland, Valley and foothill grassland	Serpentine (often)	540	1265	 © 2014 Robert E. Preston, Ph.D.
Calycadenia hooveri	Hoover's calycadenia	Asteraceae	annual herb	Jul-Sep	None	None	1B.3	Cismontane woodland, Valley and foothill grassland	Rocky	215	985	No Photo Available
Calycadenia spicata	spicate calycadenia	Asteraceae	annual herb	May-Sep	None	None	1B.3	Cismontane woodland, Valley and foothill grassland	Adobe, Clay, Disturbed areas, Dry, Gravelly, Openings, Roadsides, Rocky	130	4595	 © 2023 Christopher Bronny

Camissonia lacustris	grassland suncup	Onagraceae	annual herb	Mar-Jun	None	None	1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland	Granitic, Gravelly, Serpentine	590	4005	 © 2021 Ryan O'Dell
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	(Apr)May-Jun	None	None	1B.2	Chaparral, Cismontane woodland, Lower montane coniferous forest	Gabbroic, Serpentine	805	5545	No Photo Available
Clarkia biloba ssp. *australis*	Mariposa clarkia	Onagraceae	annual herb	Apr-Jul	None	None	1B.2	Chaparral, Cismontane woodland	Serpentine	985	4790	No Photo Available
Clarkia rostrata	beaked clarkia	Onagraceae	annual herb	Apr-May	None	None	1B.3	Cismontane woodland, Valley and foothill grassland		195	1640	No Photo Available
Cryptantha mariposae	Mariposa cryptantha	Boraginaceae	annual herb	Apr-Jun	None	None	1B.3	Chaparral (rocky, serpentinite)		655	2135	No Photo Available
Cryptantha spithamaea	Red Hills cryptantha	Boraginaceae	annual herb	Apr-May	None	None	1B.3	Chaparral, Cismontane woodland	Openings (sometimes), Serpentine, Streambanks (sometimes)	900	1510	No Photo Available
Diplacus pulchellus	yellow-lip pansy monkeyflower	Phrymaceae	annual herb	Apr-Jul	None	None	1B.2	Lower montane coniferous forest, Meadows and seeps	Clay, Disturbed areas (often), Vernally Mesic	1970	6560	 © 2018 Sierra Pacific Industries
Eryngium pinnatisectum	Tuolumne button-celery	Apiaceae	annual/perennial herb	May-Aug	None	None	1B.2	Cismontane woodland, Lower montane coniferous forest, Vernal pools	Mesic	230	3000	 © 2007 Robert E. Preston, Ph.D.
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual/perennial herb	Apr-Jun	None	None	1B.2	Valley and foothill grassland, Vernal pools		260	3200	No Photo Available
Erythranthe marmorata	Stanislaus monkeyflower	Phrymaceae	annual herb	Mar-May	None	None	1B.1	Cismontane woodland, Lower montane coniferous forest		330	2955	No Photo Available

Erythronium tuolumnense	Tuolumne fawn lily	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	1B.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest		1675	4480	No Photo Available
Gilmania luteola	golden-carpet gilmania	Polygonaceae	annual herb	(Feb)Mar-Apr	None	None	1B.3	Chenopod scrub (alkaline barrens)		-50	2000	No Photo Available
Githopsis tenella	delicate bluecup	Campanulaceae	annual herb	Apr-Jun	None	None	1B.3	Chaparral, Cismontane woodland	Mesic, Serpentine	1065	6235	No Photo Available
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	Apr-Sep	None	None	1B.2	Chaparral, Cismontane woodland		260	3510	 © 2009 Barry Breckling
Hosackia oblongifolia var. *cuprea*	copper-flowered bird's-foot trefoil	Fabaceae	perennial rhizomatous herb	Jun-Aug	None	None	1B.3	Meadows and seeps (edges), Upper montane coniferous forest	Mesic	7875	9025	 © 2018 Mary Merriman
Iris hartwegii ssp. *columbiana*	Tuolumne iris	Iridaceae	perennial rhizomatous herb	May-Jun	None	None	1B.2	Cismontane woodland, Lower montane coniferous forest		1395	4595	No Photo Available
Lagophylla dichotoma	forked hare-leaf	Asteraceae	annual herb	Apr-May	None	None	1B.1	Cismontane woodland, Valley and foothill grassland	Clay (sometimes)	150	1100	 © 2010 Chris Winchell
Lomatium congdonii	Congdon's lomatium	Apiaceae	perennial herb	Mar-Jun	None	None	1B.2	Chaparral, Cismontane woodland	Serpentine	985	6890	No Photo Available
Lupinus spectabilis	shaggyhair lupine	Fabaceae	annual herb	Apr-May	None	None	1B.2	Chaparral, Cismontane woodland	Serpentine	855	2705	No Photo Available
Monardella venosa	veiny monardella	Lamiaceae	annual herb	May-Jul	None	None	1B.1	Cismontane woodland, Valley and foothill grassland	Clay	195	1345	 © 2007 George W. Hartwell
Navarretia miwukensis	Mi-Wuk navarretia	Polemoniaceae	annual herb	May-Jun(Jul)	None	None	1B.2	Lower montane coniferous forest	Openings	2625	4920	No Photo Available

Navarretia paradoxiclara	Patterson's navarretia	Polemoniaceae	annual herb	May-Jun(Jul)	None	None	1B.3	Meadows and seeps	Openings, Serpentine, Vernally Mesic	490	1410	No Photo Available
Packera layneae	Layne's ragwort	Asteraceae	perennial herb	Apr-Aug	FT	CR	1B.2	Chaparral, Cismontane woodland	Gabbroic (sometimes), Rocky, Serpentine (sometimes)	655	3560	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	1B.2	Marshes and swamps (shallow freshwater)		0	2135	 ©2013 Debra L. Cook
Senecio clevelandii var. *heterophyllus*	Red Hills ragwort	Asteraceae	perennial herb	May-Jul	None	None	1B.2	Cismontane woodland (seeps, serpentinite)		855	1265	No Photo Available
Verbena californica	Red Hills vervain	Verbenaceae	perennial herb	May-Sep	FT	CT	1B.1	Cismontane woodland, Valley and foothill grassland	Mesic, Seeps (usually), Serpentine (usually)	855	1310	No Photo Available

Showing 1 to 33 of 33 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 18 September 2024].

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: 09/18/2024 22:10:03 UTC
Project Code: 2024-0146292
Project Name: Teleli Golf Course Recycled Water Pipeline Project

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

To Whom It May Concern:

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

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

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

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

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

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

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

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

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

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

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2024-0146292

Project Name: Teleli Golf Course Recycled Water Pipeline Project

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

Project Description: The proposed Teleli Golf Course Recycled Water Pipeline Project (project) is an agreement between the Tuolumne Band of Me-Wuk Indians (Tribe), Tuolumne Economic Development Authority (TEDA) and the Tuolumne Utilities District (TUD; the District) to allow the Teleli Golf Course operated by TEDA to receive tertiary treated recycled water from TUD's wastewater treatment facility in Sonora, Tuolumne County. TUD currently delivers treated wastewater to several properties for discharge to land via spray irrigation and disposal. For the Tribe to use the recycled water, several thousand feet of new pipeline would need to be constructed and connected to TUD's existing recycled water pipeline and routed to the Tribe's Teleli Golf Course.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.93109025,-120.39159036724365,14z

Counties: Tuolumne County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

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

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

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

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

REPTILES

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

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
Foothill Yellow-legged Frog *Rana boylii* Population: South Sierra Distinct Population Segment (South Sierra DPS) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5133	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRUSTACEANS

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

FLOWERING PLANTS

NAME	STATUS
Chinese Camp Brodiaea *Brodiaea pallida* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8290	Threatened
Red Hills Vervain *Verbena californica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7344	Threatened

CRITICAL HABITATS

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

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

IPAC USER CONTACT INFORMATION

Agency: Tuolumne Band of Me-Wuk Indians of the Tuolumne Rancheria of California
Name: Jessica Orsolini
Address: 2600 Capitol Avenue
Address Line 2: Suite 200
City: Sacramento
State: CA
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LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

Attachment C

Plant Species Observed in the Study Area

EXHIBIT C
ALL PLANT SPECIES OBSERVED

Family	Scientific Name	Common Name	Native/ Introduced	Cal-IPC Rating
FERNS & ALLIES				
Pteridaceae	*Pentagramma triangularis*	Goldenback fern	N	--
GYMNOSPERM				
Pinaceae	*Pinus sabiniana*	Gray pine	N	--
EUDICOTS				
Anacardiaceae	*Toxicodendron diversilobum*	Western poison oak	N	--
Apiaceae	*Anthriscus caucalis*	Bur chervil	I	--
	Conium maculatum	Poison hemlock	I	--
	Daucus pusillus	American wild carrot	N	--
	Torilis arvensis	Hedge parsley	I	Moderate
Apocynaceae	*Asclepias fascicularis*	Narrow leaf milkweed	N	--
	Ambrosia acanthicarpa	Annual bursage	N	--
	Anthemis cotula	Dog fennel	I	--
	Artemesia douglasiana	Mugwort	N	--
	Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	I	Moderate
	Centaurea solstitialis	Yellow star-thistle	I	High
	Erigeron strigosus	Prairie fleabane	I	--
	Helenium bigelovii	Sneezeweed	N	--
	Helminthotheca echioides	Bristly ox-tongue	I	Limited
	Hypochaeris glabra	Smooth cat's ear	I	Limited
	Logfia gallica	Daggerleaf cottonrose	I	--
	Pseudognaphalium luteoalbum	Jersey cudweed	I	--
	Silybum marianum	Milk thistle	I	Limited
	Xanthium strumarium	Cocklebur	N	
Betulaceae	*Alnus rhombifolia*	White alder	N	--
Boraginaceae	Amsinckia menziesii	Small flowered fiddleneck	N	--
Brassicaceae	*Hirschfeldia incana*	Short podded mustard	I	Moderate
	Lepidium nitidum	Peppercress	N	--
	Nasturtium officinale	Watercress	N	--
Caryophyllaceae	*Silene gallica*	Windmill pink	I	--
Ericaceae	*Arctostaphylos viscida ssp. viscida*	Common whiteleaf manzanita	N	--
Fabaceae	*Acmispon americanus* var. *americanus*	Deervetch	N	--
	Lupinus bicolor	Miniature lupine	N	--
	Melilotus albus	White sweetclover	I	--
	Spartium junceum	Spanish broom	I	High

Family	Scientific Name	Common Name	Native/ Introduced	Cal-IPC Rating
	Trifolium dubium	Little hop clover	I	--
	Trifolium hirtum	Rose clover	I	Moderate
	Trifolium repens	White clover	I	--
	Vicia sativa	Spring vetch	I	--
Fagaceae	*Quercus douglasii*	Blue oak	N	--
	Quercus lobata	Valley oak	N	--
	Quercus wislizeni	Interior live oak	N	--
Gentianaceae	*Zeltnera* sp.	Centaury	N	--
Heliotropiaceae	*Heliotropium europaeum*	European heliotrope	I	--
Lamiaceae	*Mentha spicata*	Spearmint	I	--
	Mentha ×piperita	Peppermint	I	--
	Stachys albens	Cobwebby hedge nettle	N	--
Lythraceae	*Lythrum hyssopifolia*	Hyssop loosestrife	I	Moderate
Myrsinaceae	*Lysimachia arvensis*	Scarlet pimpernel	I	--
Namaceae	*Eriodictyon californicum*	California yerba santa	N	--
Oleaceae	*Fraxinus latifolia*	Oregon ash	N	--
Onagraceae	*Clarkia purpurea*	Winecup clarkia	N	--
Orobanchaceae	*Triphysaria eriantha*	Butter 'n' eggs	N	--
Phrymaceae	*Erythranthe guttata*	Seep monkey flower	N	--
Plantaginaceae	*Plantago lanceolata*	English plantain	I	--
	Plantago major	Common plantain	I	--
	Veronica americana	American brooklime	N	--
Polemoniaceae	*Navarretia intertexta*	Navarretia	N	--
Polygonaceae	*Rumex conglomeratus*	Clustered dock	I	--
	Rumex crispus	Curly dock	I	Limited
	Rumex pulcher	Fiddle dock	I	--
Ranunculaceae	*Ranunculus muricatus*	Spinyfruit buttercup	I	--
Rhamnaceae	*Ceanothus cuneatus var. cuneatus*	Wedgeleaf ceanothus	N	--
	Frangula californica ssp. tomentella	Hoary coffeeberry	N	--
Rosaceae	*Rosa californica*	California wild rose	N	--
	Rubus armeniacus	Himalayan Blackberry	I	--
Rubiaceae	*Cephalanthus occidentalis*	California buttonwillow	N	--
	Galium parisiense	Wall bedstraw	I	--
	Sherardia arvensis	Field madder	I	--
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood	N	--
	Salix gooddingii	Goodding's black willow	N	--
	Salix laevigata	Red willow	N	--
Scrophulariaceae	*Verbascum blattaria*	Moth mullein	I	--

Family	Scientific Name	Common Name	Native/ Introduced	Cal-IPC Rating
Simaroubaceae	*Ailanthus altissima*	Tree of heaven	I	Moderate
Verbenaceae	*Verbena lasiostachys*	Western verbena	N	--
Viburnaceae	*Sambucus mexicana*	Blue elderberry	N	--
Vitaceae	*Vitis californica*	Californica wild grape	N	--
MONOCOTS				
Agavaceae	*Chlorogalum pomeridianum var. pomeridianum*	Common soaproot	N	--
Cyperaceae	*Carex nudata*	Torrent sedge	N	--
	Cyperus eragrostis	Nutsedge	N	--
	Eleocharis macrostachya	Spikerush	N	--
	Schoenoplectus sp.	Tule	N	--
Juncaceae	*Juncus bufonius*	Toad rush	N	--
	Juncus mexicanus	Mexican rush	N	--
Liliaceae	*Calochortus venustus*	Butterfly mariposa lily	N	--
Poaceae	*Aira caryophyllea*	Silver hair grass	I	--
	Avena fatua	Wild oat	I	--
	Bromus diandrus	Ripgut brome		--
	Bromus hordeaceus	Soft chess	I	Moderate
	Bromus rubens	Red brome		--
	Cynodon dactylon	Bermuda grass	I	Moderate
	Cynosurus echinatus	Bristly dogtail grass	I	Moderate
	Festuca perennis	Rye grass	I	--
	Glyceria declinata	Low manna grass	I	Moderate
	Hordeum marinum	Seaside barley	I	Moderate
	Hordeum murinum	Foxtail barley	I	Moderate
	Paspalum dilatatum	Dallis grass	I	--
	Polypogon monspeliensis	Rabbitsfoot grass	I	Limited
Themidaceae	*Brodiaea elegans* ssp. *elegans*	Harvest brodiaea	N	--
Typhaceae	*Typha latifolia*	Common cattail	N	--

Attachment D

Wildlife Species Observed in the Study Area or Near Vicinity

TABLE D-1
WILDLIFE SPECIES OBSERVED IN THE STUDY AREA OR NEAR VICINITY

Common Name	Scientific Name
Amphibians	
Western toad	*Anaxyrus boreas*
Bullfrog	*Lithobates catesbeianus*
Sierran treefrog	*Pseudacris sierra*
Birds	
Red-winged blackbird	*Agelaius phoeniceus*
California scrub jay	*Aphelocoma californica*
Great blue heron	*Ardea herodias*
Red-tailed hawk	*Buteo jamaicensis*
California quail	*Callipepla californica*
Turkey vulture	*Cathartes aura*
Horned lark	*Eremophila alpestris*
American kestrel	*Falco sparverius*
Bullock's oriole	*Icterus bullockii*
Dark-eyed junco	*Junco hyemalis*
Acorn woodpecker	*Melanerpes formicivorus*
Wild turkey	*Meleagris gallopavo*
Black phoebe	*Sayornis nigricans*
Western bluebird	*Sialia mexicana*
Eurasian collard-dove	*Streptopelia decaocto*
European starling	*Sturnus vulgaris*
House wren	*Troglodytes aedon*
American robin	*Turdus migratorius*
Western kingbird	*Tyrannus verticalis*
Mourning dove	*Zenaida macroura*

