CALAVERAS COUNTY WATER DISTRICT
ENGINEERING COMMITTEE MEETING

OUR MISSION

Protect, enhance, and develop Calaveras County's water resources and watersheds to provide safe, reliable, and cost-effective services to our communities.

2021-2026 Strategic Plan, Adopted April 28, 2021, can be viewed at this link

Engineering Committee
Thursday, September 21, 2023
2:00 p.m.

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

Board Chambers are open to the public and the following alternative is available to members of the public who wish to participate in the meeting virtually:

Microsoft Teams meeting

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ORDER OF BUSINESS

CALL TO ORDER / PLEDGE OF ALLEGIANCE

1. ROLL CALL

2. PUBLIC COMMENT

3. APPROVAL OF MINUTES: For the meeting of April 13, 2023 and June 27, 2023

4. NEW BUSINESS

4a Proposed Award of Copper Cove Tank B & Clearwell Construction Project (CIP 11111) (Charles Palmer, Senior Civil Engineer)

COMMITTEE MEMBERS

Director Davidson, Chair Russ Thomas, Director

4b AMI/AMR Project Completion
(Kevin Williams, Senior Civil Engineer)

5. OLD BUSINESS

5a Capital Improvement Updates
(Engineering Department)

5b Other Updates
(Engineering Department)

6.* GENERAL MANAGER COMMENTS

7.* DIRECTOR COMMENTS OR FUTIRE AGENDA ITEMS

8. NEXT COMMITTEE MEETING: November 7, 2023

9. ADJOURNMENT

*No information included in packet

CALAVERAS COUNTY WATER DISTRICT
ENGINEERING COMMITTEE MEETING

MINUTES
April 13, 2023

Directors/Committee Members present:

Russ Thomas
Jeff Davidson

Staff present:

Michael Minkler	General Manager
Kate Jesus	Engineering Coordinator
Damon Wyckoff	Director of Operations
Charles Palmer	District Engineer
Kevin Williams	Senior Civil Engineer
Sam Singh	Senior Engineering Technician
Jesse Hampton	Plant Operations Manager
Pat Burkhardt	Construction and Maintenance Manager

Others present:

Ralph Copeland	Member of the Public

CALL TO ORDER / PLEDGE OF ALLEGIANCE.

1. ROLL CALL

Director Davidson called the Engineering Committee to order at 2:01 p.m. and led the Pledge of Allegiance.

2. PUBLIC COMMENT

There was no public comment.

3. APPROVAL OF MINUTES

The February 28, 2023 minutes were approved by a motion from Director Thomas and seconded by Director Davidson.

4. NEW BUSINESS

4a Fire Hydrant Meter Service Discussion
(Damon Wyckoff, Director of Operations)

Mr. Wyckoff reviewed the current Temporary Water Service policy with the Committee including the costs associated with the use, which was last updated in September 2021 and the current process to apply for a hydrant meter. Director Davidson inquired about the definition of unauthorized use and the 90-day limitations when renting a hydrant meter. Mr. Wyckoff suggested a future agenda

item that goes into more detail on the allowable and unallowable uses, the transfer of water from one watershed to another, timeline limitations, and proposed updates. The Committee discussed the comparative costs between the average water hauler and a residential customer. There was also discussion of a possible fill station in the Copperopolis service area.

5. OLD BUSINESS

5a FY 2023-24 Update to District's Five-Year Capital Improvement Program (Damon Wyckoff, Director of Operations)

Mr. Wyckoff reviewed the updated Capital Improvement Program (CIP) which includes revisions since the previous presentations at the February 28th Engineering Committee meeting and the March 8th Board meeting. Staff incorporated more projects related to the improvement of the La Contenta Wastewater Treatment Plant and Collections System and tulle removal projects in the White Pines and West Point areas. The other revisions are related to the recent changes to the U.S. Army Corps funding for the Copper Cove Wastewater projects. The Engineering staff have taken the upcoming Rate Study into consideration and the impact the CIP costs would have on customers. The District will continue to look for other funding sources such as grants and loans to help fund these projects. The Committee recommends presenting the CIP to the full Board. Mr. Copeland inquired about the possibility of radio read options for the hydrant meters, clarification on the specific funds being used for the Copper Cove Wastewater projects, and update to the Copper Cove B-C Transmission project pipe size. Mr. Wyckoff and Mr. Palmer clarified.