Attachment E

Special-Status Species with Potential to Occur in the Study Area

TABLE E-1
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
Invertebrates				
Bombus crotchii	Crotch's bumble bee	--/CE/--	Crotch's bumble bee is primarily found in the foothills of the Central Valley between San Diego and Redding. Occurs in a variety of habitats including open grasslands, shrublands, chaparral, desert margins, and semi-urban settings. It requires undisturbed nest sites and overwintering sites. It is largely extirpated from agricultural and urban areas of the Central Valley. It requires undisturbed nest sites and overwintering sites. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia,* and *Eriogonum.*	**Moderate.** Thatch, small mammal burrows, leaf litter, and soil cracks in and adjacent to the Study Area provide potential nesting and overwintering sites. Floral resources in and adjacent to the Study Area provide potential foraging habitat.
Bombus occidentalis	Western bumble bee	--/CE/--	Formerly found in much of California, the western bumble bee is now much reduced in abundance and mostly restricted to high meadows or coastal environments. It currently is observed in high elevation meadows, forests, riparian areas in the Sierra Nevada and Cascades as well as in coastal grasslands in northern California. As generalist foragers, they do not depend on any one flower type. They feed on nectar and pollen from flowers and nest and hibernate in abandoned rodent burrows and bird nests. It requires undisturbed nest sites and overwintering sites.	**Low.** The Study Area does not contain the high elevation meadow habitat typically used by this species. Additionally, the high level of disturbance at the site reduces suitable nesting, overwintering, and foraging habitat.
Branchinecta lynchi	Vernal pool fairy shrimp	FT, CH/--/--	Endemic to the grasslands of the central valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**None:** There are no vernal pools or seasonal wetlands suitable for use by vernal pool fairy shrimp in the Study Area.
Danaus plexippus plexippus pop. 1	Monarch butterfly – California overwintering population	FC/--/--	Overwinters within wind-protected groves of trees (primarily Monterey pine [*Pinus radiata*], Monterey cypress [*Hesperocyparis macrocarpa*], and eucalyptus [*Eucalyptus* spp.]) along California coast from northern Mendocino County south to Baja California typically near water and nectar sources. During the breeding season, the required host plant is milkweed (*Asclepias* spp.) for development, egg deposition, and nectar.	**Low.** The Study Area occurs outside the range of the overwintering population. While milkweed was found in the Study Area during fieldwork, it was not of sufficient quantity to support breeding of this species.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT, CH/--/--	Breeds and forages exclusively on elderberry (*Sambucus*) shrubs typically associated with riparian forests, riparian woodlands, elderberry savannas, and other Central Valley habitats. Occurs only in the Central Valley of California below 500 feet elevation. There are no verified sightings of VELB above 500 feet.	**Low:** While nine elderberry shrubs were observed within 100 feet of the Study Area, the Study Area occurs above the elevation range of this species.
Fish				
Hesperoleucus symmetricus serpentinus	Red Hills roach	--/SSC/--	This highly distinctive subspecies of roach is found only in Horton, Amber, and Roach Creeks near Sonora. The area in which this species occurs is characterized by serpentine soils and stunted vegetation.	**None.** The Study Area is outside the current known range of this species.
Hesperoleucus symmetricus symmetricus	Central California roach	--/SSC/--	Found in the Sacramento and San Joaquin drainages, except Pit River, as well as tributaries draining to San Francisco Bay. Generally found in small warm streams, and dense populations are frequently sighted in isolated pools in intermittent streams. Most abundant in mid-elevation streams in the Sierra foothills and in the lower reaches of some coastal streams. Spawning occurs in shallow, flowing areas where the bottom is covered with small rocks.	**Moderate.** This species has been recorded from Sullivan Creek in the Study Area.
Amphibians				
Rana boylii pop. 5	Foothill yellow-legged frog - south Sierra DPS	FE/SE/--	Found in or near shaded rocky streams in a variety of habitats, including valley-foothills hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types. Egg clusters are attached to gravel or rocks in moving water near stream margins. This species is rarely encountered (even on rainy nights) far from permanent water. Its elevation range extends from near sea level to 6,370 ft in the Sierra.	**Moderate.** Sullivan Creek in the Study Area provides potential habitat for foothill yellow-legged frog.
Rana draytonii	California red-legged frog	FT, CH/SSC/--	Inhabits ponds, quiet pools of streams, marshes, and riparian areas with dense, shrubby, or emergent vegetation. Requires permanent or nearly permanent pools for larval development. May use ephemeral water bodies for breeding if permanent water is nearby. Occurs from near sea level to approximately 5,200 ft, though nearly all sightings have occurred below 3,500 ft. Probably extirpated from the floor of the Central Valley before 1960. Introduced bullfrogs (*lithobates catesbeiana*), crayfish (*procambarus* sp.), and various fish species have been a significant factor in the decline of California red-legged frog because they are predators on one or more life stages.	**Low.** Water flows in Sullivan Creek are too swift to be suitable for this species. Storage Pond 1 contains fish which reduce the habitat suitability for this species. All nearby CNDDB records are considered possibly extirpated. The closest CNDDB record of California red-legged frog considered extant is located approximately 30 miles northwest of the Study Area.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
Reptiles				
Emys (=Actinemys) marmorata	Northwestern pond turtle	FPT/SSC/--	Highly aquatic species found in a broad range of aquatic habitats including rivers and streams, permanent lakes, ponds, reservoirs, settling ponds, marshes, and other inundated wetlands. May use brackish, semi-permanent, or ephemeral features when inundated. Requires basking sites and loose soil in surrounding uplands suitable for nest excavation. Occurs throughout non-desert California from 0 to 6,700 feet.	**Moderate**. Sullivan Creek and Storage Pond 1 in the Study Area provide potential habitat for this species.
Phrynosoma blainvillii	Coast horned lizard	--/SSC/--	Occurs in valley-foothill hardwood, conifer and riparian habitats, as well as in pine-cypress, juniper and annual grassland habitats, especially sandy areas, washes, flood plains and wind-blown deposits. Needs loose soil for cover and reproduction. Needs open areas for thermoregulation and shrub cover or kangaroo rat burrows for refugia. Negatively associated with non-native Argentine ant (*Linepithema humile*) presence; positively associated with presence of native ants and chaparral vegetation. Occurs in the Sierra Nevada foothills from Butte County to Kern County and throughout the central and southern California coast. Found up to 4,000 ft in the northern end of its range and 6,000 ft in the southern end.	**Low.** The Study Area does not contain the sandy soil or chaparral habitat typically used by this species. There are no nearby CNDDB records of this species.
Birds				
Agelaius tricolor	tricolored blackbird	--/ST, SSC/--	Forages on ground in cropland and grassland. Nests near or over freshwater. Prefers emergent marsh of dense cattails or tules for nesting, but also nests in thickets of willow, blackberry, wild rose, and tall herbs. Nesting area must be large enough to support a minimum colony of about 50 pairs. Occurs primarily in the Central Valley and in coastal areas south of Sonoma County.	**Low**. There are no marshes suitable for nesting for tricolored blackbird in or adjacent to the Study Area.
Athene cunicularia	burrowing owl	--/SC, SSC/--	Nests and forages in grasslands, agricultural fields, and low scrub habitats, especially where ground squirrel burrows are present; occasionally inhabits artificial structures and small patches of disturbed habitat.	**Low.** No burrows or ground squirrels were observed during fieldwork. No burrowing owl or evidence of burrowing owl was found during fieldwork. The Study Area occurs at the upper edge of the wintering range of this species.
Haliaeetus leucocephalus	Bald eagle	FD/FE, FP/--	Occurs along coasts, rivers, and large, deep lakes and reservoirs in California. Nests mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties. More widespread as a winter migrant. Requires large bodies of water or free flowing rivers with abundant fish and perching sites. Nests in large old growth and dominant live trees with open branchwork. Favors ponderosa pine.	**Low.** There are no large lakes or reservoirs or large rivers in or adjacent to the Study Area that provide suitable habitat for this species.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
Strix nebulosa	Great gray owl	--/SE/--	Occurs between 4,500 and 7,500 ft in the Sierra Nevada in the vicinity of Quincy in Plumas County south to Yosemite. Occasionally reported in Northwestern California in winter and in the Warner Mountains in summer. Most recent records are from the Merced and Tuolumne River drainages of Yosemite National Park. Breeds in old-growth red fir, mixed conifer, and lodgepole pine habitats in the vicinity of wet meadows. Uses trees in dense forest stands for roosting cover and small trees and snags in or bordering meadows for hunting perches. Nests in large, broken-topped snags 25 to72 ft above the ground.	**Low.** The Study Area is below the elevation range of this species. The Study Area does not contain old-growth fir or pine habitats near wet meadows.
Mammals				
Antrozous pallidus	Pallid bat	--/SSC/--	Locally common at low elevations in a wide variety of habitats, including grasslands, shrub lands, woodlands, and forests − from sea level up through mixed conifer forests. Most common in open, dry habitats with rocky areas for roosting. A yearlong resident in most of California, feeding on a wide variety of insects and arachnids and foraging over open ground. Many prey items are taken on the ground. Roosts in crevices in rock outcrops, mines, caves, tree hollows, buildings, and bridges. Maternity colonies are formed around April and usually consist of 20 to 100 individuals.	**Low.** There are no rock outcrops, mines, or caves suitable for roosting in the Study Area.
Euderma maculatum	Spotted bat	--/SSC/--	Found in a variety of habitat types, usually near water, from 187 ft below sea level to 10,597 ft in habitats ranging from desert scrub to montane coniferous forest. Always occurs near substantial cliff features composed of granite, basalt, limestone, sandstone, and other sedimentary rock. Available data suggests that the species roosts predominantly in small crevices in suitable cliff faces.	**Low.** There are no cliff features suitable for roosting in the Study Area.
Eumops perotis californicus	Western mastiff bat	--/SSC/--	Uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey County south through southern California. Colonial species that occur in many open, semi-arid to arid habitats, including deciduous woodlands, annual and perennial grasslands, and urban areas. Also occurs in ponderosa pine and mid-elevation conifer belts. Primarily a crevice-dwelling animal that only occurs where there are significant rock features offering suitable roosting habitat such as cliff faces, large boulders, exfoliating granite, sandstone, or columnar basalt. Also roosts in buildings. Roosts are generally high above the ground, usually allowing for a 10-foot vertical drop below the top of the entrance for taking flight.	**Low.** There are no cliff features suitable for roosting in the Study Area.
Lasiurus frantzii	Western red bat	--/SSC/--	Tree bat associated with cottonwoods in riparian areas at elevations below 6,500 ft. Favors roosts where leaves form a dense canopy and branches do not obstruct their flyway. Known to roost in orchards, especially in the Sacramento Valley. Typically feeds along forest edges, in small clearings, and around streetlights where they hunt moths. Day roosts are typically in edge habitats adjacent to streams or open fields, in orchards, and sometimes urban areas. Occasionally uses caves.	**Moderate.** The riparian community along Sullivan Creek in the Study Area provides potential habitat for this species.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
Plants				
Allium jepsonii	Jepson's onion	--/--/1B.2	A perennial bulbiferous herb found on serpentine or volcanic soils in chaparral, lower montane coniferous forest, and cismontane woodland from 980 to 4,350 feet. Known from the northern and central Sierra Nevada foothill. Blooms April through August.	**Low.** There are no serpentine or volcanic soils in the Study Area. The nearest occurrences are 3.5 miles to west of Study Area on the volcanic soils of Table Mountain.
Allium tuolumnense	Rawhide Hill onion	--/--/1B.2	Bulbiferous herb found in serpentine soils of cismontane woodland from 985 to 1,970 feet. Known from approximately 20 occurrences in Tuolumne County. Blooms March through May	**Low.** Serpentinite soils not present in Study Area. Closest herbarium record is 2.5 miles west of project on serpentine soils.
Arctostaphylos nissenana	Nissenan manzanita	--/--/1B.2	A perennial evergreen shrub found on highly acidic rocky (slate and shale) soils. Often associated with closed-cone conifer forest and chaparral from 1,450 to 3,600 feet. Known from approximately 15 occurrences in El Dorado and Tuolumne counties. Blooms February through March	**Low.** Open, rocky shale ridges not present in Study Area. Closest herbarium record is 2 miles north of Study Area on shale.
Balsamorhiza macrolepis	Big-scale balsamroot	--/--/1B.2	Perennial herb found in sometimes serpentine substrates of chaparral, cismontane woodland, and valley and foothill grassland from 150 to 5,100 feet. Known from Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties. Blooms March through June.	**Low.** There are no serpentinite soils in the Study Area. The nearest CNDDB record is 2.5 miles from Study Area, however, it is dated 1925. No other herbarium collection or CNDDB occurrences have been found nearby.
Brodiaea pallida	Chinese Camp brodiaea	FT/CE/1B.1	Perennial bulbiferous herb found in vernal streambeds, often serpentine, in cismontane woodland and valley and foothill grassland from 540 to 1,265 feet. Known from five occurrences in Calaveras and Tuolumne counties. Known only from two occurrences in Chinese Camp area. Blooms May through June.	**Low.** The Study Area is outside the limited range of this species. There are no serpentinite soils in the Study Area. All herbarium collections and CNDDB occurrences are concentrated 5 miles southwest of Study Area near China Camp.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
Calycadenia hooveri	Hoover's calycadenia	--/--/1B.3	Annual herb found in rocky soils of cismontane woodland and valley and foothill grassland from 215 to 985 feet. Known from Calaveras, Madera, Merced, Mariposa, and Stanislaus counties. Blooms July through September.	Low. The Study Area is above the elevation range of this species. All herbarium collections and CNDDB occurrences are at much lower elevations and closer to Central Valley.
Calycadenia spicata	Spicate calycadenia	--/--/1B.3	Annual herb found in adobe and clay soils of disturbed areas, dry gravelly openings, and roadsides in cismontane woodland and valley and foothill grassland from 130 to 4,595 feet. Known from Amador, Butte, Calaveras, El Dorado, Fresno, Kern, Nevada, Placer, Sacramento, San Joaquin, Stanislaus, Tulare, Tuolumne, and Yuba counties. Blooms May through September.	**Low.** There are no adobe clay soils in the Study Area.
Camissonia lacustris	Grassland suncup	--/--/1B.2	Annual herb found in granitic, gravelly, serpentine soil of chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland from 590 to 4,005 feet. Known from 14 occurrences in El Dorado, Fresno, Lake, Mariposa, and Tuolumne counties. Blooms March through June.	**Low.** Granitic, gravelly, or serpentine soils not present in Study Area. The closest CNDDB occurrences is 5 miles to the northwest at 2,000 ft and dated 1917. No other records occur nearby.
Chlorogalum grandiflorum	Red Hills soaproot	--/--/1B.2	A perennial bulbiferous herb found in chaparral, cismontane woodland, or lower montane coniferous forest on gabbro or serpentine soils from 800 to 4,100 feet. Known from the northern and central Sierra Nevada foothills. Blooms May through June.	**Low.** Gabbroic or serpentine soils not present in Study Area. Herbarium collections and CNDDB occurrences are at least 2.5 miles to the west of Study Area and concentrated near Red Hills.
Clarkia biloba ssp. australis	Mariposa clarkia	--/--/1B.2	Annual herb found in serpentinite soils in chaparral and cismontane woodland from 984 to 4790 feet. Known from Mariposa and Tuolumne counties. Blooms May through July.	**Low.** Serpentine soils not present in Study Area. The closest CNDDB occurrence is 7 miles to the west of Study Area in Red Hills. No other occurrences are found nearby.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
Clarkia rostrata	Beaked clarkia	--/--/1B.3	Annual herb found in cismontane woodland and valley and foothill grasslands from 195 to 1,640 feet. Known from Calaveras, Madera, Mariposa, Merced, Stanislaus, and Tuolumne counties. Blooms April through May.	**Low.** While the oaks woodland and grassland habitats in the Study Area provide potential habitat for this species, it was not observed during surveys conducted during the evident and identifiable period. No herbarium collections or CNDDB records are near the Study Area.
Cryptantha mariposae	Mariposa cryptantha	--/--/1B.3	Annual herb found in rocky, serpentinite chaparral from 655 to 2,135 feet. This species is known from 9 occurrences in Calaveras, Mariposa, Stanislaus, and Tuolumne counties. Blooms April through June.	**Low.** A CNDDB occurrence is found 2.5 miles to the west of Study Area, however, serpentine soil and chaparral not present in Study Area.
Cryptantha spithamaea	Red Hills cryptantha	--/--/1B.3	Annual herb found on serpentinite, sometimes streambeds, sometimes openings in chaparral and cismontane woodland from 880 to 1,510 feet. Known from Calaveras, Mariposa, and Tuolumne counties. Blooms April through May.	**Low.** Serpentine soils not found in Study Area. The closest CNDDB occurrence is 4 miles to west of Study Area.
Diplacus pulchellus	Yellow-lip pansy monkeyflower	--/--/1B.2	Annual herb found in vernally mesic, often disturbed areas within lower montane coniferous forest or meadows and seeps from 1,970 to 6,560 feet. Known from Calaveras, Mariposa, and Tuolumne counities. Blooms April through July.	**Low.** The study area is below the elevation range of this species. The closest CNDDB occurrence is 2.5 miles to the northeast of Study Area at 2200 ft.
Eryngium pinnatisectum	Tuolumne button-celery	--/--/1B.2	Annual to perennial herb found in mesic areas of cismontane woodland, lower montane coniferous forests, and vernal pools from 230 to 3,000 feet. Known from Amador, Calaveras, Sacramento, Sonoma, and Tuolumne counties. Blooms May through August.	**Low.** While the seasonal wetlands in the Study Area provide potential habitat for this species, it was not observed during surveys conducted during the evident and identifiable period. The closest CNDDB occurrences are found 3.5 miles to the west of the Study Area.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
Eryngium spinosepalum	Spiny-sepaled button-celery	--/--/1B.2	Annual to perennial herb found in valley and foothill grassland, vernal pools, swales, and roadside ditches from 260 to 4,170 feet. Known from Calaveras, Contra Costa, Fresno, Kern, Madera, Mariposa, Merced, San Luis Obispo, Stanislaus, Tulare, and Tuolumne counties. Blooms April through June.	**Low.** While the grassland and seasonal wetlands in the Study Area provide potential habitat for this species, it was not observed during surveys conducted during the evident and identifiable period. The closest CNDDB occurrence is 8.5 miles to the west of the Study Area. No other herbarium collections or CNDDB occurrences are found nearby.
Erythranthe marmorata	Stanislaus monkeyflower	--/--/1B.1	Annual herb found in cismontane woodland and lower coniferous forest from 330 to 2,950 feet. Known from Calaveras and Fresno counties. Presumed extirpated from Amador, Stanislaus, and Tuolumne counties. Blooms from March through May.	**Low.** While the oak woodland in the Study Area provides potential habitat for this species, it was not observed during surveys conducted during the evident and identifiable period. Additionally, this species is considered extirpated from Tuolumne County.
Erythronium tuolumnense	Tuolumne fawn lily	--/--/1B.2	Perennial bulbiferous herb found in broadleaf upland forest, chaparral, cismontane woodland, and lower montane coniferous forest from 1,673 to 4,479 feet. Known from Tuolumne County. Blooms March through June.	**Low.** The closest CNDDB occurrence is found 3 miles to the east of the Study Area and the majority of CNDDB occurrences are found east of here. The highest elevation of the Study Area (1,550 ft) is below the lowest elevation at which the species has been found. This species was not found during surveys conducted during the evident and identifiable period.
Gilmania luteola	Golden-carpet gilmania	--/--/1B.3	Annual herb found in alkaline barrens of chenopod scrub from -50 to 2,000 feet. Known from 15 occurrences in Inyo County. Blooms March (sometimes February) through April.	**Low.** Alkaline barrens of chenopod scrub does not occur in the Study Area.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
Githopsis tenella	Delicate bluecup	--/--/1B.3	Annual herb found in mesic, serpentine soils of chaparral and cismontane woodland from 1,065 to 6,235 feet. Known from five occurrences in Kern, Tulare, and Tuolumne counties. Presumed extirpated in Monterey County. Blooms April through June.	**Low.** There are no serpentine soils in the Study Area. The nearest CNDDB occurrence is 6.5 miles to the southwest in Red Hills.
Horkelia parryi	Parry's horkelia	--/--/1B.2	A perennial herb found on Ione formation and other soils in chaparral and cismontane woodland from 250 to 3,500 feet. Known from the northern and central Sierra Nevada foothills. Blooms April through September.	**Low.** Open chaparral not present in Study Area. No CNDDB occurrences or herbarium collections near Study Area.
Hosackia oblongifolia var. cuprea	Copper-flowered bird's-foot trefoil	--/--/1B.3	Perennial rhizomatous herb found along the edges of mesic meadows and seeps in upper montane coniferous forest from 7,875 to 9,025 feet. Known from 16 occurrences in Calaveras, Inyo, and Tulare counties. Blooms June through August.	**Low.** Elevation of Study Area is much lower than species recorded lowest elevation (7,900 ft).
Iris hartwegii ssp. columbiana	Tuolumne iris	--/--/1B.2	Perennial rhizomatous herb found in cismontane woodland and lower montane coniferous forest from 1,394 to 4,593 feet. Known from Calaveras and Tuolumne counties. Blooms May through June.	**Low.** Oak woodland present in study area provides potential habitat for this species. However, nearest CNDDB occurrence is 9 miles north of Study Area. This species was not found during surveys conducted during the evident and identifiable period.
Lagophylla dichotoma	Forked hare-leaf	--/--/1B.1	Annual herb found in sometimes clay soils of cismontane woodland and valley and foothill grasslands from 150 to 1,100 feet. Known from Calaveras, Fresno, and Stanislaus counties. Presumed extirpated from Merced County. Blooms April through May.	**Low.** Nearest CNDDB occurrence 12 miles to west of Study Area. Furthermore, elevation of Study Area is higher than highest elevation recorded for the species (1,100 ft).
Lomatium congdonii	Congdon's lomatium	--/--/1B.2	Perennial herb found in serpentine soils of chaparral and cismontane woodland from 984 to 6,888 feet. Known from fewer than twenty occurrences in Calaveras, Mariposa, and Tuolumne counties. Blooms March through June.	**Low.** There are no serpentine soils in Study Area. The nearest CNDDB occurrences are 5 miles to the west of the Study Area.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
Lupinus spectabilis	Shaggyhair lupine	--/--/1B.2	An annual herb found in serpentine soil of chaparral and cismontane woodland from 850 to 2,700 feet. Known from Mariposa and Tuolumne cos. Blooms April through May.	**Low.** There are no serpentine soils in Study Area. The nearest CNDDB occurrences are 5 miles to the west of the Study Area.
Monardella venosa	Veiny monardella	--/--/1B.1	Annual herb found in heavy clay of cismontane woodland and valley and foothill grassland from 195 to 1,345 feet. Known from 4 occurrences in Butte, Sutter, Tuolumne, and Yuba counties. Blooms May through July.	**Low.** Elevation of Study Area is higher than species recorded highest elevation (1,345 ft). The nearest CNDDB occurrence is 7 miles to the west of Study Area.
Navarretia miwukensis	Mi-Wuk navarretia	--/--/1B.2	Annual herb found in openings of lower montane coniferous forest from 2,625 to 4,920 feet. Known from 12 occurrences in Calaveras and Tuolumne counties. Blooms May through June, sometimes July.	Low. The highest elevation of Study Area is much lower than species recorded lowest elevation (2,625 ft). Habitat of lower montane coniferous forests not present in Study Area.
Navarretia paradoxiclara	Patterson's navarretia	--/--/1B.3	Annual herb found in openings on serpentinite soils of vernally mesic meadows and seeps, often in drainages, from 490 to 1,410 feet. Known from 11 occurrences in Calaveras and Tuolumne counties. Blooms May through June, sometimes July.	**Low.** There are no serpentine soils in Study Area. The nearest CNDDB occurrences are 5 miles to the west of the Study Area.
Packera layneae	Layne's ragwort	FT/CR/1B.2	A perennial herb found on rocky serpentine or gabbro soil in cismontane woodland or chaparral from 650 to 3,600 feet. Known from the northern and central Sierra Nevada foothills. Blooms April through August.	**Low.** There are no serpentine soils in the Study Area. The nearest CNDDB occurrences are 5 miles to the west of the study area.
Sagittaria sanfordii	Sanford's arrowhead	--/--/1B.2	Emergent perennial rhizomatous herb found in shallow freshwater marshes, swamps, ponds, and ditches from 0 to 2,135 feet. Known from the Klamath Ranges, north and south coasts, Cascade Range foothills, and Central Valley. Blooms May through October, and sometimes into November (CNPS 2024, Jepson 2020).	**Low.** There are no marshes and swamps in Study Area. Ditches in the Study Area do not contain sufficient water for this species.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Study Area
*Senecio clevelandii var. heterophyllus (*in Jepson recognized as *Packera clevelandii)*	Red Hills ragwort	--/--/1B.2	Perennial herb found in serpentinite seeps of cismontane woodland from 855 to 1,265 feet. Known only from the Red Hills in Tuolumne County. Blooms May through July.	**Low.** Elevation of Study Area is higher than species recorded highest elevation (1,265 ft). There are no serpentine soils in the Study Area. The nearest CNDDB occurrences are 5 miles to the west of the Study Area and confined to the Red Hills.
Verbena californica	Red Hills vervain	FT/CT/1B.1	Perennial herb found in mesic cismontane woodland, and valley and foothill grassland in mesic, usually serpentinite seeps or creeks from 850 to 1,300 feet. Known only from the Red Hills in Tuolumne County. Blooms May through September.	**Low.** Elevation Study Area is higher than species recorded highest elevation (1,310 ft). There are no serpentine soils in the Study Area. The nearest CNDDB occurrences are 5 miles to the west of the Study Area and confined to the Red Hills.

Attachment F
Custom Soil Resource Report

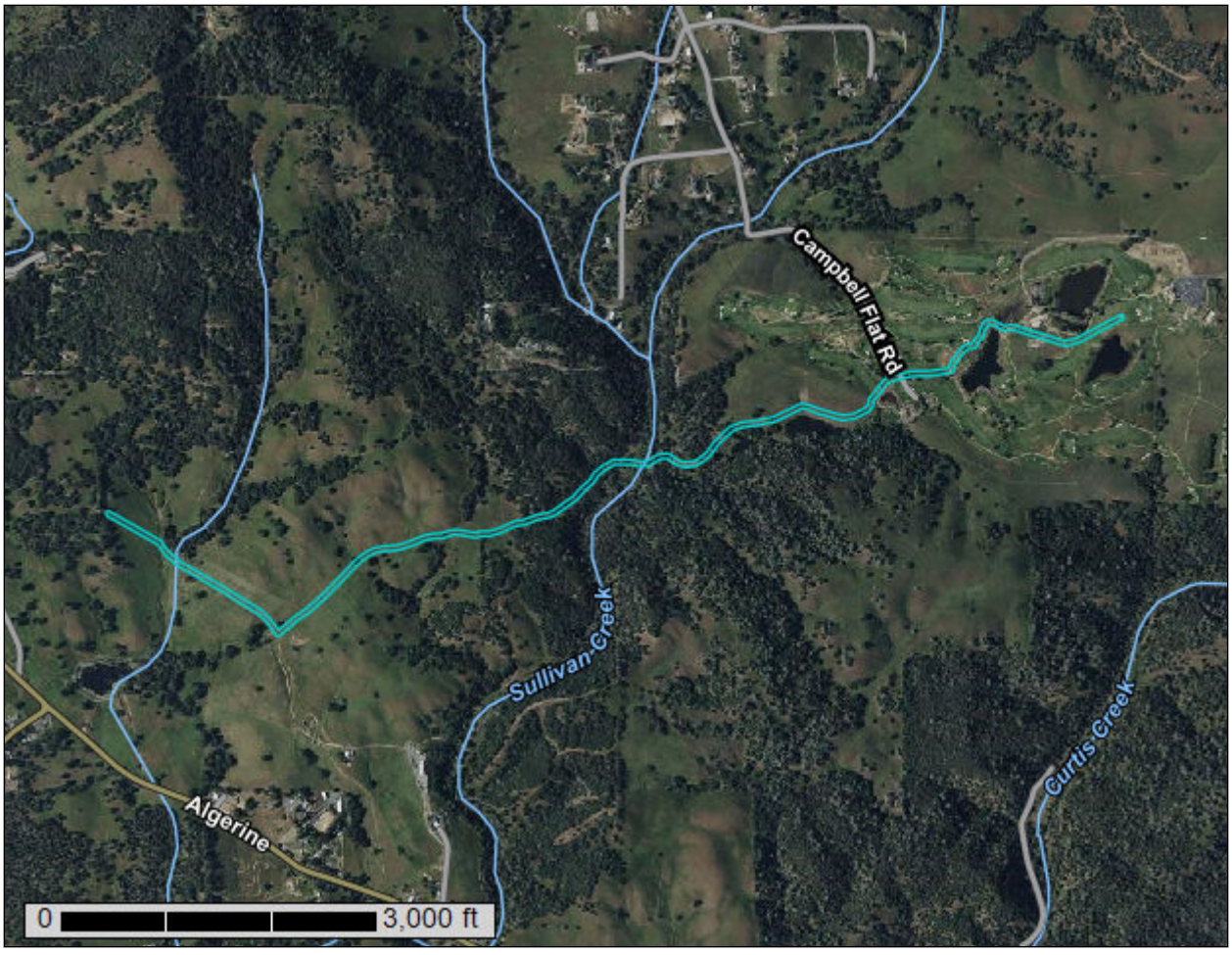
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Central Sierra Foothills Area, California, Parts of Calaveras and Tuolumne Counties



September 25, 2024

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

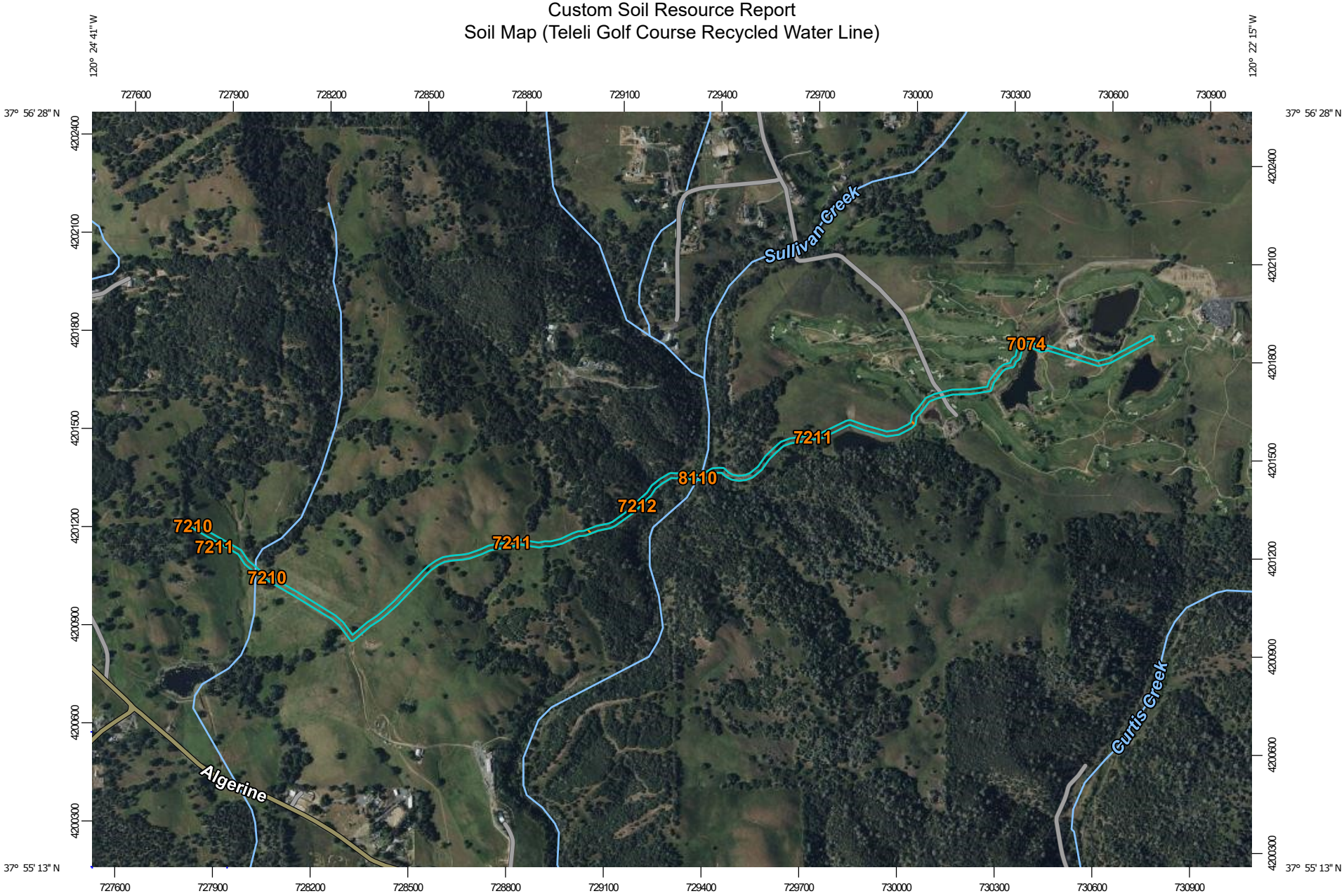
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

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

Custom Soil Resource Report
Soil Map (Teleli Golf Course Recycled Water Line)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

Soil Survey Area: Central Sierra Foothills Area, California, Parts of Calaveras and Tuolumne Counties
Survey Area Data: Version 8, Aug 31, 2023

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

Date(s) aerial images were photographed: Mar 11, 2022—May 30, 2022

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

Map Unit Legend (Teleli Golf Course Recycled Water Line)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7074	Loafercreek-Bonanza complex, 3 to 15 percent slopes	3.4	25.6%
7210	Deerflat-Millvilla complex, 3 to 15 percent slopes	5.0	37.7%
7211	Millvilla-Luckymine complex, 15 to 30 percent slopes	3.2	24.2%
7212	Wardsferry-Millvilla complex, 30 to 60 percent slopes	1.3	10.2%
8110	Cumulic Humixerepts-Riverwash complex, 0 to 8 percent slopes	0.3	2.2%
Totals for Area of Interest		**13.1**	**100.0%**

Map Unit Descriptions (Teleli Golf Course Recycled Water Line)

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit

descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Central Sierra Foothills Area, California, Parts of Calaveras and Tuolumne Counties

7074—Loafercreek-Bonanza complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2x296
Elevation: 840 to 1,890 feet
Mean annual precipitation: 24 to 33 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 235 to 325 days
Farmland classification: Not prime farmland

Map Unit Composition

Loafercreek and similar soils: 58 percent
Bonanza and similar soils: 25 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loafercreek

Setting

Landform: Hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metavolcanics

Typical profile

A - 0 to 5 inches: gravelly loam
Bt1 - 5 to 17 inches: gravelly loam
Bt2 - 17 to 24 inches: gravelly clay loam
Cr - 24 to 35 inches: bedrock
R - 35 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock; 20 to 49 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

Description of Bonanza

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from metavolcanics

Typical profile

Oi - 0 to 0 inches: slightly decomposed plant material
A - 0 to 2 inches: loam
Bt1 - 2 to 7 inches: loam
Bt2 - 7 to 12 inches: loam
Bt3 - 12 to 16 inches: loam
Cr - 16 to 22 inches: bedrock
R - 22 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 14 to 30 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: F018XI200CA - Low Elevation Foothills
Hydric soil rating: No

Minor Components

Gopheridge

Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

Rock outcrop, metavolcanic

Percent of map unit: 5 percent
Landform: Hills
Hydric soil rating: No

Mined land

Percent of map unit: 2 percent
Landform: Hills
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

7210—Deerflat-Millvilla complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2r6fl
Elevation: 950 to 2,260 feet
Mean annual precipitation: 27 to 36 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 215 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Deerflat and similar soils: 50 percent
Millvilla and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerflat

Setting

Landform: Hills
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metasedimentary rock

Typical profile

A - 0 to 2 inches: silt loam
AB - 2 to 8 inches: silt loam
Bt1 - 8 to 21 inches: silt loam
Bt2 - 21 to 31 inches: gravelly silty clay loam
Bt3 - 31 to 55 inches: paragravelly loam
BCt - 55 to 71 inches: very paragravelly loam
Cr - 71 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 59 to 79 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Description of Millvilla

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metasedimentary rock

Typical profile

A - 0 to 1 inches: loam
Bt1 - 1 to 9 inches: silt loam
Bt2 - 9 to 21 inches: cobbly silt loam
Cr - 21 to 31 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Minor Components

Aquultic haploxeralfs

Percent of map unit: 5 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R018XI111CA - Low Gradient, Concave Depressions
Hydric soil rating: Yes

Hetchy

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

7211—Millvilla-Luckymine complex, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: 2r6fk
Elevation: 950 to 2,410 feet
Mean annual precipitation: 27 to 35 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 205 to 325 days
Farmland classification: Not prime farmland

Map Unit Composition

Millvilla and similar soils: 64 percent
Luckymine and similar soils: 15 percent
Minor components: 21 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Millvilla

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metasedimentary rock

Typical profile

A - 0 to 1 inches: loam
Bt1 - 1 to 11 inches: gravelly loam
Bt2 - 11 to 17 inches: paracobbly loam
Bt3 - 17 to 26 inches: clay loam
Cr - 26 to 36 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

Description of Luckymine

Setting

Landform: Hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from metasedimentary rock

Typical profile

A - 0 to 1 inches: loam
BA - 1 to 6 inches: parachannery sandy loam
Bt - 6 to 14 inches: parachannery sandy loam
Cr - 14 to 24 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 8 to 20 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

Minor Components

Wardsferry

Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Concave

Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Hetchy

Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Mined land

Percent of map unit: 1 percent
Landform: Hills
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

7212—Wardsferry-Millvilla complex, 30 to 60 percent slopes

Map Unit Setting

National map unit symbol: 2r6fj
Elevation: 950 to 2,310 feet
Mean annual precipitation: 28 to 36 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 220 to 310 days
Farmland classification: Not prime farmland

Map Unit Composition

Wardsferry and similar soils: 50 percent
Millvilla and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wardsferry

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Colluvium over residuum derived from metasedimentary rock

Typical profile

A - 0 to 4 inches: loam
AB - 4 to 9 inches: loam
Bt1 - 9 to 20 inches: clay loam

Bt2 - 20 to 38 inches: very paragravelly clay loam
BCt - 38 to 48 inches: cobbly clay loam
Cr - 48 to 58 inches: bedrock

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: 39 to 59 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Description of Millvilla

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metasedimentary rock

Typical profile

A - 0 to 7 inches: loam
Bt1 - 7 to 18 inches: loam
Bt2 - 18 to 30 inches: loam
Cr - 30 to 40 inches: bedrock

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Minor Components

Sanguinetti

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Luckymine

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R018XI106CA - Steep Thermic Hillslopes and Canyon Walls
Hydric soil rating: No

8110—Cumulic Humixerepts-Riverwash complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2lk58
Elevation: 850 to 3,610 feet
Mean annual precipitation: 28 to 49 inches
Mean annual air temperature: 55 to 61 degrees F
Frost-free period: 195 to 305 days
Farmland classification: Not prime farmland

Map Unit Composition

Cumulic humixerepts and similar soils: 50 percent
Riverwash: 20 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cumulic Humixerepts

Setting

Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A - 0 to 10 inches: loam

AC - 10 to 25 inches: cobbly sandy loam
C - 25 to 39 inches: extremely cobbly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B
Ecological site: F022AI204CA - Mesic Mountain Valley Complex Moderately Well Drained
Hydric soil rating: No

Description of Riverwash

Setting

Landform: Channels

Properties and qualities

Slope: 0 to 3 percent
Frequency of flooding: Very frequent

Interpretive groups

Land capability classification (irrigated): None specified
Ecological site: R017XY903CA - Stream Channels and Floodplains
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 8 percent
Landform: Strath terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Lithic xerorthents

Percent of map unit: 5 percent
Landform: Strath terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F022AI206CA - (DRAFT) SMC 6 Riparian Forest
Hydric soil rating: No

Typic fluvaquents

Percent of map unit: 5 percent

Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F022AI206CA - (DRAFT) SMC 6 Riparian Forest
Hydric soil rating: Yes

Water

Percent of map unit: 5 percent
Landform: Streams
Hydric soil rating: No

Anthraltic xerorthents

Percent of map unit: 5 percent
Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Fluventic haploxerepts

Percent of map unit: 2 percent
Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F022AI204CA - Mesic Mountain Valley Complex Moderately Well Drained
Hydric soil rating: No

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Attachment G
Photographs

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Photo 1. Looking southeast along the proposed alignment from the western end of the Study Area. The annual grassland community type dominates the western portion of the Study Area.

Photo 2. Looking east along the proposed pipeline alignment where it follows ranch roads through the California annual grassland. Interior live oak-gray pine woodland occurs in the background.

Photo 3. Looking east along the proposed alignment where it crosses through the interior live-oak gray pine woodland near the center of the Study Area. The proposed alignment follows a ranch road.

Photo 4. Sullivan Creek and the white alder – red willow riparian forest where it crosses through the center of the Study Area.

Photo 5. Elderberry shrub located south of the proposed alignment near the center of the Study Area.

Photo 6. View looking northwest at the irrigated seasonal wetland located at the western end of the Study Area.

Photo 7. View looking southeast at seasonal wetland 2 located in the western portion of the Study Area.

Photo 8. View looking west-northwest at seasonal wetland 6 located in the western portion of the Study Area.

Photo 9. View looking southwest at intermittent creek 1 where it crosses under the farm road.

Photo 10. View looking north-northeast at intermittent creek 2 where it crosses the gravel road.

Photo 11. View looking east along the gravel road located east of Sullivan Creek in the Study Area.

Photo 12. View looking east at Storage Pond 1 (impoundment) where it occurs in the Study Area.

Appendix C
Aquatic Resources Delineation Report

Draft-Updated

TELELI GOLF COURSE RECYCLED WATER LINE

Aquatic Resources Delineation Report

Prepared for
Tuolumne Band of Me-Wuk Indians and
Tuolumne Utilities District

February 2025

ESA

Draft-Updated

TELELI GOLF COURSE RECYCLED WATER LINE

Aquatic Resources Delineation Report

Prepared for

Tuolumne Band of Me-Wuk Indians and Tuolumne Utilities District

February 2025

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EXECUTIVE SUMMARY

At the request of the Tuolumne Band of Me-Wuk Indians and the Tuolumne Utilities District, Environmental Science Associates (ESA) conducted a site investigation for the Teleli Golf Course Recycled Water Line Project of the approximately 7.76-acre project site located in Tuolumne County, California, within the Upper Tuolumne watershed. The purpose of the site investigation was to identify and delineate potential wetlands and other waters of the United States and State within the project area, as well as on-site resources that are protected under Section 1600 et seq. of the California Fish and Game Code, to support any necessary permits from the regulatory agencies.

Based on the results of the aquatic resources delineation and the jurisdictional analysis, it is presumed that 0.162 acre(s) (249.7 linear feet) of waters and 0.080 acres of wetlands in the survey area qualify as both waters of the United States (U.S.) and waters of the state. A total of 0.012 acres of irrigated wetland and culverts are not expected to be considered wetlands and water of the U.S. or state.

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CHAPTER 1
Introduction

This report has been prepared to document the results of an aquatic resources delineation conducted for the Teleli Golf Course Recycled Water Line Project (Project) study area. The study area includes approximately 7.76 acres in Tuolumne County. The Project is the construction of a new water line that would deliver tertiary treated recycled water from the Tuolumne Utilities District's (TUD) wastewater treatment facility in Sonora to an impoundment (Storage Pond 1) for storage prior to use as irrigation on the Teleli Golf Course operated by the Tuolumne Economic Development Authority (TEDA).

On behalf of the Tuolumne Band of Me-Muk Indians (Tribe/ TEDA) and Tuolumne Utilities District (TUD), Environmental Science Associates (ESA) investigated the extent of aquatic resources in the study area. This report documents the boundaries of wetlands and other waters, including those that may be subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); the Central Valley Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the federal CWA and the state Porter-Cologne Water Quality Control Act; and the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 *et seq.* of the California Fish and Game Code. All conclusions presented should be considered preliminary and subject to change pending review and verification by the regulatory agencies.

1.1 Survey Location

The project area is in a rural area of Tuolumne County outside the community of Jamestown. The new pipeline would extend from TUD's existing recycled water pipeline turnout at Assessor's Parcel Number (APN) 059-160-08 and extend underground approximately 6,000 linear feet to a second connection at APN 059-070-80, continuing underground and then crossing over Sullivan Creek via pipe bridge and continuing along the existing access roads, and terminating at Storage Pond 1 (See **Figure 1-1)**. The new recycled water pipeline alignment generally follows unimproved ranch roads through grazing land and gravel access roads from Sullivan Creek to Storage Pond 1. An approximately 190-foot utility-grade pipe bridge would be used to "clear span" Sullivan Creek. Most of the project site is located on the Sonora U.S. Geological Survey topographic quadrangle (quad) (T1N, R14E, Section 33 and T11N, R6E, Sections 23 and 24), with the very eastern end on the Standard quad (T1N, R15E, Section 18). Elevations in the Study Area range from approximately 1,350 feet to 1,550 feet. **Figure 1-2** is a vicinity map of the Study Area.

1.1.1 Directions to the Survey Area

To access the western end of project site from Sacramento, take Highway 99 south to Highway 4 in Stockon. Take exit 252B for Golden Gate Avenue then turn left onto Highway 4/South Golden Gate Avenue. Continue on Highway 4 for 35 miles to O'Byrnes Ferry Road. Turn left on O'Brynes Ferry

Road, continue for 13 miles, then turn left on Highway 108/120. After approximately 5 miles, turn right onto Bell Mooney Road then right onto Algerine Road. Continue on Algerine Road for approximately 2 miles to a gate that provides access to the project site through a grassy field.

To access the eastern end of the Project site, instead of turning on Bell Mooney Road, continue on Highway 108/120 to Lime Kiln Road. Turn left on Lime Kiln Road and follow it for approximately two miles to Championship Drive. Turn right on Championship Drive and continue to the Teleli Golf Course at the eastern end of the project site.