5b Capital Improvement Project Updates (Engineering Department)

- Forest Meadows Wastewater Plant/UV System Replacement (CIP 15106) – The District has purchased the equipment and the Construction Crew completed the necessary site work to begin the remainder of the project which includes installation of the UV system and associated site improvements. A sole source construction contract with Cole Tiscornia Construction will be presented to the full Board for approval at the April 26th meeting. The Engineering Committee gave their concurrence.

5b* Other Updates (Engineering Department)

- La Contenta WWTP Septage Receiving Station – Director Davidson asked for project details and Mr. Wyckoff gave a description of the project design and construction.

6. GENERAL MANAGER COMMENTS

There were no comments.

7. DIRECTOR COMMENTS OR FUTURE AGENDA ITEMS

There were no comments.

8. NEXT COMMITTEE MEETING

To be determined.

9. ADJOURNMENT

There being no further business, the meeting adjourned at approximately 2:48 p.m.

Respectfully submitted,

_____

Kate Jesus
Engineering Coordinator

CALAVERAS COUNTY WATER DISTRICT
ENGINEERING COMMITTEE MEETING

MINUTES
June 27, 2023

Directors/Committee Members present:

Russ Thomas
Cindy Secada (Alternate)

Staff present:

Kate Jesus	Engineering Coordinator
Mark Rincon-Ibarra	District Engineer
Kevin Williams	Senior Civil Engineer
Sam Singh	Senior Engineering Technician
Jared Gravette	Senior Supervisor Construction Inspection
Rebecca Hitchcock	Executive Assistant/Clerk to the Board
Stacey Lollar	Human Resources Manager

Others present:

None

CALL TO ORDER / PLEDGE OF ALLEGIANCE.

1. ROLL CALL

Director Thomas called the Engineering Committee to order at 2:30 p.m. and led the Pledge of Allegiance.

2. PUBLIC COMMENT

There was no public comment.

3. APPROVAL OF MINUTES

The April 13, 2023 minutes were tabled for the next meeting.

4. NEW BUSINESS

5. OLD BUSINESS

5a Capital Improvement Project Updates (Engineering Department)

- District Corp Yard (CIP 11101) – The interior improvements have been completed and the standby generator should be delivered in the next few weeks. District staff completed the painting and flooring and have moved into their offices.

- AMI/AMR Project (CIP 11096) – The contractor is substantially complete and continues to work on the final punchlist with District staff on quality checks of the data collection. The Committee and staff discussed the Tyler integration process and project signs in Copperopolis, which will be removed when the project is complete. The project will be under warranty for a year after final completion.
- Jenny Lind Water System A-B Water Transmission Pipeline (CIP 11088) – A utility potholing and data collection RFP was issued with one proposal received from Mozingo Construction. The contract will be presented to the full Board for approval at the next Board meeting.
- West Point Water Supply Reliability Improvements (CIP 11106) – The filtration unit was delivered and the contractor continues work on the piping.
- West Point and Wilseyville Wastewater Consolidation Project (CIP 15091) – There has been some supply chain issues but piping and septic tank installations continue.
- Copper Cove Lift Stations 6, 8, 15 & 16 and Lift Stations 12 & 13 Force Main Bypass Project (CIP 15076/15080) – Finished paving has been complete and the contractor is waiting for the delivery of the pump stations. The wet wells and vaults were delivered to the Copper Cove WWTP. The contractor will be starting work on the lift stations next.
- Copper Cove Wastewater Treatment Plant Tertiary Treatment Improvements and Facilities Plan (CIP 15094) – The project design is on hold pending response from USACE regarding funding.
- Copper Cove Water System Improvements Project (CIP 11111) – An RFP was issued and bids are due July 27th for the construction portion of this tank project.
- Ebbetts Pass Hunters Raw Water Intake Pumps (CIP 11103) – This project is on hold pending response from FEMA regarding the environmental review, which should be received in October.
- Ebbetts Pass Redwood Tanks Hardening Project (CIP 11095) – Four of the five tanks have been completed. The Larkspur tank should be completed in the next few weeks. At that time, the project will be closed out.
- Forest Meadows Wastewater Plant/UV System Replacement (CIP 15106) – The contractor has poured the concrete channels. District Electricians will complete the electrical portion of the project.
- Arnold Wastewater Secondary Clarifier Improvements Project (CIP 15095) – The construction portion of the project is on hold pending response for grant funding.