1.2 Contact Information

1.2.1 Applicants and Property Owners

Name: Erik Johnson (TUD) and Darryl Tinkle (TEDA)
Title: District Engineer (TUD) and President (TEDA)
Company/agency: Tuolumne Utilities District and Tuolumne Economic Development Authority
Address: TUD: 18885 Nugget Blvd | Sonora, CA 95370
Contact information: Erik Johnson: 209-532-5536 x ext. 520

1.2.2 Agent

Name: Dave Beauchamp
Title: Senior Project Manager
Company/agency: Environmental Science Associates
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1.2.3 Delineator(s)

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Name: Amanda Segura-Moon, Biologist Phone: (916) 588-6827 E-mail: aseguro-moon@esassoc.com	Name: Alissa Lun Phone: (916) 840-3068 E-mail: alun@esassoc.com

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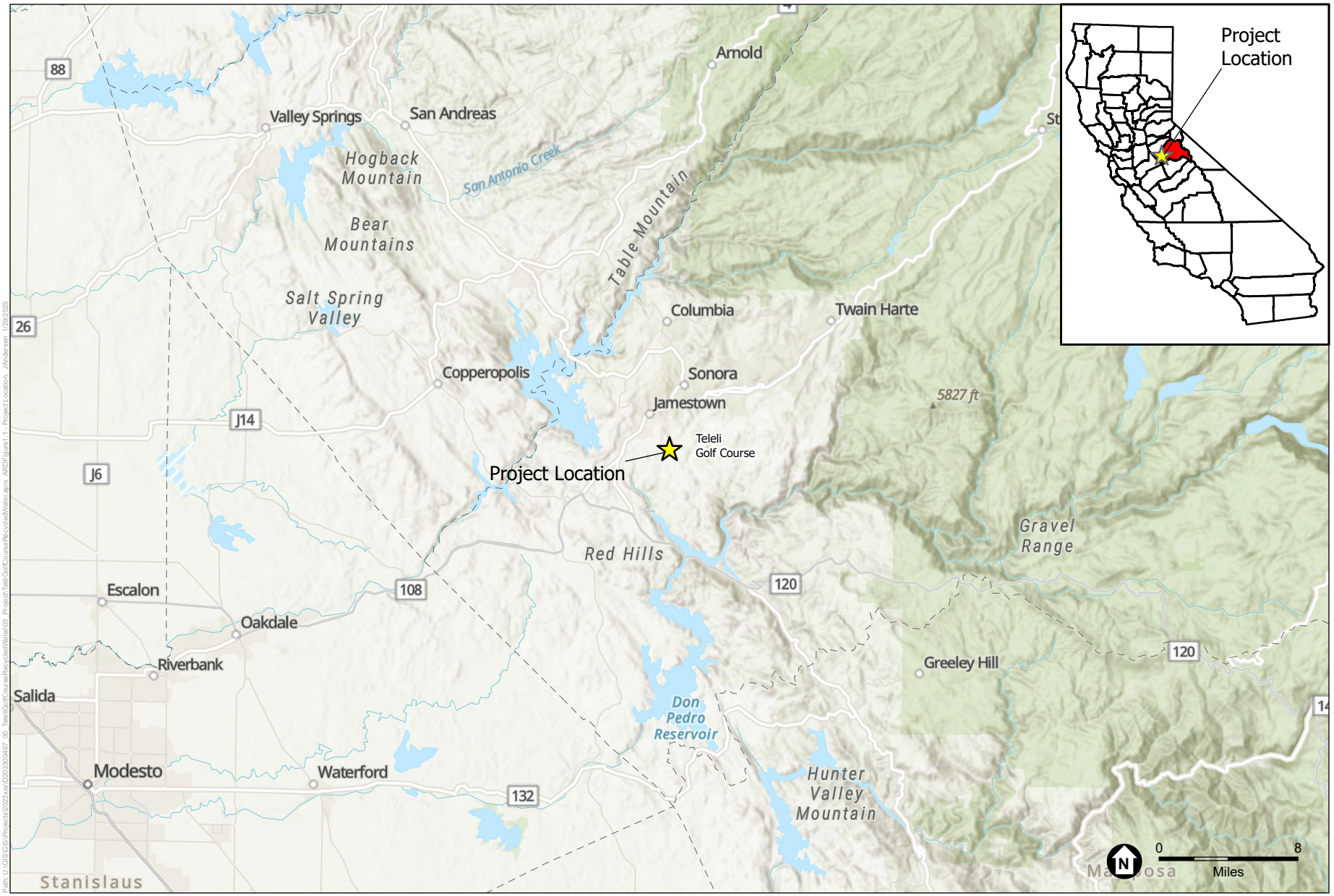

SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 1-1
Project Location

ESA

SOURCE: ESA, 2025

Teleli Golf Course Recycled Water Line

Figure 1-2
Project Vicinity

ESA

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CHAPTER 2
Existing Conditions

2.1 Study Area

The study area is located in Tuolumne County, California, several miles south of the City of Sonora. Regionally, the study area is located in the foothills of the Sierra Nevada within the Central Sierra Nevada Foothills floristic province of the Sierra Nevada region (Baldwin *et al.*, 2012). The study area is characterized by gentle to moderate slopes. Elevation ranges from approximately 1,350 to 1,550 feet.

The study area is primarily comprised of a mix of grassland used for livestock grazing and oak woodland. Sullivan Creek crosses from north to south through the approximate center of the study area. The proposed pipeline alignment generally follows unimproved ranch roads through the grazed grassland and a gravel road leading up to an impoundment (Storage Pond 1). Land use surrounding the study area is characterized by a patchwork of similar grassland and oak woodland, a golf course, and low-density residential development.

2.2 Natural Communities and Other Land Covers

Natural communities are assemblages of plant species that are defined by species composition and relative abundance. Other land covers consist of unvegetated areas or areas significantly disturbed by human activities. This section presents the vegetation community types present in the study area. Descriptions of the upland community types are presented below; wetlands and waters are described in Section 5, *Results*. **Appendix A** is a list of plant species recorded at the data points.

2.2.1 Natural Communities

Interior Live Oak – Gray Pine Woodland

Within the study area, interior live oak-gray pine woodland in the study area occurs in the uplands surrounding Sullivan Creek. This community type is dominated by an overstory of interior live oak (*Quercus wislizeni*), blue oak (*Quercus douglasii*), and gray pine (*Pinus sabiniana*). Openings in this type of woodland are common and can be occupied by an understory of shrubs or herbaceous vegetation. Common shrubs include common whiteleaf manzanita (*Arctostaphylos viscida* ssp. *viscida*), poison oak (*Toxicodendron diversilobum*), wedgeleaf ceanothus (*Ceanothus cuneatus* var. *cuneatus*), California coffeeberry (*Frangula californica* ssp. *tomentella*), and California yerba santa (*Eriodictyon californicum*). The herbaceous layer in this community is similar to the composition of grasses and forbs in the annual grassland community.

Annual Grassland

Annual grassland occurs in the uplands in the western half of the project site and adjacent to the gravel road east of Sullivan Creek. The dominant species of this community are ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum*), wild oat (*Avena fatua*), Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), short-podded mustard (*Hirschfeldia incana*), yellow star-thistle (*Centaurea solstitialis*) and several species of clover (*Trifolium* spp.). Within the annual grassland is an unimproved ranch road where the majority of the proposed pipeline will be constructed. The ranch road has a species composition similar to the annual grassland it crosses, though has more areas of barren ground and is routinely disturbed by vehicles and farm equipment.

White Alder-Red Willow Riparian Forest

White alder – red willow riparian forest occurs along Sullivan Creek in the study area. This natural community is dominated by several species of trees which include white alder (*Alnus rhombifolia*), red willow (*Salix laevigata*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), Oregon ash (*Fraxinus latifolia*), and Goodding's black willow (*Salix gooddingii)*. Shrubs in the understory include California buttonwillow (*Cephalanthus occidentalis*), California wild grape (*Vitis californica*), Himalayan blackberry (*Rubus armeniacus*), and California wild rose (*Rosa californica*). Along the creek's edge and within the ordinary high-water mark of Sullivan Creek, herbaceous species include torrent sedge (*Carex nudata*), common plantain (*Plantago major*), spikerush (*Eleocharis macrostachya*), Mexican rush (*Juncus mexicanus*), mugwort (*Artemesia douglasiana*), spearmint (*Mentha spicata*), and peppermint (*Mentha* × *piperita*).

2.2.2 Other Land Covers

Gravel Road

The study area follows a single lane gravel road from the eastern edge of Sullivan Creek to the western edge of the Teleli Golf Course. The gravel road is generally devoid of vegetation, with the exception of a few scattered weedy herbaceous species.

2.3 Soils

The *Custom Soil Resource Report* (NRCS 2024a) (**Attachment F**) identifies five map units in the study area: Loafercreek-Bonanza complex, 3 to 15 percent slopes, Deerflat-Millvilla complex, 3 to 15 percent slopes, Millvilla-Luckymine complex, 15 to 30 percent slopes, Wardsferry-Millvilla complex, 30 to 60 percent slopes, and Cumulic Humixerepts-Riverwash complex, 0 to 8 percent slopes. Typical profiles of these soils and the primary constituents of the map unit are described below (NRCS 2024b). All colors refer to moist soil. These soil map units are not considered hydric, though minor components in drainageways comprising about five percent of the Millvilla map unit and minor components in floodplain steps comprising about five percent of the Riverwash map unit are considered hydric.

Loafercreek-Bonanza complex, 3 to 15 percent slopes. The Loafercreek series consists of well-drained soils formed in colluvium over residuum derived from metavolcanic rocks, mainly greenschist. Loafercreek soils occur on foothills. The Bonanza series consists of well-drained soils formed in

residuum weathered from metavolcanic rocks. The Bonanza soils are on summits, shoulders, and backlsopes of hills. A typical profile of the Loafercreek Series has:

0–0.5 inches Leaves, needles, duff.

0.5–2 inches Reddish brown (5YR 4/3) moderately acidic gravelly loam.

2–6 inches Reddish brown (5YR 4/3) slightly acidic gravelly loam.

6–12 inches Dark reddish brown (5YR 3/4) slightly acidic loam.

12–31 inches Yellowish red (5YR 4/6) slightly acidic gravelly loam to gravelly silt loam.

31–42 inches Weathered moderately cemented greenschist.

42 inches Indurated greenschist.

A typical profile of the Bonanza Series has:

0–2.5 inches Dark brown (10YR 3/3) moderately acidic loam.

2.5–8 inches Dark yellowish brown (10YR 4/4) moderately acidic loam.

8–18 inches Strong brown (7.5YR 5/6) slightly acidic gravelly loam.

18–22 inches Moderately cemented metavolcanic bedrock.

22–26 inches Very strongly cemented metavolcanic bedrock.

Deerflat-Millvilla complex, 3 to 15 percent slopes. The Deerflat and Millvilla series consist of moderately deep to very deep, well drained soils formed in colluvium over residuum derived from phyllite, schist, and other metasedimentary rocks. Both soils occur on hills and in canyons. A typical profile of the Deerflat Series has:

0–8 inches Very dark grayish brown (10YR 3/2) to brown (10YR 4/3) moderately acidic silt loam.

8–21 inches Dark brown (10YR 3/3) to brown (7.5YR 4/3) moderately acidic silt loam.

21–31 inches Brown (7.5YR 4/4) slightly acidic gravelly silty clay loam.

31–44 inches Brown (7.5YR 4/4) neutral gravelly loam.

44–55 inches Brown (7.5YR 4/4) slightly alkaline paragravelly loam.

55–71 inches Dark brown (7.5YR 3/4) neutral very paragravelly loam.

77 inches Moderately cemented phyllite bedrock with fractures 4 to 18 inches apart.

A typical profile of the Millvilla Series has:

0–0.5 inches Slightly decomposed grass, leaves, and twigs.

0.5–2 inches Dark brown (7.5YR 3/3) neutral silt loam

2–22 inches Dark brown (7.5YR 3/4) to reddish brown (5YR 4/4) neutral loam

22–32 inches Brown (7.5YR 4/4) slightly acid gravelly loam

32–40 inches Moderately cemented mica schist bedrock interbedded with indurated quartzite veins.

40 inches Indurated schist and quartzite bedrock

Millvilla-Luckymine complex, 15 to 30 percent slopes. The Millvilla series is described above. The Luckymine series consists of shallow, well drained soils formed in colluvium and residuum from phyllite, schist, and other metasedimentary rocks. The Luckymine soils are on hills. A typical profile of the Luckymine Series has:

0–1.5 inches Dark brown (10YR 3/3) moderately acidic loam.

1.5–9 inches Dark brown (7.5YR 3/4) moderately acidic gravelly loam.

9–18 inches Strong brown (7.5YR 4/6) moderately acidic very cobbly loam.

18–24 inches Moderately cemented schist bedrock, fractured at intervals of 4 to less than 18 inches.

24 inches Strongly cemented schist bedrock.

Wardsferry-Millvilla complex, 30 to 60 percent slopes. The Millvilla series is described above. The Wardsferry series consists of deep, well drained soils that formed in colluvium over residuum weathered from phyllite, schists, and other metasedimentary rocks. The Wardsferry soils are on foothills. A typical profile of the Wardsferry Series has:

0–1 inches Slightly decomposed plant material.

1–6 inches Dark brown (10YR 3/3) to brown (10YR 4/3) slightly acidic very fine sandy loam.

6–15 inches Dark yellowish brown (10YR 4/4) moderately acidic loam.

15–35 inches Brown (7.5YR 4/3) moderately acidic paragravelly to very paragravelly loam.

35–60 inches Moderately cemented phyllite bedrock, fractured at intervals of 4 to 18 inches.

Cumulic Humixerepts-Riverwash complex, 0 to 8 percent slopes. The Cumulic Humixerepts series consists of well-drained soils formed from mixed alluvium. The Cumulic Humixerepts soils are on flood-plain steps. The Riverwash series occurs in stream channels and floodplains. The typical color and texture profile for the Riverwash series has not been described. The typical color profile for Cumulic Humixerepts series has not been described; the typical texture profile Cumulic Humixerepts soil has:

0–10 inches Loam.

10–25 inches Cobbly sandy loam.

25–39 inches Extremely cobbly sandy loam.

2.4 Hydrology

The study area is in the Upper Tuolumne watershed (hydrologic unit code 18040009). The Upper Tuolumne watershed collects water from the western slopes of the Sierra Nevada and is almost entirely within Tuolumne County and drains to the San Joaquin River and eventually to San Francisco Bay. The intermittent stream and the seasonal wetlands all drain to Sullivan Creek. Sullivan Creek drains to Don

Pedro Reservoir which is an impoundment of the Tuolumne River. The Tuolumne River is a Traditionally Navigable Water (TNW) from its mouth to Highway 132 at Basso Bridge Crossing (USACE 2024).

2.5 Climate

The climate in the region consists of cool, wet winters and hot, dry summers. The mean annual precipitation at a meteorological station at New Melones Dam is 31.24 inches and mean annual temperatures range from an average maximum temperature of 75.1 degrees Fahrenheit to an average minimum temperature of 49.9 degrees Fahrenheit (Western Regional Climate Center 2024). Precipitation recorded at the New Melones Dam meteorological station from June 1, 2023 through May 30, 2024 (the day of fieldwork) totaled 28.44 inches (Western Regional Climate Center 2024). The total amount of rain recorded at the New Melones Dam meteorological station in the year prior to fieldwork is about 91% of the mean annual rainfall. The study area had normal conditions during the 2023 to 2024 wet season.

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CHAPTER 3
Regulatory Framework

3.1 Waters of the United States

3.1.1 Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act of 1899 (U.S. Code Title 33, Section 403 [33 USC 403]) requires authorization from USACE for work or structures in or affecting navigable waters of the United States. The term "navigable waters of the United States" generally includes those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the water body, and is not extinguished by later actions or events which impede or destroy navigable capacity (Code of Federal Regulations Title 33, Section 329.4 [33 CFR 329.4]). In tidal areas, the limit of a navigable water under Section 10 is the elevation of mean high-water mark, even though portions of the water body may be extremely shallow, or obstructed by shoals, vegetation, or other barriers. Marshlands and similar areas are thus considered "navigable in law," but only so far as the area is subject to inundation by the mean high waters (33 CFR 329.12).

Section 14 of the Rivers and Harbors Act (33 USC 408), commonly referred to as "Section 408," authorizes USACE to grant permission to alter, occupy, or use a USACE civil works project if the Secretary of the Army determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project.

3.1.2 Clean Water Act

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the law was significantly reorganized and expanded in 1972. "Clean Water Act" became the law's common name with amendments in 1972.

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and mining projects. Section 404 requires that a permit be issued before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from regulation under Section 404 (e.g., certain farming and forestry activities).

Wetlands are defined by USACE 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. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR 328.3[c][1]; 40 CFR 120.2[c][1]). Indicators of three wetland parameters (hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by site investigation, must be present at a site for USACE to classify the site as a wetland (Environmental Laboratory 1987).

Section 401 of the CWA gives the state authority to grant, deny, or waive certification of proposed federally licensed or permitted activities resulting in discharge to waters of the United States. The State Water Resources Control Board (State Water Board) directly regulates multi-regional projects and supports the Section 401 certification and wetlands program statewide. The regional water quality control board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the federal CWA, which specifies that certification from the state is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the state or appropriate interstate water pollution control agency where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of CWA Sections 301, 302, 303, 306, and 307.

Because states lack jurisdiction on most tribal lands, the CWA requires the federal government—specifically, the U.S. Environmental Protection Agency (EPA)—to fulfill the role of certifying authority. Therefore, if a project is located on federal or tribal land, EPA oversees compliance with CWA Section 401(a)(1). In some circumstances, tribes may assume this and related responsibilities from EPA after applying for and receiving "treatment in a similar manner as a state," or TAS, status.

3.1.3 Waters of the United States

Since its inception, the definition of "waters of the United States" has been a litigious issue. Most recently, the Supreme Court, ruling in *Sackett v. Environmental Protection Agency*, sharply limited the scope of the federal CWA's protection for the nation's waters. As a result of this decision, EPA and USACE issued a final rule that amends the "Revised Definition of 'Waters of the United States'" to conform key aspects of the regulatory text to the U.S. Supreme Court's decision (88 *Federal Register* 61964–61969, September 8, 2023).

Under the "Revised Definition of 'Waters of the United States'; Conforming" rule, the term "waters of the United States" is defined as follows (33 CFR 328.3[a]):

(1) Waters which are:

  (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

  (ii) The territorial seas; or

  (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

(i) Waters identified in paragraph (a)(1) of this section; or

(ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

In addition, the amended regulations include eight types of excluded waters (33 CFR 328.3[b]) which are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

In this section, the following definitions apply:

(1) *Wetlands* means 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. Wetlands generally include swamps, marshes, bogs, and similar areas.

(2) *Adjacent* means having a continuous surface connection.

(3) *High tide line* means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris

on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

(4) *Ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(5) *Tidal waters* means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

Section IV.C of the preamble to the waters of the U.S. rule provides additional guidance to assist in implementing the rule. The explanations of the following terms used in the regulation are summarized from the preamble.

- "*Relatively permanent*" encompasses surface waters that have flowing or standing water year-round or continuously during certain times of the year. Relatively permanent waters do not include surface waters with flowing or standing water for only a short duration in direct response to precipitation (88 FR 3084). Relatively permanent flow may occur seasonally, but the phrase is also intended to encompass tributaries in which extended periods of standing or continuously flowing water are not linked to naturally recurring annual or seasonal cycles. Specifically, relatively permanent waters may include tributaries in which flow is driven more by various water management regimes and practices, such as tributaries with extensive flow alteration (e.g., diversions, bypass channels, water transfers) and effluent-dependent streams (88 FR 3085).
- "*Flowing water*" is meant to encompass not just streams and rivers, but also lakes, ponds, and impoundments that are part of the tributary system, as such waters outlet to the tributary network and contribute flow downstream at the outlet point (88 FR 3085).
- "*Ditches*" are tributaries under the rule if they flow directly or indirectly to paragraph (a)(1) waters and they are jurisdictional tributaries if they also meet the relatively permanent standard and are not excluded from jurisdiction under this rule (88 FR 3082). Wetlands that develop entirely within the confines of an excluded ditch are not jurisdictional (88 FR 3114).
- A "*continuous surface connection*" does not require a constant hydrologic connection. Wetlands meet the continuous surface connection requirement if they physically abut or touch a relatively permanent paragraph (a)(2) impoundment or a jurisdictional tributary when the jurisdictional tributary meets the relatively permanent standard. Wetlands also meet the continuous surface connection requirement if they are connected to relatively permanent waters by a discrete feature like a non-jurisdictional ditch, swale, pipe, or culvert. Similarly, a natural berm, bank, dune, or similar natural landform between an adjacent wetland and a relatively permanent water does not sever a continuous surface connection to the extent it provides evidence of a continuous surface connection (88 FR 3095).

3.2 Waters of the State

On April 2, 2019, the State Water Resources Control Board adopted a new statewide definition of wetlands, along with procedures for discharges of dredged and fill material. This definition became effective May 28, 2020, and is therefore addressed herein.

"Waters of the state" include all waters of the U.S. In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, before any regulatory or judicial limitations on the federal definition of waters of the United States (California Code of Regulations Title 23, Section 3831(w)). This regulation has remained in effect despite subsequent changes to the federal definition.

Therefore, waters of the state include all of the following:

- Features determined by EPA or USACE to be "waters of the U.S." in an approved jurisdictional determination.
- Waters of the U.S. upon which a USACE permitting decision was based.
- Features consistent with any current or historic final judicial interpretation of waters of the U.S. or any current or historic federal regulation defining waters of the U.S. under the federal CWA.

The State of California defines a wetland as follows:

> An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The State Water Resources Control Board defines the following wetlands as waters of the state:

1. Natural wetlands,
2. Wetlands created by modification of a surface water of the state, and
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a water quality control plan as a wetland or other water of the state;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):
        i. Industrial or municipal wastewater treatment or disposal,
        ii. Settling of sediment,

iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,

iv. Treatment of surface waters,

v. Agricultural crop irrigation or stock watering,

vi. Fire suppression,

vii. Industrial processing or cooling,

viii. Active surface mining – even if the site is managed for interim wetlands functions and values,

ix. Log storage,

x. Treatment, storage, or distribution of recycled water, or

xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or

xii. Fields flooded for rice growing.

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

3.3 Rivers, Streams, and Lakes

Pursuant to Division 2, Chapter 6, Section 1600 et seq. of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife. A notification of a lake or streambed alteration must be submitted to CDFW for "any activity that may substantially change the bed, channel, or bank of any river, stream, or lake." In addition, CDFW has authority under the Fish and Game Code over wetland and riparian habitats associated with lakes and streams. CDFW reviews proposed actions and, if necessary, submits to the applicant a proposal that includes measures to protect affected fish and wildlife resources. The final proposal signed by CDFW and the applicant is the Lake and Streambed Alteration Agreement.

Fish and Game Code Section 2785 defines riparian habitat as "lands which contain habitat which grows close to and depends upon soil moisture from a nearby freshwater source." Additionally, the CDFW Notification Instructions and Process guide characterizes the riparian zone as "the area that surrounds a channel or lake and supports (or can support) vegetation that is dependent on surface or subsurface flow." Furthermore, this CDFW guide calls for the analysis of impacts on the riparian zone up to the outer landward edge of the drip line of riparian vegetation.

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CHAPTER 4
Methodology

4.1 Pre-field Review

Before completing the aquatic resources delineation, ESA conducted a review of available background information pertaining to the study area. The following resources were reviewed:

- Sonora and Standard, California U.S. Geological Survey 7.5-minute topographic quadrangle maps (Figure 1-1);
- Aerial photography for vegetative and hydrographic signatures (Figure 1-2, and other dates available from Google, Inc. 2024);
- United States Department of Agriculture Natural Resources Conservation Service (NRCS) soil map and soil series characteristics including hydric soil rating (NRCS 2024a, b) (**Appendix B**);
- National Wetlands Inventory (NWI) (USFWS 2024); and
- Sacramento District USACE (2024) navigable waterways.

4.2 Survey Methods

The delineation of aquatic resources in the study area was conducted on May 30, 2024 by ESA biologist Jessica Orsolini and botanist Seth Kirby. A follow-up field survey was conducted on December 19, 2024 by ESA biologists Amanda Segura-Moon and Alissa Lun to survey expanded portions of the study area around Sullivan Creek and Storage Pond 1. Survey data were collected using a Global Positioning System (GPS) unit (EOS Arrow) with real-time differential correction and an instrument-rated mapping accuracy of +/- 1 meter.

The delineation used the "Routine Determination Method" as described in the *1987 Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987), hereafter called the "1987 Manual." The 1987 Manual was used in conjunction with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008), hereafter called the "Arid West Supplement." For areas where the 1987 Manual and the Arid West Supplement differ, the Arid West Supplement was followed. In addition, the *Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States* (USACE, 2014) was used to identify the lateral limits of streams. The western mountains, valleys, and coast OHWM manual was used because streams in the Sierra foothills are most similar to those described in that manual, rather than the Arid West OHWM manual which is more suitable for desert climates (USACE 2014).

Three positive parameters must normally be present for an area to be considered a wetland: (1) a dominance of wetland vegetation, (2) the presence of hydric soils, and (3) the presence of wetland hydrology. Presence or absence of positive indicators for wetland vegetation, soils, and hydrology was assessed per the 1987 Manual and Arid West Supplement guidelines. In accordance with the USACE guidance, sample points were taken at sites representative of the vegetation, hydrology, and physical characteristics across the wetland types and at adjacent upland areas. Results were extrapolated to nearby wetlands exhibiting similar vegetation and hydrologic conditions. Arid West data sheets were used to record information at each data point (**Appendix C**). OHWM was mapped using a GPS unit along creeks present in the study area.

At each data point, a visual assessment of the dominant plant species was made. Dominant species were assessed using the recommended "50/20" rule per the Arid West Supplement. Plants were identified to species using *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin *et al.* 2012). The *National Wetland Plant List* (USACE 2020) was used to determine the wetland indicator status of all plants. A list of plants observed at the data points is in Appendix A. Soils at each data point were characterized by color, texture, organic matter accumulation, and the presence or absence of hydric soil indicators. Color was described using Munsell soil color charts (Munsell 2000). Wetland hydrology was determined at each data point by the presence of one or more of the primary and/or secondary indicators, per the Arid West Supplement.

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CHAPTER 5
Results

5.1 Aquatic Resources

The delineation identified aquatic resources in the study area consisting of seasonal wetlands, an irrigated wetland, intermittent creeks, a perennial creek, and an impoundment. Aquatic resources were classified using the *Classification of Wetlands and Deepwater Habitats of the United States* ("Cowardin Classification"; Federal Geographic Data Committee 2013). Details of the aquatic resources are presented in **Table 5-1** and described below. **Figure 5-1** shows the location and extent of the aquatic resources. Supporting information, such as the floral compendium, Arid West data sheets, a soils report and map, representative photographs for the delineation study area, and the ORM data sheet are presented in Appendices A through F.

TABLE 5-1
AQUATIC RESOURCES WITHIN THE STUDY AREA

Feature Type	Cowardin Classification	Linear feet (ft.)	Acreage
Wetlands			
Seasonal Wetlands 1-6	PEM1C[1]	--	0.080
Irrigated Wetland	PEM1K[3]	--	0.007
	Total Wetlands	**--**	***0.087***
Other Waters			
Sullivan Creek (Perennial Channel 1)	R3UBH[4]	157	0.132
Intermittent Creek 1	R4SBC[5]	34.4	0.006
Intermittent Creek 2	R4SBCh[6]	58.2	0.010
Storage Pond 1 (impoundment)	PUBHh[7]	--	0.014
Culverts	--	134.7	0.005
	Total Other Waters	384.3	***0.167***
	Total Aquatic Resources	**384.3**	**0.254**

NOTES:

1 Cowardin classification: palustrine, emergent wetland, persistent, seasonally flooded (FGDC 2013).
2 Cowardin classification: palustrine, emergent wetland, persistent, temporarily flooded (FGDC 2013).
3 Cowardin classification: palustrine, emergent wetland, persistent, artificially flooded (FGDC 2013).
4 Cowardin classification: riverine, upper perennial, unconsolidated bottom, permanently flooded (FGDC 2013).
5 Cowardin classification: riverine, intermittent, streambed, seasonally flooded (FGDC 2013).
6 Cowardin classification: riverine, intermittent, streambed, seasonally flooded, diked/impounded (FGDC, 2013).
7 Cowardin classification: palustrine, unconsolidated bottom, permanently flooded, diked/impounded (FGDC, 2013).

SOURCE: ESA 2024, 2025

5.1.1 Waters

Sullivan Creek (Perennial Creek)

There is 0.132 acre (157 linear feet) of Sullivan Creek, a perennial creek, near the center of the study area (Figure 5-1, **Appendix D**, photos 11 and 12). In the study area, Sullivan Creek is approximately 71 feet wide. The water flows from north to south and was approximately six to eighteen inches deep during the survey. Sullivan Creek has a rocky bottom with flows consisting of a mix of pools, riffles, and runs. The white alder-red willow riparian forest occurs along the edges and within portions of the flowing stream. The ordinary high-water mark is indicated by scour, a natural line impressed on the bank, changes in soil character, and a change in plant community.

Intermittent Creeks (IC)

There are two unnamed intermittent creeks (IC 1 and IC 2) in the study area. Intermittent creeks have flowing water seasonally. Groundwater is the primary component of flow, and runoff from precipitation supplements the flow. Intermittent creeks are generally dry by mid to late summer.

There is 0.006 acre (34.4 linear feet) of IC 1 in the delineation study area (Figure 5-1, Appendix D, photo 10). IC 1 originates in the foothills north of the study area, crosses through the center of the study area through a culvert and drains south to Sullivan Creek outside the study area. In the study area, IC 1 is approximately 9 feet wide. During the survey, water was approximately two to six inches deep. The substrate primarily consisted of mud with scattered cobble. Vegetation in the creek was dominated by seep monkey flower (*Erythranthe guttata*), watercress (*Nasturtium officinale*), and spinyfruit buttercup (*Ranunculus muricatus*). Hundreds of Sierran treefrog (*Pseudacris sierra*) adults and tadpoles were observed in this creek during the field survey. The ordinary high-water mark is indicated by scour and a change in plant community.

There is 0.010 acre (58.2 linear feet) of IC 2 in the delineation study area (Figure 5-1, Appendix D, photo 13). IC 2 crosses through the study area just east of Sullivan Creek. The creek originates at the golf course, is impounded in several areas, flows over the gravel access road (there is no culvert), then drains into Sullivan Creek. Under current conditions, water in IC 2 is supplemented by irrigation water that is diverted from Sullivan Creek, stored in Storage Pond 1 (an impoundment of IC 2), then used as irrigation water at the golf course. Based on a review of a 1949 topographical map, this drainage was mapped as an intermittent creek prior to construction of the golf course, impoundments, and any significant development in the area (USGS 2025). The 1949 topographical map supports the intermittent flow regime determination. In the study area, IC 2 is approximately 8 feet wide. During the survey, water was approximately two to six inches deep. The substrate primarily consisted of gravel and mud. Dominant vegetation along the banks of this intermittent creek consists of Himalayan blackberry; close to its confluence with Sullivan Creek it flows through the white alder – red willow riparian forest. The ordinary high-water mark is indicated by scour and a natural line impressed on the bank.

Storage Pond 1 (Impoundment)

A small portion (0.014 acre) of the northern edge of an impoundment (Storage Pond 1) occurs at the eastern end of the study area (Figure 5-1, Appendix D, photo 9). Storage Pond 1 is an impoundment of IC 2. Storage Pond 1 is used to hold water pumped from Sullivan Creek which is then used as irrigation water for

the golf course. The substrate of the pond consists of sediment and small cobble. Within the study area, vegetation on the banks of Storage Pond 1 consists of annual grassland with emergent sedges (*Cyperus eragrostis*) growing along the water line. The ordinary high-water mark is indicated by a change in vegetation and a natural line impressed on the bank. The existing pump structure and outfall pipe are located above the ordinary high-water mark.

5.1.2 Wetlands

Seasonal Wetlands (SW)

Four seasonal wetlands (SW 1–4) occur in a drainage/wetland swale near the western end of the study area. SW 1 and SW 3 are located north of the ranch road alignment (Appendix D, photos 3 and 5) and SW 2 and SW 4 are located south of the ranch road alignment (Appendix D, photos 4 and 6). The seasonal wetlands on the north side of the ranch road are connected to the seasonal wetlands on the south side of the ranch road through two approximately 24-inch diameter culverts under the road. The drainage/ wetland swale in which these seasonal wetlands are located flows south-southwest to an offsite impoundment. The impoundment outfalls into a drainage/ swale that flows south through grassland, is culverted under Algerine Road, continues south through oak woodland then drains into Sullivan Creek downstream of the study area.

An additional two seasonal wetlands (SW 5 and SW 6) occur in a drainage/wetland swale in the western third of the study area near the proposed staging area (Appendix D, photos 7 and 8). SW 5 and SW 6 occur on either side of the ranch road and are connected through an approximately 12-inch diameter culvert. The drainage/ wetland swale in which these seasonal wetlands are located flows south through offsite grassland and farmland, is culverted under Algerine Road, then drains into Sullivan Creek downstream of the study area.

SW 1–6 support hydrophytic vegetation dominated by Italian ryegrass (*Festuca perennis*; FAC), low manna grass (*Glyceria declinata*; FACW), and seaside barley (*Hordeum marinum*; FAC). Soils met the redox dark surface (F6) hydric soil indicator and redox depressions (F8) hydric soil indicator. Oxidized rhizospheres along living roots (C3) met the primary wetland hydrology indicator for SW 1-6. The primary indicators inundation visible on aerial imagery (B7) and the secondary indicators drainage patterns (B10) and FAC-neutral test (D5) were also met for SW 1 and 2. During the field survey, standing water was observed around the outfall of a PVC water pipe valve around SW 6. Based on a review of Google Earth imagery and observed field conditions, the hydrology of SW 1–6 is supplemented by irrigation water.

Irrigated Wetland (IW)

An irrigated wetland (IW 1) occurs at the western end of the study area near the proposed TUD connection point (Appendix D, photo 1). IW 1 is the result of a broken water pipe, which was observed spilling water during field work (Appendix D, photo 2). IW 1 supports hydrophytic vegetation and was dominated by Italian ryegrass. Soils met the red parent material (TF2) hydric soils indicator and presence of surface water (A1) and saturation (A3) met the wetland hydrology indicator. The irrigated seasonal wetland has no connection to any other seasonal wetlands and is not tributary to any downstream aquatic features. Water in this wetland was only leaving via percolation during the site visit.

5.1.3 Culverts

Culverts (C)

There are four culverts in the study area. Three of the culverts (C-1, C-2, and C-3) convey water between SW 1 and 2, between SW 3 and 4, and between SW 5 and 6 beneath the ranch road. The fourth culvert (C-4) conveys water from IC 1 under the ranch road.

5.2 Jurisdictional Analysis

5.2.1 Potential Waters of the U.S.

This section applies current regulations defining Waters of the U.S. to the aquatic resources.

Sullivan Creek and IC 1 and IC 2 are relatively permanent because they are perennial and intermittent, respectively. The term "relatively permanent" encompasses surface waters that have flowing or standing water year-round or continuously during certain times of the year (88 FR 3084). Downstream of the study area, IC 1 and IC 2 are tributary to Sullivan Creek. Sullivan Creek is tributary to the Tuolumne River. The Tuolumne River is a TNW ((a)(1) water) from its mouth to Highway 132 at Basso Bridge Crossing (USACE 2024). Relatively permanent tributaries of TNW's are waters of the U.S. (33 CFR 328.3(a)(3)).

Storage Pond 1 is an impoundment of IC 2, a relatively permanent tributary of an (a)(1) water (the Tuolumne River). Impoundments of waters defined as waters of the U.S. are also waters of the U.S. (33 CFR 328.3(a)(2)).

SW 1–6 occur in drainages/wetland swales that drain to Sullivan Creek downstream of the study area. These drainages/ wetland swales appear unbroken downstream on aerial photography except for discrete features such as culverts, ditches, or spillways, and therefore constitute a continuous surface connection to Sullivan Creek. A continuous surface connection constitutes adjacency. Wetlands that are adjacent to an (a)(3) tributary are waters of the U.S. (33 CFR 328.3(a)(4)(ii)).

5.2.2 Non-jurisdictional Features

The irrigated wetland in the study area is entirely supported by irrigation[1]. IW 1 is the result of a broken water pipe, which was observed spilling water during field work. If the irrigation were turned off, it would revert to upland. Areas surrounding the irrigated wetland at similar elevation and position that do not have artificial hydrology inputs do not meet wetland criteria. Areas that are irrigated that would revert to dry land if the irrigation ceased are specifically excluded from waters of the U.S. (33 CFR 328.3(a)).

Culverts 1–4 are not wetlands nor waters and are not waters of the U.S.

[1] As stated in the preamble to the Corps' Final Rule of November 13, 1986: "…we generally do not consider the following waters to be 'Waters of the United States'… (b) Artificially irrigated areas which would revert to upland if the irrigation ceased." 51 Federal Register 41217, November 13, 1986. Thus, waters, including wetlands, created as a result of irrigation would not be considered waters of the US even when augmented on occasion by precipitation.

Feature	Aquatic Feature	Acres	Linear Feet	Square Feet
IW 1	Irrigated Wetland	0.007	N/A	321.4
SW 1	Seasonal Wetland	0.031	N/A	1342.5
SW 2	Seasonal Wetland	0.008	N/A	335.0
SW 2	Seasonal Wetland	0.021	N/A	923.6
SW 3	Seasonal Wetland	0.005	N/A	234.0
SW 4	Seasonal Wetland	0.003	N/A	133.3
SW 5	Seasonal Wetland	0.011	N/A	493.1
SW 6	Seasonal Wetland	0.001	N/A	24.1
Storage Pond 1	Impoundment	0.014	N/A	612.1
Sullivan Creek	Perennial Channel	0.132	157.0	5754.3
IC 1	Intermittent Creek	0.006	34.4	260.6
IC 2	Intermittent Creek	0.010	58.2	442.7
C 1	Culvert	0.001	17.9	64.1
C 2	Culvert	0.001	16.6	56.1
C 3	Culvert	0.000	12.8	21.9
C 4	Culvert	0.002	87.4	87.4
Sum		0.255	384.4	11106.1

Path: U:\GIS\GIS\Projects\2023xxx\D202300467_00_TeleliGolfCourseRecycledWater\03_Project\TeliliGolfCourseRecycledWater.aprx, JAndersen 2/4/2025

SOURCE: ESA 2025

Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: D North American 1983
Vertical Datum: N/A

Study Area

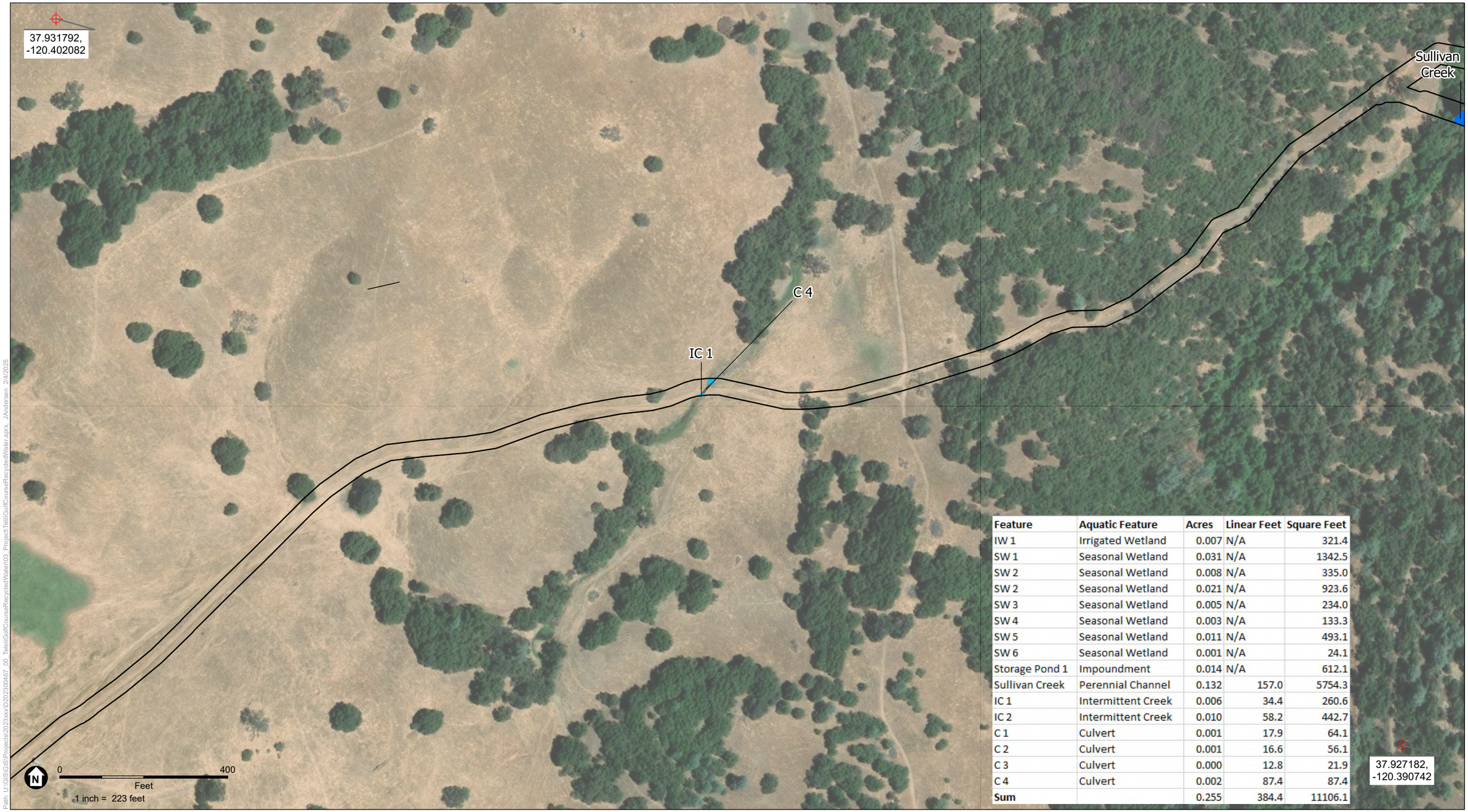
Data Points
- Upland
- Wetland
- Map Reference Point
- Culverts (C)

Wetlands (0.087 acres)
- Seasonal Wetland (0.080 acres)
- Irrigated Wetland (0.007 acres)

Teleli Golf Course Recycled Water Line

Figure 5-1
Delineation of Wetlands and Other Waters of the U.S.
(1 of 3)

Delineated by: Jessica Orsolini and Seth Kirby
Mapping by: Jacob Andersen
Created on: 1/27/2025



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Path: U:\GIS\GIS\Projects\2023xxx\D2023004 67_00_TelleliGolfCourseRecycledWater\03_Project\TelliGolfCourseRecycledWater.aprx, JAndersen 2/4/2025

SOURCE: ESA 2025

Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: D North American 1983
Vertical Datum: N/A