5b Other Updates
(Engineering Department)

- Copper Valley Town Square – Staff continue to work with the developer on the proposed projects.
- Gold Creek Subdivision Unit 3 – The developer has outstanding items to be resolved prior to acceptance.
- Jenny Lind Elementary School Force Main Project – The 90% design submittal is being reviewed by staff. The Committee and staff discussed the possibility of future residential sewer connections.

- North Vista Plaza/LGI Homes – Staff continue to work with the developer on this project.

6. GENERAL MANAGER COMMENTS

There were no comments.

7. DIRECTOR COMMENTS OR FUTURE AGENDA ITEMS

There were no comments.

8. NEXT COMMITTEE MEETING

September 7, 2023

9. ADJOURNMENT

There being no further business, the meeting adjourned at approximately 3:20 p.m.

Respectfully submitted,

_____

Kate Jesus
Engineering Coordinator

Agenda Item

DATE: September 21, 2023

TO: Engineering Committee, Calaveras County Water District
Michael Minkler, General Manager

FROM: Charles Palmer, Senior Civil Engineer

RE: Proposed Award of Construction Contract for Copper Cove Phase 1 and 2 Tank B & Clearwell Project, CIP # 11083C

SUMMARY

Staff is requesting the Engineering Committee's recommendation to the full Board to approve a construction contract with T&S Construction, as the lowest responsive and responsible bidder, in the amount of $6,929,450 for the Copper Cove Phase 1 and 2, Tank B & Clearwell Project, CCWD CIP #11083C. Also, along with the proposed contract Award, staff will be presenting for approval by the full Board a CEQA document for project environmental compliance.

Project Scope of Work:
Engineering and operations staff have identified replacement and rehabilitation of the Copper Cove Water System Tank B and Clearwells as a critical priority for the Capital Improvement Program. The project includes the following features:

- Demolition of existing Redwood B-Tank and replacement with a new 380,000-gallon welded steel tank.
- Construction of new 330,000-gallon clearwell at the Water Treatment Plant
- Rehabilitation of 680,000-gallon welded steel tank at B-Tank site.
- Rehabilitation of 330,000-gallon existing clearwell at the Water Treatment Plant.
- Associated site piping, both above and below ground, and appurtenances for interconnecting the tanks.
- Pavement, site grading, and installation of concrete tank foundations.
- Miscellaneous electrical improvements and cathodic protection for tanks.

Bid Results:
The engineering firm, PBI, Inc., prepared plans and bid documents for construction of the project. CCWD advertised and publicly bid the project for 55-days and held a bid opening on August 10, 2023. A total of five bids were received with T&S Construction Co., Inc. of Sacramento, CA being the apparent low bidder. All bidders listed Crosno Construction, Inc. of Arroyo Grande, CA as supplying and erecting the welded steel tanks. Crosno will perform 48% of the total contract amount under subcontract to T&S.

A bid summary and Engineer's Estimate are shown below.

BIDDER	BID AMOUNT
T&S Construction Co., Inc.	$6,929,450
Myers & Sons Construction	$7,969,000 [(a)]
Auburn Constructors	$9,178,300
Mountain Cascade	$9,287,187
Sierra Mountain Construction	$9,866,210
Engineer's Estimate	$8,400,000

(a) Based on numerical representation of bid price; discrepancy with written amount of bid in words.