ESA

Study Area

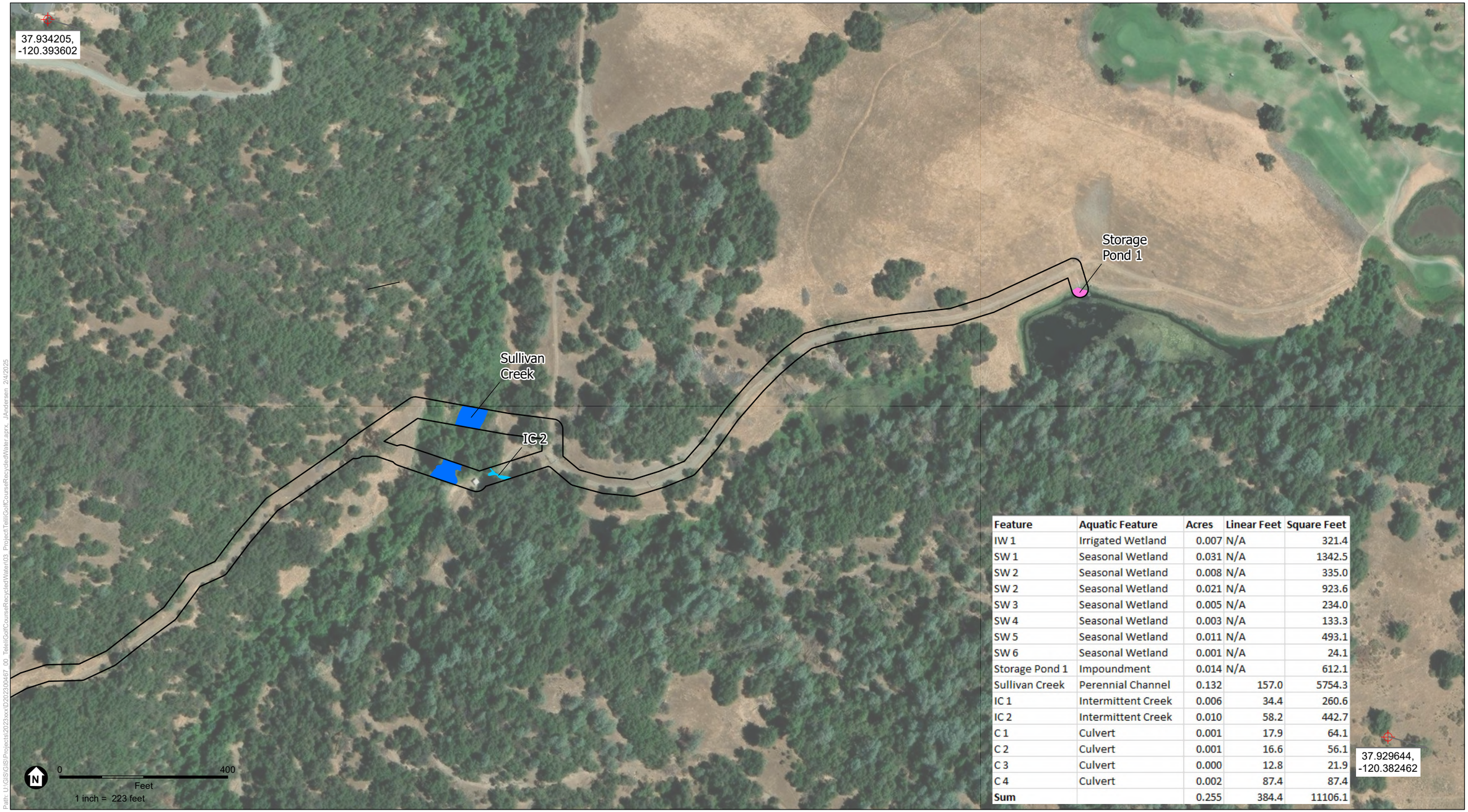
Data Points
- Upland
- Wetland
- Map Reference Point
- Culverts (C)

Other Waters (0.162 acres)
- Perennial Channel (0.132 acres)
- Intermittent Creek (0.016 acres)

Teleli Golf Course Recycled Water Line

Figure 5-1
Delineation of Wetlands and Other Waters of the U.S.
(2 of 3)

Delineated by: Jessica Orsolini and Seth Kirby
Mapping by: Jacob Andersen
Created on: 1/27/2025



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SOURCE: ESA 2025

Coordinate System: NAD 1983 StatePlane California IV FIPS 0404 (US Feet)
Projection: Lambert Conformal Conic
Datum: D North American 1983
Vertical Datum: N/A

Study Area

Data Points
- Upland
- Wetland
- Map Reference Point
- Culverts (C)

Other Waters (0.162 acres)
- Perennial Channel (0.132 acres)
- Intermittent Creek (0.016 acres)
- Impoundment (0.014 acres)

Teleli Golf Course Recycled Water Line

Figure 5-1
Delineation of Wetlands and Other Waters of the U.S.
(3 of 3)

Delineated by: Jessica Orsolini and Seth Kirby
Mapping by: Jacob Andersen
Created on: 1/27/2025

5.3 Waters of the State

California defines waters of the state to include all "natural wetlands." Additionally, "waters of the state" includes all "waters of the U.S." In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. (California Code of Regulations title 23, section 3831(w).) This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state include features that have been determined by the EPA or the USACE to be "waters of the U.S." in an approved jurisdictional determination; "waters of the U.S." upon which a Corps permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the U.S." or any current or historic federal regulation defining "waters of the U.S." under the federal Clean Water Act.

Since Sullivan Creek, IC 1, IC 2, Storage Pond 1, and SW 1–6 are waters of the U.S., these aquatic resources also qualify as waters of the state.

IW 1 is an artificial wetland that does not meet any criteria for waters of the state. It is less than one acre in size, and its hydrology is solely supported by a broken water pipe. If water from the broken pipe were to cease, the feature would revert to upland. Therefore, the irrigated wetland does not meet criteria for waters of the state.

Culverts 1–4 are not wetlands. The State of California does not have a definition for which non-wetland waters qualify as waters of the State. The Central Valley Regional Water Quality Control Board does not typically regulate small culverts as waters of the State but may do so at their discretion.

5.4 Conclusions

There is a total of 0.254 acres of aquatic resources in the study area consisting of Sullivan Creek (perennial creek), two intermittent creeks, Storage Pond 1 (impoundment), seasonal wetlands, irrigated wetland, and culverts.

A total of 0.242 acres of wetlands and waters are expected to qualify as both waters of the U.S. and waters of the state.

A total of 0.012 acres of irrigated wetland and culverts are not expected to be considered wetlands and water of the U.S. or state.

Activities that may affect Sullivan Creek or the riparian forest, IC 1 and IC 2, and Storage Pond 1 may be regulated by CDFW under Section 1600 et seq. of the California Fish and Game Code.

This report documents the aquatic resources boundary delineation and best professional judgment of ESA investigators. All conclusions presented should be considered preliminary and subject to change pending official review and jurisdictional determination in writing by the USACE and Central Valley Regional Water Quality Control Board.

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CHAPTER 6
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Appendix A
Plants Observed at Data Points

PLANTS OBSERVED AT DATA POINTS

Scientific Name	Common Name	Wetland Indicator Status
Asteraceae		
Carduus pycnocephalus	Italian thistle	UPL
Geraniaceae		
Erodium botrys	Storksbill filaree	FACU
Juncaceae		
Juncus bufonius	Toad rush	FACW
Lythraceae		
Lythrum hyssopifolium	Loosestrife	OBL
Poaceae		
Briza minor	Small quaking grass	FAC
Bromus diandrus	Ripgut brome	UPL
Cynodon dactylon	Bermuda grass	FACU
Glyceria declinata	Low manna grass	FACW
Hordeum marinum subsp. *Gussoneanum*	Mediterranean barley	FAC
Hordeum murinum	Wall barley	UPL
Hypochaeris radicata	Rough cat's-ear	FACU
Lolium perenne	Italian rye grass	FAC
Polypogon monspeliensis	Beard Grass	FACW
Ranunculaceae		
Ranunculus muricatus	Buttercup	FACW
Rubiaceae		
Galium aparine	Goose grass	FACU

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Appendix B
Custom Soil Resource Report

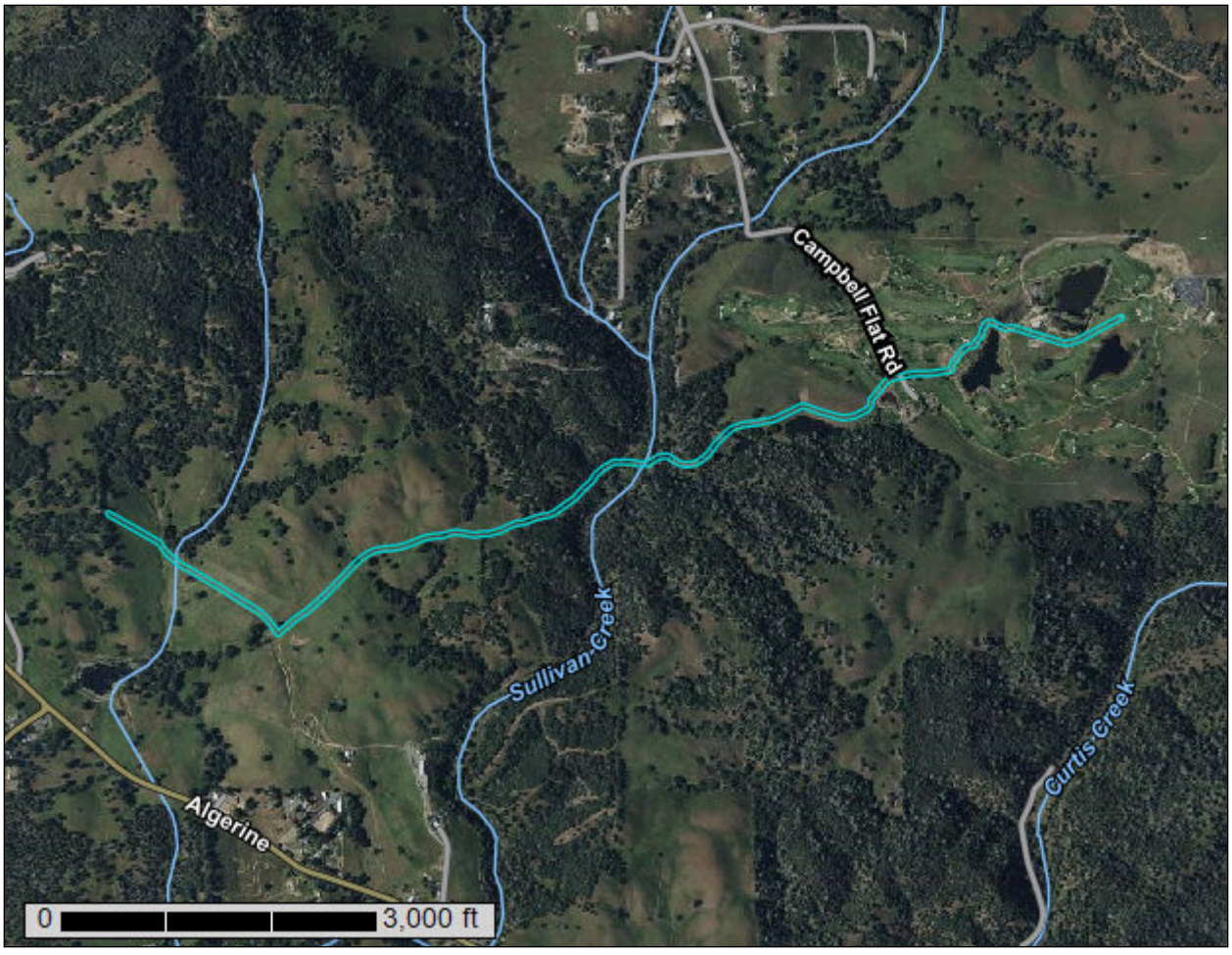
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Central Sierra Foothills Area, California, Parts of Calaveras and Tuolumne Counties



September 25, 2024

Preface

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

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

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

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

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

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

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

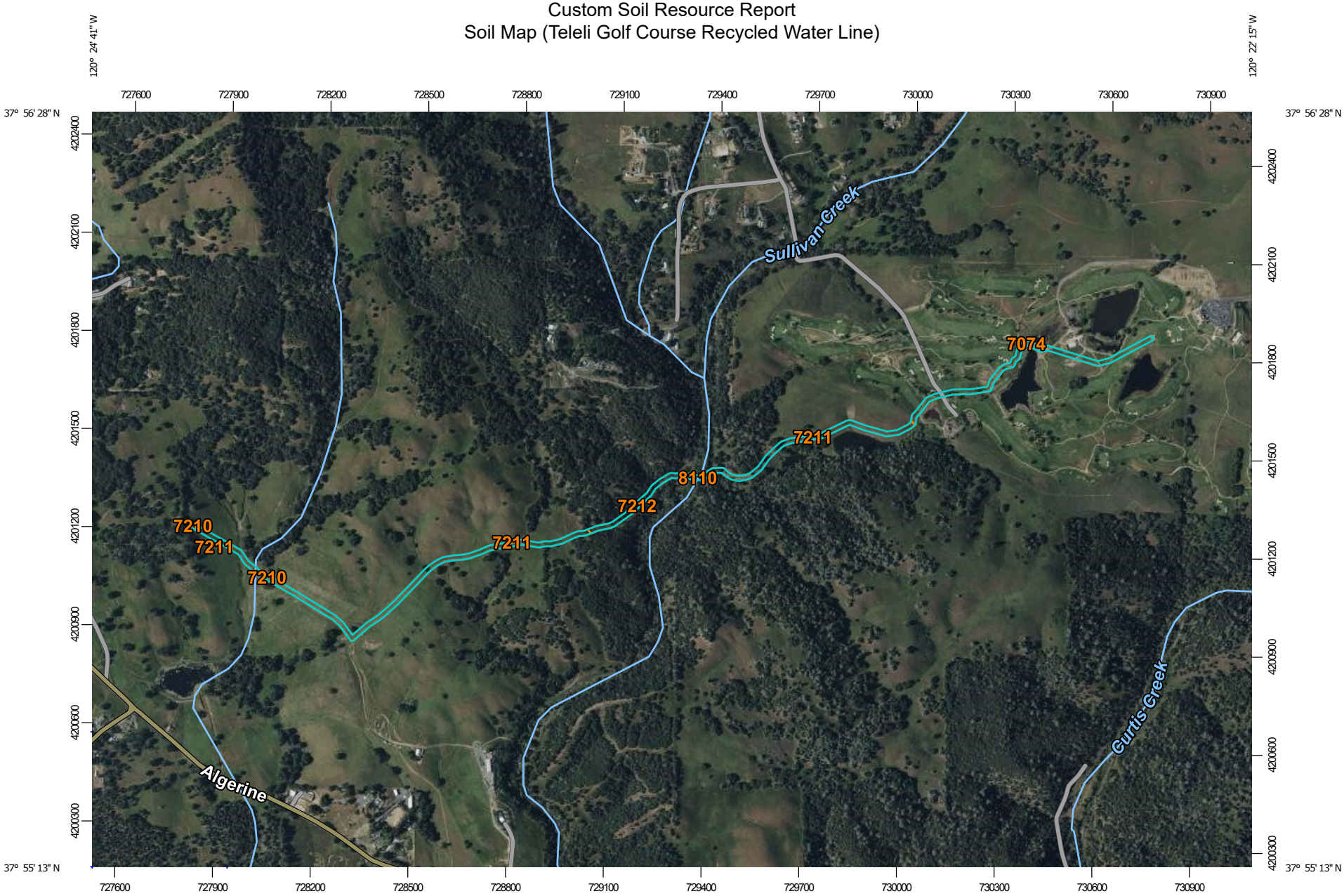
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

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

Custom Soil Resource Report
Soil Map (Teleli Golf Course Recycled Water Line)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

Soil Survey Area: Central Sierra Foothills Area, California, Parts of Calaveras and Tuolumne Counties
Survey Area Data: Version 8, Aug 31, 2023

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

Date(s) aerial images were photographed: Mar 11, 2022—May 30, 2022

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

Map Unit Legend (Teleli Golf Course Recycled Water Line)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7074	Loafercreek-Bonanza complex, 3 to 15 percent slopes	3.4	25.6%
7210	Deerflat-Millvilla complex, 3 to 15 percent slopes	5.0	37.7%
7211	Millvilla-Luckymine complex, 15 to 30 percent slopes	3.2	24.2%
7212	Wardsferry-Millvilla complex, 30 to 60 percent slopes	1.3	10.2%
8110	Cumulic Humixerepts-Riverwash complex, 0 to 8 percent slopes	0.3	2.2%
Totals for Area of Interest		**13.1**	**100.0%**

Map Unit Descriptions (Teleli Golf Course Recycled Water Line)

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

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

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit

descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Central Sierra Foothills Area, California, Parts of Calaveras and Tuolumne Counties

7074—Loafercreek-Bonanza complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2x296
Elevation: 840 to 1,890 feet
Mean annual precipitation: 24 to 33 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 235 to 325 days
Farmland classification: Not prime farmland

Map Unit Composition

Loafercreek and similar soils: 58 percent
Bonanza and similar soils: 25 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loafercreek

Setting

Landform: Hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metavolcanics

Typical profile

A - 0 to 5 inches: gravelly loam
Bt1 - 5 to 17 inches: gravelly loam
Bt2 - 17 to 24 inches: gravelly clay loam
Cr - 24 to 35 inches: bedrock
R - 35 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock; 20 to 49 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

Description of Bonanza

Setting

Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from metavolcanics

Typical profile

Oi - 0 to 0 inches: slightly decomposed plant material
A - 0 to 2 inches: loam
Bt1 - 2 to 7 inches: loam
Bt2 - 7 to 12 inches: loam
Bt3 - 12 to 16 inches: loam
Cr - 16 to 22 inches: bedrock
R - 22 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock; 14 to 30 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: F018XI200CA - Low Elevation Foothills
Hydric soil rating: No

Minor Components

Gopheridge

Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

Rock outcrop, metavolcanic

Percent of map unit: 5 percent
Landform: Hills
Hydric soil rating: No

Mined land

Percent of map unit: 2 percent
Landform: Hills
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

7210—Deerflat-Millvilla complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2r6fl
Elevation: 950 to 2,260 feet
Mean annual precipitation: 27 to 36 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 215 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Deerflat and similar soils: 50 percent
Millvilla and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerflat

Setting

Landform: Hills
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metasedimentary rock

Typical profile

A - 0 to 2 inches: silt loam
AB - 2 to 8 inches: silt loam
Bt1 - 8 to 21 inches: silt loam
Bt2 - 21 to 31 inches: gravelly silty clay loam
Bt3 - 31 to 55 inches: paragravelly loam
BCt - 55 to 71 inches: very paragravelly loam
Cr - 71 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 59 to 79 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Description of Millvilla

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metasedimentary rock

Typical profile

A - 0 to 1 inches: loam
Bt1 - 1 to 9 inches: silt loam
Bt2 - 9 to 21 inches: cobbly silt loam
Cr - 21 to 31 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Minor Components

Aquultic haploxeralfs

Percent of map unit: 5 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R018XI111CA - Low Gradient, Concave Depressions
Hydric soil rating: Yes

Hetchy

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

7211—Millvilla-Luckymine complex, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: 2r6fk
Elevation: 950 to 2,410 feet
Mean annual precipitation: 27 to 35 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 205 to 325 days
Farmland classification: Not prime farmland

Map Unit Composition

Millvilla and similar soils: 64 percent
Luckymine and similar soils: 15 percent
Minor components: 21 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Millvilla

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metasedimentary rock

Typical profile

A - 0 to 1 inches: loam
Bt1 - 1 to 11 inches: gravelly loam
Bt2 - 11 to 17 inches: paracobbly loam
Bt3 - 17 to 26 inches: clay loam
Cr - 26 to 36 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

Description of Luckymine

Setting

Landform: Hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from metasedimentary rock

Typical profile

A - 0 to 1 inches: loam
BA - 1 to 6 inches: parachannery sandy loam
Bt - 6 to 14 inches: parachannery sandy loam
Cr - 14 to 24 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 8 to 20 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: F018XI201CA - Moderately Deep Thermic Foothills
Hydric soil rating: No

Minor Components

Wardsferry

Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Concave

Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Hetchy

Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Mined land

Percent of map unit: 1 percent
Landform: Hills
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

7212—Wardsferry-Millvilla complex, 30 to 60 percent slopes

Map Unit Setting

National map unit symbol: 2r6fj
Elevation: 950 to 2,310 feet
Mean annual precipitation: 28 to 36 inches
Mean annual air temperature: 59 to 61 degrees F
Frost-free period: 220 to 310 days
Farmland classification: Not prime farmland

Map Unit Composition

Wardsferry and similar soils: 50 percent
Millvilla and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wardsferry

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Colluvium over residuum derived from metasedimentary rock

Typical profile

A - 0 to 4 inches: loam
AB - 4 to 9 inches: loam
Bt1 - 9 to 20 inches: clay loam

Bt2 - 20 to 38 inches: very paragravelly clay loam
BCt - 38 to 48 inches: cobbly clay loam
Cr - 48 to 58 inches: bedrock

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: 39 to 59 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Description of Millvilla

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium over residuum derived from metasedimentary rock

Typical profile

A - 0 to 7 inches: loam
Bt1 - 7 to 18 inches: loam
Bt2 - 18 to 30 inches: loam
Cr - 30 to 40 inches: bedrock

Properties and qualities

Slope: 30 to 60 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Minor Components

Sanguinetti

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F018XI202CA - Deep Thermic Steep Hillslopes
Hydric soil rating: No

Luckymine

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R018XI106CA - Steep Thermic Hillslopes and Canyon Walls
Hydric soil rating: No

8110—Cumulic Humixerepts-Riverwash complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2lk58
Elevation: 850 to 3,610 feet
Mean annual precipitation: 28 to 49 inches
Mean annual air temperature: 55 to 61 degrees F
Frost-free period: 195 to 305 days
Farmland classification: Not prime farmland

Map Unit Composition

Cumulic humixerepts and similar soils: 50 percent
Riverwash: 20 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cumulic Humixerepts

Setting

Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A - 0 to 10 inches: loam

AC - 10 to 25 inches: cobbly sandy loam
C - 25 to 39 inches: extremely cobbly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B
Ecological site: F022AI204CA - Mesic Mountain Valley Complex Moderately Well Drained
Hydric soil rating: No

Description of Riverwash

Setting

Landform: Channels

Properties and qualities

Slope: 0 to 3 percent
Frequency of flooding: Very frequent

Interpretive groups

Land capability classification (irrigated): None specified
Ecological site: R017XY903CA - Stream Channels and Floodplains
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 8 percent
Landform: Strath terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Lithic xerorthents

Percent of map unit: 5 percent
Landform: Strath terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F022AI206CA - (DRAFT) SMC 6 Riparian Forest
Hydric soil rating: No

Typic fluvaquents

Percent of map unit: 5 percent

Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F022AI206CA - (DRAFT) SMC 6 Riparian Forest
Hydric soil rating: Yes

Water

Percent of map unit: 5 percent
Landform: Streams
Hydric soil rating: No

Anthraltic xerorthents

Percent of map unit: 5 percent
Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Fluventic haploxerepts

Percent of map unit: 2 percent
Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F022AI204CA - Mesic Mountain Valley Complex Moderately Well Drained
Hydric soil rating: No

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Appendix C
Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Teleli Pipeline | City/County: Tuolumne Co | Sampling Date: 5/30/2024
Applicant/Owner: TUD | State: California | Sampling Point: 1
Investigator(s): "Orsolini, Kirby" | Section, Township, Range: See report
Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Convex | Slope (%): 30
Subregion (LRR): LRR-C | Lat: 37.9299164885 | Long: -120.407931223 | Datum: - WGS84
Soil Map Unit Name: Deerflat-Millvilla complex, 3 to 15% slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation no Soil no or Hydrology yes significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✓
Are Vegetation no Soil no or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____
Is the Sampled Area within a Wetland? **Yes** ✓ **No** ____

Remarks: Water originating from leaking pipe

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 5 ft/radius)			
1.	0		
2.	0		
3.	0		
4.	0		
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 ft/radius)			
1.	0		
2.	0		
3.	0		
4.	0		
5.	0		
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft/radius)			
1. Lolium perenne	80	yes	FAC
2. Hordeum murinum	8	no	UPL
3. Lythrum hyssopifolium	3	no	OBL
4.	0		
5.	0		
6.	0		
7.	0		
8.	0		
9.	0		
10.	0		
11.	0		
	91 = Total Cover		
Woody Vine Stratum (Plot size: 5 ft/radius)			
1.	0		
2.	0		
	0 = Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1=	3
FACW species	0	x 2=	0
FAC species	80	x 3=	240
FACU species	0	x 4=	0
UPL species	8	x 5=	40
Column Totals:	91 (A)		283 (B)

Prevalence Index = B/A = 3.11

Hydrophytic Vegetation Indicators:
yes Dominance Test is >50%
no Prevalence Index is ≤3.0[1]
____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1](Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ✓ **No** ____

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 10	5YR 4/4	75	10YR 3/2	24	D	M	Clay loam	1% 5YR 5/8 in matrix
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- X Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): 10

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	yes	Depth (Inches):	1
Water Table Present?	yes	Depth (Inches):	8
Saturation Present? (includes capillary fringe)	yes	Depth (Inches):	

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Pit filled with water shortly aft

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Teleli Pipeline | City/County: Tuolumne Co | Sampling Date: 5/30/2024
Applicant/Owner: TUD | State: California | Sampling Point: 2
Investigator(s): "Orsolini, Kirby" | Section, Township, Range: See report
Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): None | Slope (%): 30
Subregion (LRR): LRR-C | Lat: 37.9299194488 | Long: -120.407924248 | Datum: - WGS84
Soil Map Unit Name: Deerflat-Millvilla complex, 3 to 15% slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation no Soil no or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation no Soil no or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓		
Hydric Soil Present?	Yes ____	No ✓	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes ____	No ✓	**within a Wetland?**	**Yes** ____ **No** ✓

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5 ft/radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	0		
2.	0		
3.	0		
4.	0		
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5 ft/radius)			
1.	0		
2.	0		
3.	0		
4.	0		
5.	0		
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft/radius)			
1. Bromus diandrus	10	no	UPL
2. Lolium perenne	50	yes	FAC
3. Carduus pycnocephalus	7	no	UPL
4. Hordeum murinum	8	no	UPL
5. Galium aparine	1	no	FACU
6. Hypochaeris radicata	40	yes	FACU
7. Erodium botrys	5		FACU
8.	0		
9.	0		
10.	0		
11.	0		
	121	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft/radius)			
1.	0		
2.	0		
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1=	0
FACW species	0	x 2=	0
FAC species	50	x 3=	150
FACU species	46	x 4=	184
UPL species	25	x 5=	125
Column Totals:	121 (A)		459 (B)

Prevalence Index = B/A = 3.79

Hydrophytic Vegetation Indicators:
no Dominance Test is >50%
no Prevalence Index is ≤3.0[1]
no Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
no Problematic Hydrophytic Vegetation[1](Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** ✓

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 10	5YR 4/4	100		0			Clay loam	
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Bedrock

Depth (inches): 10

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? no Depth (Inches): 0

Water Table Present? no Depth (Inches): 0

Saturation Present? no Depth (Inches): ___

(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Teleli Pipeline | City/County: Tuolumne Co | Sampling Date: 5/30/2024
Applicant/Owner: TUD | State: California | Sampling Point: 3
Investigator(s): "Orsolini, Kirby" | Section, Township, Range: See report
Landform (hillslope, terrace, etc.): Lowland | Local relief (concave, convex, none): Convex | Slope (%): 0
Subregion (LRR): LRR-C | Lat: 37.9287807653 | Long: -120.405814486 | Datum: - WGS84
Soil Map Unit Name: Deerflat-Millvilla complex, 3 to 15% slopes | NWI classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation no Soil no or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation no Soil no or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____
Is the Sampled Area within a Wetland? Yes ✓ No ____

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5 ft/radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	0		
2.	0		
3.	0		
4.	0		
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5 ft/radius)			
1.	0		
2.	0		
3.	0		
4.	0		
5.	0		
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft/radius)			
1. Lolium perenne	30	yes	FAC
2. Polypogon monspeliensis	20	no	FACW
3. Glyceria declinata	50	yes	FACW
4. Lythrum hyssopifolium	1	no	OBL
5. Hordeum marinum	5	no	FAC
6. Ranunculus muricatus	1	no	FACW
7.	0	no	
8.	0		
9.	0		
10.	0		
11.	0		
	107	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft/radius)			
1.	0		
2.	0		
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1=	1
FACW species	71	x 2=	142
FAC species	35	x 3=	105
FACU species	0	x 4=	0
UPL species	0	x 5=	0
Column Totals:	107 (A)		248 (B)

Prevalence Index = B/A = 2.32

Hydrophytic Vegetation Indicators:
yes Dominance Test is >50%
yes Prevalence Index is ≤3.0[1]
no Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
no Problematic Hydrophytic Vegetation[1](Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 2/1	95	7.5YR 3/4	5	C	PL	Clay loam	
4 - 12	7.5YR 2.5/1	80	5YR 4/6	20	C	PL	Clay loam	Redox in matrix too
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): 0

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- X Inundation Visible on Aerial Imagery(B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	no	Depth (Inches):	0
Water Table Present?	no	Depth (Inches):	0
Saturation Present? (includes capillary fringe)	no	Depth (Inches):	

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Teleli Pipeline | City/County: Tuolumne Co | Sampling Date: 5/30/2024

Applicant/Owner: TUD | State: California | Sampling Point: 4

Investigator(s): "Orsolini, Kirby" | Section, Township, Range: See report

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave | Slope (%): 2

Subregion (LRR): LRR-C | Lat: 37.9285475137 | Long: -120.405576693 | Datum: - WGS84

Soil Map Unit Name: Deerflat-Millvilla complex, 3 to 15% slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation no Soil no or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation no Soil no or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ____

Hydric Soil Present? Yes ✓ No ____

Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland? Yes ✓ No ____

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5 ft/radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.	0		
2.	0		
3.	0		
4.	0		
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5 ft/radius)			
1.	0		
2.	0		
3.	0		
4.	0		
5.	0		
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft/radius)			
1. Lolium perenne	50	yes	FAC
2. Cynodon dactylon	30	yes	FACU
3. Hordeum marinum	30	yes	FAC
4. Ranunculus muricatus	2	no	FACW
5. Briza minor	1	no	FAC
6. Lythrum hyssopifolium	1	no	OBL
7. Juncus bufonius	7	no	FACW
8.	0		
9.	0		
10.	0		
11.	0		
	121	= Total Cover	
Woody Vine Stratum (Plot size: 5 ft/radius)			
1.	0		
2.	0		
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1=	1
FACW species	9	x 2=	18
FAC species	81	x 3=	243
FACU species	30	x 4=	120
UPL species	0	x 5=	0
Column Totals:	121 (A)		382 (B)

Prevalence Index = B/A = 3.16

Hydrophytic Vegetation Indicators:

yes Dominance Test is >50%

no Prevalence Index is ≤3.0[1]

no Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

no Problematic Hydrophytic Vegetation[1](Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 3/3	95	5YR 4/6	5	C	PL	Loam	
4 - 10	10YR 4/2	60	5YR 4/6	40	C	M	Clay loam	Redox in PL too
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
0 - 0		0		0				
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): 0

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	no	Depth (Inches):	0
Water Table Present?	no	Depth (Inches):	0
Saturation Present? (includes capillary fringe)	no	Depth (Inches):	

Wetland Hydrology Present? **Yes** ✓ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix D
Representative Photographs

Photo 1. View looking north at the irrigated wetland.

Photo 2. View of the water pipe (red circle) in the irrigated wetland which is the source of water for this feature.

Photo 3. View looking north-northeast at data point 3 in seasonal wetland 1.

Photo 4. View looking southwest at seasonal wetland 2.

Photo 5. View looking northeast at seasonal wetland 3.

Photo 6. View looking northwest at seasonal wetland 4 and data point 4.

Photo 7. View looking north at seasonal wetland 5.

Photo 8. View looking west-northwest at seasonal wetland 6.

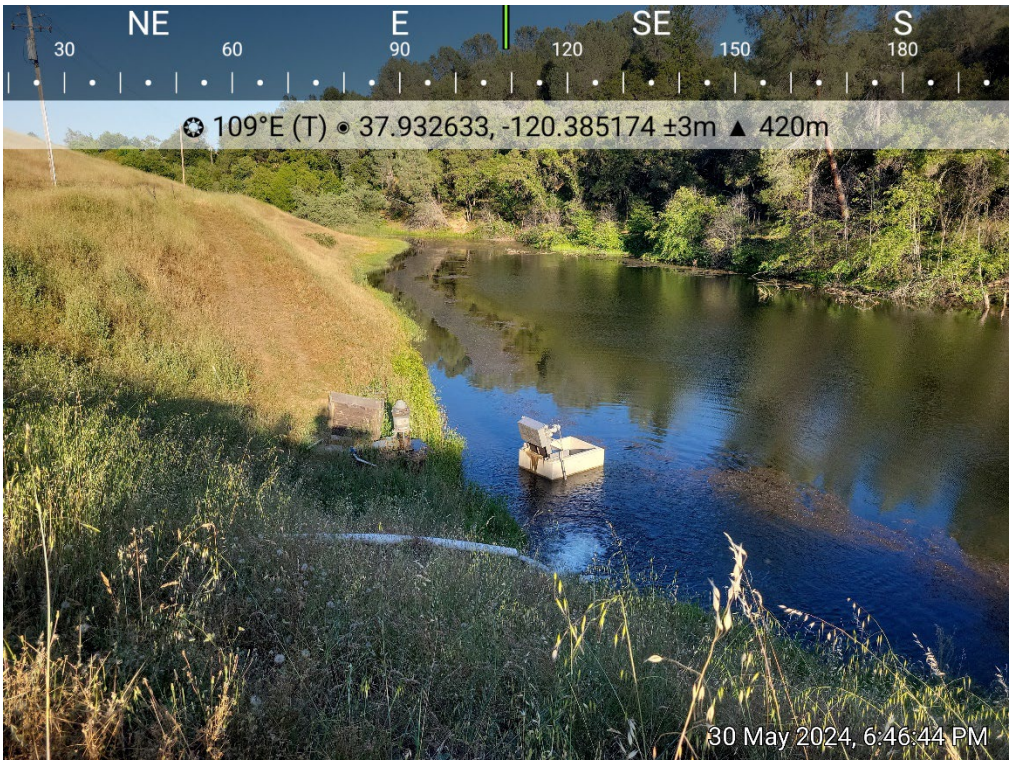

Photo 9. View looking east toward Storage Pond 1. The portion in the Study Area is in the foreground with the existing pump equipment.

Photo 10. View looking southwest at intermittent creek 1 where it crosses under the farm road.

Photo 11. View looking east at Sullivan Creek where the pipeline crossing is proposed.

Photo 12. View looking west at Sullivan Creek where the pipeline crossing is proposed.

Photo 13. View looking north-northeast at intermittent creek 2.

Appendix E
ORM Aquatic Resources Spreadsheet

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
Sullivan Creek	CALIFORNIA	R3UB		Area		ACRE	A3.TRIB-404			
Intermittent Creek 1	CALIFORNIA	R4SB		Area		ACRE	A3.TRIB-404			
Intermittent Creek 2	CALIFORNIA	R4SB		Area		ACRE	A3.TRIB-404			
Culvert 1	CALIFORNIA	U		Area		ACRE	DRY.LAND			
Culvert 2	CALIFORNIA	U		Area		ACRE	DRY.LAND			
Culvert 3	CALIFORNIA	U		Area		ACRE	DRY.LAND			
Culvert 4	CALIFORNIA	U		Area		ACRE	DRY.LAND			
Seasonal Wetland 1	CALIFORNIA	PEM		Area		ACRE	A4-2.ADJ.WET.A2&A3-404			
Seasonal Wetland 2	CALIFORNIA	PEM		Area		ACRE	A4-2.ADJ.WET.A2&A3-404			
Seasonal Wetland 3	CALIFORNIA	PEM		Area		ACRE	A4-2.ADJ.WET.A2&A3-404			
Seasonal Wetland 4	CALIFORNIA	PEM		Area		ACRE	A4-2.ADJ.WET.A2&A3-404			
Seasonal Wetland 5	CALIFORNIA	PEM		Area		ACRE	A4-2.ADJ.WET.A2&A3-404			
Seasonal Wetland 6	CALIFORNIA	PEM		Area		ACRE	A4-2.ADJ.WET.A2&A3-404			
Seasonal Wetland 7	CALIFORNIA	PEM		Area		ACRE	NON-WOTUS-WET.NEGATIVE.A4			
Irrigated Wetland	CALIFORNIA	PEM		Area		ACRE	B4-EXCL-ART.IRR			
Storage Pond 1	CALIFORNIA	PUB		Area		ACRE	A2.IMPDT-404			

Appendix D

Special-Status Species with the Potential to Occur at the Project Areas

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Project Area
Invertebrates				
Bombus crotchii	Crotch's bumble bee	--/CE/--	Crotch's bumble bee is primarily found in the foothills of the Central Valley between San Diego and Redding. Occurs in a variety of habitats including open grasslands, shrublands, chaparral, desert margins, and semi-urban settings. It requires undisturbed nest sites and overwintering sites. It is largely extirpated from agricultural and urban areas of the Central Valley. It requires undisturbed nest sites and overwintering sites. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia,* and *Eriogonum.*	**Moderate.** Thatch, small mammal burrows, leaf litter, and soil cracks in and adjacent to the proposed Project area provide potential nesting and overwintering sites. Floral resources in and adjacent to the proposed Project area provide potential foraging habitat.
Bombus occidentalis	Western bumble bee	--/CE/--	Formerly found in much of California, the western bumble bee is now much reduced in abundance and mostly restricted to high meadows or coastal environments. It currently is observed in high elevation meadows, forests, riparian areas in the Sierra Nevada and Cascades as well as in coastal grasslands in northern California. As generalist foragers, they do not depend on any one flower type. They feed on nectar and pollen from flowers and nest and hibernate in abandoned rodent burrows and bird nests. It requires undisturbed nest sites and overwintering sites.	**Low.** The proposed Project area does not contain the high elevation meadow habitat typically used by this species. Additionally, the high level of disturbance at the site reduces suitable nesting, overwintering, and foraging habitat.
Branchinecta lynchi	Vernal pool fairy shrimp	FT, CH/--/--	Endemic to the grasslands of the central valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**Unlikely:** There are no vernal pools or seasonal wetlands suitable for use by vernal pool fairy shrimp in the proposed Project area.
Danaus plexippus plexippus pop. 1	Monarch butterfly – California overwintering population	FC/--/--	Overwinters within wind-protected groves of trees (primarily Monterey pine [*Pinus radiata*], Monterey cypress [*Hesperocyparis macrocarpa*], and eucalyptus [*Eucalyptus* spp.]) along California coast from northern Mendocino County south to Baja California typically near water and nectar sources. During the breeding season, the required host plant is milkweed (*Asclepias* spp.) for development, egg deposition, and nectar.	**Low.** The proposed Project area occurs outside the range of the overwintering population. While milkweed was found in the proposed Project area during fieldwork, it was not of sufficient quantity to support breeding of this species.
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT, CH/--/--	Breeds and forages exclusively on elderberry (*Sambucus*) shrubs typically associated with riparian forests, riparian woodlands, elderberry savannas, and other Central Valley habitats. Occurs only in the Central Valley of California below 500 feet elevation. There are no verified sightings of VELB above 500 feet.	**Low:** While nine elderberry shrubs were observed within 100 feet of the proposed Project area, the proposed Project area occurs above the elevation range of this species.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Project Area
Fish				
Hesperoleucus symmetricus serpentinus	Red Hills roach	--/SSC/--	This highly distinctive subspecies of roach is found only in Horton, Amber, and Roach Creeks near Sonora. The area in which this species occurs is characterized by serpentine soils and stunted vegetation.	**Unlikely.** The proposed Project area is outside the current known range of this species.
Hesperoleucus symmetricus symmetricus	Central California roach	--/SSC/--	Found in the Sacramento and San Joaquin drainages, except Pit River, as well as tributaries draining to San Francisco Bay. Generally found in small warm streams, and dense populations are frequently sighted in isolated pools in intermittent streams. Most abundant in mid-elevation streams in the Sierra foothills and in the lower reaches of some coastal streams. Spawning occurs in shallow, flowing areas where the bottom is covered with small rocks.	**Moderate.** This species has been recorded from Sullivan Creek in the proposed Project area.
Amphibians				
Rana boylii pop. 5	Foothill yellow-legged frog - south Sierra DPS	FE/SE/--	Found in or near shaded rocky streams in a variety of habitats, including valley-foothills hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types. Egg clusters are attached to gravel or rocks in moving water near stream margins. This species is rarely encountered (even on rainy nights) far from permanent water. Its elevation range extends from near sea level to 6,370 ft in the Sierra.	**Moderate.** Sullivan Creek in the proposed Project area provides potential habitat for foothill yellow-legged frog.
Rana draytonii	California red-legged frog	FT, CH/SSC/--	Inhabits ponds, quiet pools of streams, marshes, and riparian areas with dense, shrubby, or emergent vegetation. Requires permanent or nearly permanent pools for larval development. May use ephemeral water bodies for breeding if permanent water is nearby. Occurs from near sea level to approximately 5,200 ft, though nearly all sightings have occurred below 3,500 ft. Probably extirpated from the floor of the Central Valley before 1960. Introduced bullfrogs (*lithobates catesbeiana*), crayfish (*procambarus* sp.), and various fish species have been a significant factor in the decline of California red-legged frog because they are predators on one or more life stages.	**Low.** Water flows in Sullivan Creek are too swift to be suitable for this species. Storage Pond 1 contains fish, which reduce the habitat suitability for this species. All nearby CNDDB records are considered possibly extirpated. The closest CNDDB record of California red-legged frog considered extant is located approximately 30 miles northwest of the Study Area.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Project Area
Reptiles				
Emys (=Actinemys) marmorata	Northwestern pond turtle	FPT/SSC/--	Highly aquatic species found in a broad range of aquatic habitats including rivers and streams, permanent lakes, ponds, reservoirs, settling ponds, marshes, and other inundated wetlands. May use brackish, semi-permanent, or ephemeral features when inundated. Requires basking sites and loose soil in surrounding uplands suitable for nest excavation. Occurs throughout non-desert California from 0 to 6,700 feet.	**Moderate**. Sullivan Creek and Storage Pond 1 in the proposed Project area provides potential habitat for this species.
Phrynosoma blainvillii	Coast horned lizard	--/SSC/--	Occurs in valley-foothill hardwood, conifer and riparian habitats, as well as in pine-cypress, juniper and annual grassland habitats, especially sandy areas, washes, flood plains and wind-blown deposits. Needs loose soil for cover and reproduction. Needs open areas for thermoregulation and shrub cover or kangaroo rat burrows for refugia. Negatively associated with non-native Argentine ant (*Linepithema humile*) presence; positively associated with presence of native ants and chaparral vegetation. Occurs in the Sierra Nevada foothills from Butte County to Kern County and throughout the central and southern California coast. Found up to 4,000 ft in the northern end of its range and 6,000 ft in the southern end.	**Low.** The proposed Project area does not contain the sandy soil or chaparral habitat typically used by this species. There are no nearby CNDDB records of this species.
Birds				
Agelaius tricolor	Tricolored blackbird	--/ST, SSC/--	Forages on ground in cropland and grassland. Nests near or over freshwater. Prefers emergent marsh of dense cattails or tules for nesting, but also nests in thickets of willow, blackberry, wild rose, and tall herbs. Nesting area must be large enough to support a minimum colony of about 50 pairs. Occurs primarily in the Central Valley and in coastal areas south of Sonoma County.	**Unlikely**. There are no marshes suitable for nesting for tricolored blackbird in or adjacent to the proposed Project area.
Athene cunicularia	Burrowing owl	--/SC, SSC/--	Nests and forages in grasslands, agricultural fields, and low scrub habitats, especially where ground squirrel burrows are present; occasionally inhabits artificial structures and small patches of disturbed habitat.	**Low.** No burrows or ground squirrels were observed during fieldwork. No burrowing owl or evidence of burrowing owl was found during fieldwork. The proposed Project area occurs at the upper edge of the wintering range of this species.
Haliaeetus leucocephalus	Bald eagle	FD/SE, FP/--	Occurs along coasts, rivers, and large, deep lakes and reservoirs in California. Nests mostly in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties. More widespread as a winter migrant. Requires large bodies of water or free flowing rivers with abundant fish and perching sites. Nests in large old growth and dominant live trees with open branchwork. Favors ponderosa pine.	**Low.** There are no large lakes or reservoirs or large rivers in or adjacent to the proposed Project area that provide suitable habitat for this species.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Project Area
Strix nebulosa	Great gray owl	--/SE/--	Occurs between 4,500 and 7,500 ft in the Sierra Nevada in the vicinity of Quincy in Plumas County south to Yosemite. Occasionally reported in Northwestern California in winter and in the Warner Mountains in summer. Most recent records are from the Merced and Tuolumne River drainages of Yosemite National Park. Breeds in old-growth red fir, mixed conifer, and lodgepole pine habitats in the vicinity of wet meadows. Uses trees in dense forest stands for roosting cover and small trees and snags in or bordering meadows for hunting perches. Nests in large, broken-topped snags 25 to72 ft above the ground.	**Unlikely.** The proposed Project area is below the elevation range of this species. The proposed Project area does not contain old-growth fir or pine habitats near wet meadows.
Mammals				
Antrozous pallidus	Pallid bat	--/SSC/--	Locally common at low elevations in a wide variety of habitats, including grasslands, shrub lands, woodlands, and forests − from sea level up through mixed conifer forests. Most common in open, dry habitats with rocky areas for roosting. A yearlong resident in most of California, feeding on a wide variety of insects and arachnids and foraging over open ground. Many prey items are taken on the ground. Roosts in crevices in rock outcrops, mines, caves, tree hollows, buildings, and bridges. Maternity colonies are formed around April and usually consist of 20 to 100 individuals.	**Low.** There are no rock outcrops, mines, or caves suitable for roosting in the proposed Project area.
Euderma maculatum	Spotted bat	--/SSC/--	Found in a variety of habitat types, usually near water, from 187 ft below sea level to 10,597 ft in habitats ranging from desert scrub to montane coniferous forest. Always occurs near substantial cliff features composed of granite, basalt, limestone, sandstone, and other sedimentary rock. Available data suggests that the species roosts predominantly in small crevices in suitable cliff faces.	**Low.** There are no cliff features suitable for roosting in the proposed Project area.
Eumops perotis californicus	Western mastiff bat	--/SSC/--	Uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey County south through southern California. Colonial species that occur in many open, semi-arid to arid habitats, including deciduous woodlands, annual and perennial grasslands, and urban areas. Also occurs in ponderosa pine and mid-elevation conifer belts. Primarily a crevice-dwelling animal that only occurs where there are significant rock features offering suitable roosting habitat such as cliff faces, large boulders, exfoliating granite, sandstone, or columnar basalt. Also roosts in buildings. Roosts are generally high above the ground, usually allowing for a 10-foot vertical drop below the top of the entrance for taking flight.	**Low.** There are no cliff features suitable for roosting in the proposed Project area.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Project Area
Lasiurus frantzii	Western red bat	--/SSC/--	Tree bat associated with cottonwoods in riparian areas at elevations below 6,500 ft. Favors roosts where leaves form a dense canopy and branches do not obstruct their flyway. Known to roost in orchards, especially in the Sacramento Valley. Typically feeds along forest edges, in small clearings, and around streetlights where they hunt moths. Day roosts are typically in edge habitats adjacent to streams or open fields, in orchards, and sometimes urban areas. Occasionally uses caves.	**Moderate.** The riparian community along Sullivan Creek in the proposed Project area provides potential habitat for this species.
Plants				
Allium jepsonii	Jepson's onion	--/--/1B.2	A perennial bulbiferous herb found on serpentine or volcanic soils in chaparral, lower montane coniferous forest, and cismontane woodland from 980 to 4,350 feet. Known from the northern and central Sierra Nevada foothill. Blooms April through August.	**Unlikely.** There are no serpentine or volcanic soils in the proposed Project area. The nearest occurrences are 3.5 miles to west of proposed Project area on the volcanic soils of Table Mountain.
Allium tuolumnense	Rawhide Hill onion	--/--/1B.2	Bulbiferous herb found in serpentine soils of cismontane woodland from 985 to 1,970 feet. Known from approximately 20 occurrences in Tuolumne County. Blooms March through May.	**Unlikely.** Serpentinite soils not present in proposed Project area. Closest herbarium record is 2.5 miles west of proposed Project on serpentine soils.
Arctostaphylos nissenana	Nissenan manzanita	--/--/1B.2	A perennial evergreen shrub found on highly acidic rocky (slate and shale) soils. Often associated with closed-cone conifer forest and chaparral from 1,450 to 3,600 feet. Known from approximately 15 occurrences in El Dorado and Tuolumne counties. Blooms February through March.	**Unlikely.** Open, rocky shale ridges not present in proposed Project area. Closest herbarium record is 2 miles north of proposed Project area on shale.
Balsamorhiza macrolepis	Big-scale balsamroot	--/--/1B.2	Perennial herb found in sometimes serpentine substrates of chaparral, cismontane woodland, and valley and foothill grassland from 150 to 5,100 feet. Known from Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties. Blooms March through June.	**Unlikely.** There are no serpentinite soils in the proposed Project area. The nearest CNDDB record is 2.5 miles from proposed Project area, however, it is dated 1925. No other herbarium collection or CNDDB occurrences have been found nearby.
Brodiaea pallida	Chinese Camp brodiaea	FT/CE/1B.1	Perennial bulbiferous herb found in vernal streambeds, often serpentine, in cismontane woodland and valley and foothill grassland from 540 to 1,265 feet. Known from five occurrences in Calaveras and Tuolumne counties. Known only from two occurrences in Chinese Camp area. Blooms May through June.	**Unlikely.** The proposed Project area is outside the limited range of this species. There are no serpentinite soils in the proposed Project area. All herbarium collections and CNDDB occurrences are concentrated 5 miles southwest of proposed Project area near China Camp.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Project Area
Calycadenia hooveri	Hoover's calycadenia	--/--/1B.3	Annual herb found in rocky soils of cismontane woodland and valley and foothill grassland from 215 to 985 feet. Known from Calaveras, Madera, Merced, Mariposa, and Stanislaus counties. Blooms July through September.	**Unlikely.** The proposed Project area is above the elevation range of this species. All herbarium collections and CNDDB occurrences are at much lower elevations and closer to Central Valley.
Calycadenia spicata	Spicate calycadenia	--/--/1B.3	Annual herb found in adobe and clay soils of disturbed areas, dry gravelly openings, and roadsides in cismontane woodland and valley and foothill grassland from 130 to 4,595 feet. Known from Amador, Butte, Calaveras, El Dorado, Fresno, Kern, Nevada, Placer, Sacramento, San Joaquin, Stanislaus, Tulare, Tuolumne, and Yuba counties. Blooms May through September.	**Unlikely.** There are no adobe clay soils in the proposed Project area.
Camissonia lacustris	Grassland suncup	--/--/1B.2	Annual herb found in granitic, gravelly, serpentine soil of chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland from 590 to 4,005 feet. Known from 14 occurrences in El Dorado, Fresno, Lake, Mariposa, and Tuolumne counties. Blooms March through June.	**Unlikely.** Granitic, gravelly, or serpentine soils not present in proposed Project area. The closest CNDDB occurrences is 5 miles to the northwest at 2,000 ft and dated 1917. No other records occur nearby.
Chlorogalum grandiflorum	Red Hills soaproot	--/--/1B.2	A perennial bulbiferous herb found in chaparral, cismontane woodland, or lower montane coniferous forest on gabbro or serpentine soils from 800 to 4,100 feet. Known from the northern and central Sierra Nevada foothills. Blooms May through June.	**Unlikely.** Gabbroic or serpentine soils not present in proposed Project area. Herbarium collections and CNDDB occurrences are at least 2.5 miles to the west of proposed Project area and concentrated near Red Hills.
Clarkia biloba ssp. australis	Mariposa clarkia	--/--/1B.2	Annual herb found in serpentinite soils in chaparral and cismontane woodland from 984 to 4,790 feet. Known from Mariposa and Tuolumne counties. Blooms May through July.	**Unlikely.** Serpentine soils not present in proposed Projectarea. The closest CNDDB occurrence is 7 miles to the west of proposed Projectarea in Red Hills. No other occurrences are found nearby.
Clarkia rostrata	Beaked clarkia	--/--/1B.3	Annual herb found in cismontane woodland and valley and foothill grasslands from 195 to 1,640 feet. Known from Calaveras, Madera, Mariposa, Merced, Stanislaus, and Tuolumne counties. Blooms April through May.	**Unlikely.** While the oaks woodland and grassland habitats in the proposed Project area provide potential habitat for this species, it was not observed during surveys conducted during the evident and identifiable period. No herbarium collections or CNDDB records are near the proposed Project area.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Project Area
Cryptantha mariposae	Mariposa cryptantha	--/--/1B.3	Annual herb found in rocky, serpentinite chaparral from 655 to 2,135 feet. This species is known from 9 occurrences in Calaveras, Mariposa, Stanislaus, and Tuolumne counties. Blooms April through June.	**Unlikely.** A CNDDB occurrence is found 2.5 miles to the west of proposed Project area, however, serpentine soil and chaparral not present in proposed Project area.
Cryptantha spithamaea	Red Hills cryptantha	--/--/1B.3	Annual herb found on serpentinite, sometimes streambeds, sometimes openings in chaparral and cismontane woodland from 880 to 1,510 feet. Known from Calaveras, Mariposa, and Tuolumne counties. Blooms April through May.	**Unlikely.** Serpentine soils not found in proposed Project area. The closest CNDDB occurrence is 4 miles to west of proposed Project area.
Diplacus pulchellus	Yellow-lip pansy monkeyflower	--/--/1B.2	Annual herb found in vernally mesic, often disturbed areas within lower montane coniferous forest or meadows and seeps from 1,970 to 6,560 feet. Known from Calaveras, Mariposa, and Tuolumne counties. Blooms April through July.	**Unlikely.** The proposed Project area is below the elevation range of this species. The closest CNDDB occurrence is 2.5 miles to the northeast of proposed Project area at 2,200 feet.
Eryngium pinnatisectum	Tuolumne button-celery	--/--/1B.2	Annual to perennial herb found in mesic areas of cismontane woodland, lower montane coniferous forests, and vernal pools from 230 to 3,000 feet. Known from Amador, Calaveras, Sacramento, Sonoma, and Tuolumne counties. Blooms May through August.	**Unlikely.** While the seasonal wetlands in the proposed Project area provide potential habitat for this species, it was not observed during surveys conducted during the evident and identifiable period. The closest CNDDB occurrences are found 3.5 miles to the west of the proposed Project area.
Eryngium spinosepalum	Spiny-sepaled button-celery	--/--/1B.2	Annual to perennial herb found in valley and foothill grassland, vernal pools, swales, and roadside ditches from 260 to 4,170 feet. Known from Calaveras, Contra Costa, Fresno, Kern, Madera, Mariposa, Merced, San Luis Obispo, Stanislaus, Tulare, and Tuolumne counties. Blooms April through June.	**Unlikely.** While the grassland and seasonal wetlands in the proposed Project area provide potential habitat for this species, it was not observed during surveys conducted during the evident and identifiable period. The closest CNDDB occurrence is 8.5 miles to the west of the proposed Project area. No other herbarium collections or CNDDB occurrences are found nearby.
Erythranthe marmorata	Stanislaus monkeyflower	--/--/1B.1	Annual herb found in cismontane woodland and lower coniferous forest from 330 to 2,950 feet. Known from Calaveras and Fresno counties. Presumed extirpated from Amador, Stanislaus, and Tuolumne counties. Blooms from March through May.	**Unlikely.** While the oak woodland in the proposed Project area provides potential habitat for this species, it was not observed during surveys conducted during the evident and identifiable period. Additionally, this species is considered extirpated from Tuolumne County.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Project Area
Erythronium tuolumnense	Tuolumne fawn lily	--/--/1B.2	Perennial bulbiferous herb found in broadleaf upland forest, chaparral, cismontane woodland, and lower montane coniferous forest from 1,673 to 4,479 feet. Known from Tuolumne County. Blooms March through June.	**Unlikely.** While the oak woodland in the proposed Project area provides potential habitat for this species, it was not observed during surveys conducted during the evident and identifiable period. Additionally, the closest CNDDB occurrence is found 3 miles to the east of the proposed Project area and the majority of CNDDB occurrences are found east of here. The highest elevation of the proposed Project area (1,660 ft) is below the lowest elevation at which the species has been found.
Gilmania luteola	Golden-carpet gilmania	--/--/1B.3	Annual herb found in alkaline barrens of chenopod scrub from -50 to 2,000 feet. Known from 15 occurrences in Inyo County. Blooms March (sometimes February) through April.	**Unlikely.** Alkaline barrens of chenopod scrub do not occur in the proposed Project area.
Githopsis tenella	Delicate bluecup	--/--/1B.3	Annual herb found in mesic, serpentine soils of chaparral and cismontane woodland from 1,065 to 6,235 feet. Known from five occurrences in Kern, Tulare, and Tuolumne counties. Presumed extirpated in Monterey County. Blooms April through June.	**Unlikely.** There are no serpentine soils in the proposed Project area. The nearest CNDDB occurrence is 6.5 miles to the southwest in Red Hills.
Horkelia parryi	Parry's horkelia	--/--/1B.2	A perennial herb found on Ione formation and other soils in chaparral and cismontane woodland from 250 to 3,500 feet. Known from the northern and central Sierra Nevada foothills. Blooms April through September.	**Unlikely.** Ione formation soils and open chaparral not present in proposed Project area. No CNDDB occurrences or herbarium collections near proposed Project area.
Hosackia oblongifolia var. *cuprea*	Copper-flowered bird's-foot trefoil	--/--/1B.3	Perennial rhizomatous herb found along the edges of mesic meadows and seeps in upper montane coniferous forest from 7,875 to 9,025 feet. Known from 16 occurrences in Calaveras, Inyo, and Tulare counties. Blooms June through August.	**Unlikely.** Elevation of proposed Project area is much lower than species recorded lowest elevation (7,900 ft).
Iris hartwegii ssp. *columbiana*	Tuolumne iris	--/--/1B.2	Perennial rhizomatous herb found in cismontane woodland and lower montane coniferous forest from 1,394 to 4,593 feet. Known from Calaveras and Tuolumne counties. Blooms May through June.	**Unlikely.** While the oak woodland in the proposed Project area provides potential habitat for this species, it was not observed during surveys conducted during the evident and identifiable period. Additionally, the nearest CNDDB occurrence is 9 miles north of proposed Project area.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Project Area
Lagophylla dichotoma	Forked hare-leaf	--/--/1B.1	Annual herb found in sometimes clay soils of cismontane woodland and valley and foothill grasslands from 150 to 1,100 feet. Known from Calaveras, Fresno, and Stanislaus counties. Presumed extirpated from Merced County. Blooms April through May.	**Unlikely.** The nearest CNDDB occurrence is 12 miles to west of proposed Project area. Furthermore, elevation of proposed Project area is higher than highest elevation recorded for the species (1,100 ft).
Lomatium congdonii	Congdon's lomatium	--/--/1B.2	Perennial herb found in serpentine soils of chaparral and cismontane woodland from 984 to 6,888 feet. Known from fewer than twenty occurrences in Calaveras, Mariposa, and Tuolumne counties. Blooms March through June.	**Unlikely.** There are no serpentine soils in proposed Project area. The nearest CNDDB occurrences are 5 miles to the west of the proposed Project area.
Lupinus spectabilis	Shaggyhair lupine	--/--/1B.2	An annual herb found in serpentine soil of chaparral and cismontane woodland from 850 to 2,700 feet. Known from Mariposa and Tuolumne cos. Blooms April through May.	**Unlikely.** There are no serpentine soils in proposed Project area. The nearest CNDDB occurrences are 5 miles to the west of the proposed Project area.
Monardella venosa	Veiny monardella	--/--/1B.1	Annual herb found in heavy clay of cismontane woodland and valley and foothill grassland from 195 to 1,345 feet. Known from 4 occurrences in Butte, Sutter, Tuolumne, and Yuba counties. Blooms May through July.	**Unlikely.** Elevation of proposed Project area is higher than species recorded highest elevation (1,345 ft). The nearest CNDDB occurrence is 7 miles to the west of proposed Project area.
Navarretia miwukensis	Mi-Wuk navarretia	--/--/1B.2	Annual herb found in openings of lower montane coniferous forest from 2,625 to 4,920 feet. Known from 12 occurrences in Calaveras and Tuolumne counties. Blooms May through June, sometimes July.	**Unlikely**. The highest elevation of proposed Project area is much lower than species recorded lowest elevation (2,625 ft). Habitat of lower montane coniferous forests not present in proposed Project area.
Navarretia paradoxiclara	Patterson's navarretia	--/--/1B.3	Annual herb found in openings on serpentinite soils of vernally mesic meadows and seeps, often in drainages, from 490 to 1,410 feet. Known from 11 occurrences in Calaveras and Tuolumne counties. Blooms May through June, sometimes July.	**Unlikely.** There are no serpentine soils in proposed Project area. The nearest CNDDB occurrences are 5 miles to the west of the proposed Project area.
Packera layneae	Layne's ragwort	FT/CR/1B.2	A perennial herb found on rocky serpentine or gabbro soil in cismontane woodland or chaparral from 650 to 3,600 feet. Known from the northern and central Sierra Nevada foothills. Blooms April through August.	**Unlikely.** There are no serpentine soils in the proposed Project area. The nearest CNDDB occurrences are 5 miles to the west of the proposed Project area.
Sagittaria sanfordii	Sanford's arrowhead	--/--/1B.2	Emergent perennial rhizomatous herb found in shallow freshwater marshes, swamps, ponds, and ditches from 0 to 2,135 feet. Known from the Klamath Ranges, north and south coasts, Cascade Range foothills, and Central Valley. Blooms May through October, and sometimes into November (CNPS 2024; Jepson Flora Project 2020).	**Unlikely.** There are no marshes and swamps in proposed Project area. Ditches in the proposed Project area do not contain sufficient water for this species.

Scientific Name	Common Name	Listing Status: Federal/State/ Other	Habitat Description	Potential for Occurrence in the Project Area
Senecio clevelandii var. *heterophyllus (*in Jepson recognized as *Packera clevelandii)*	Red Hills ragwort	--/--/1B.2	Perennial herb found in serpentinite seeps of cismontane woodland from 855 to 1,265 feet. Known only from the Red Hills in Tuolumne County. Blooms May through July.	**Unlikely.** Elevation of the proposed Project area is higher than the species recorded highest elevation (1,265 ft). There are no serpentine soils in the proposed Project area. The nearest CNDDB occurrences are 5 miles to the west of the proposed Project area and confined to the Red Hills.
Verbena californica	Red Hills vervain	FT/CT/1B.1	Perennial herb found in mesic cismontane woodland, and valley and foothill grassland in mesic, usually serpentinite seeps or creeks from 850 to 1,300 feet. Known only from the Red Hills in Tuolumne County. Blooms May through September.	**Unlikely.** Elevation of the proposed Project area is higher than the species recorded highest elevation (1,310 ft). There are no serpentine soils in the proposed Project area. The nearest CNDDB occurrences are 5 miles to the west of the proposed Project area and confined to the Red Hills.

KEY:

Federal: (USFWS)

FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government
FC = Candidate for listing by the Federal Government
FP = Proposed for listing by the Federal Government
(PD) = Proposed for Delisting

State: (CDFW)

SE = Listed as Endangered by the State of California
ST = Listed as Threatened by the State of California
SR = Listed as Rare by the State of California (plants only)
SC = Candidate for listing by the State of California
SSC = California Species of Special Concern
FP = CDFW Fully Protected Species

CRPR: (California Rare Plant Rank)

Rank 1A = Plants presumed extinct in California
Rank 1B = Plants rare, threatened, or endangered in California and elsewhere
Rank 2A = Plants presumed extirpated in California but common elsewhere
Rank 2B = Plants rare, threatened, or endangered in California but more common elsewhere

Note: Ranks at each level also include a threat rank (e.g., CRPR 2B.2) and are determined as follows:

0.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Sources:

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