Bid Evaluation and Recommendations:
PBI, Inc. reviewed the two apparent low bids (T&S and Myers & Sons) to determine responsiveness. The apparent low bidder, T&S Construction, responded with all the requested information: license information, certificate of authorization, non-collusion declaration, bid bond, list of subcontractors, list of references and signed addenda. PBI, Inc. found no discrepancies in the bid information and recommends awarding the construction contract to T&S as the lowest responsive and responsible bidder. Also, staff recognizes T&S Construction's previous successful performance in completing the Ebbetts Pass Reach 3A pipeline project in Arnold, CA.

Upon reviewing the second apparent low bidder, Myers & Sons, PBI found was responsive in submitting the required information. However, Myers & Sons' has a $968,000 discrepancy between the written amount (in words) compared to the numerical amount of its bid. Myers & Sons was promptly notified of this issue.

Environmental Compliance:
Staff plans to issue an Addendum to a previously approved Mitigated Negative Declaration (MND). On February 14, 2007, the Board of Directors of the CCWD, as lead agency, adopted a MND for the Copper Cove Booster Pump Station and Water Transmission Pipeline Project. This project includes construction of a new 20" diameter water transmission pipeline and modifications to the existing treated water effluent pump station at the Copper Cove WTP. As part of the above contract Award, CCWD plans to construct a new 330,000-gallon clearwell at the Copper Cove WTP site. Because a portion of the 20" diameter pipeline, clearwells and clearwell piping occupy the same area and must be constructed together, the new clearwell is proposed to be added by Addendum to the previously adopted MND. This is further described in the attached Addendum No.1. The other tank rehabilitation and replacement activities are categorically exempt under CEQA Guidelines §15301 and §15302.

FINANCIAL CONSIDERATIONS

Staff recommends approving a construction contract with T&S Construction Co., Inc. in the amount of $6,929,450. The current adopted CIP budget includes $4.0 million in FY 2023-24 and another $4.0 million in FY2024-25 available for construction. This project is being funded by the Water CIP Loan issued June 1, 2022.

ADDENDUM NO.1

INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION FOR THE COPPER COVE WATER TRANSMISSION PIPELINE AND BOOSTER PUMP STATION PROJECT SCH #2007012054

September 27, 2023

INTRODUCTION

In 2006, the Copper Cove Water Transmission Pipeline and Booster Pump Station Initial Study and Mitigated Negative Declaration (2006 ISMND) evaluated the environmental effects of construction and operation of a water transmission pipeline and booster pump station to remedy distribution demand issues in the Copper Cove Water System. These issues were identified by the Calaveras County Water District's (CCWD) 2004 Copper Cove Water System Master Plan Update. The 2006 ISMND, developed along with the original design and permitting of the proposed project, was approved by CCWD in February, 2007. The CCWD (as project applicant and lead agency) is amending the 2006 ISMND with changes to the project description presented herein. Because the proposed project changes do not result in any new or more substantial impacts that were not previously addressed by the adopted 2006 ISMND, these changes are being incorporated herein by Addendum.

This Addendum addresses the following items:

- History of the 2006 ISMND;
- Description of the proposed project;
- Changes to the 2006 ISMND;
- Standards for adequacy under the California Environmental Quality Act (CEQA) Guidelines;
- Enhancements to existing mitigation measures from the 2006 ISMND; and,
- Applicable CEQA processing requirements for the proposed project.

BACKGROUND

The proposed Copper Cove Water Transmission Pipeline and Booster Pump Station project is located in Calaveras County approximately four miles south of the town of Copperopolis and east of the Saddle Creek (now called Copper Valley) Subdivision. The 2006 ISMND previously evaluated the following improvements:

1) Construction of a new 20" diameter water transmission pipeline.
2) Construction of a new Booster Pump Station (BPS) including underground suction and discharge piping manifolds.
3) Modifications to existing treated Effluent Pump Station at the Water Treatment Plant (WTP) by replacing pumps and upgrading electrical equipment.
4) Temporary staging areas during construction.

The proposed 20-inch diameter water transmission pipeline, approximately 12,000' in length, is located within privately-owned, native oak studded grasslands and within existing streets, public rights-of-way, utility easements, as well as within developed subdivisions or previously disturbed areas. The transmission main begins at the WTP effluent pump station and travels northeast towards the backside of the western properties along Little John Road. The transmission main then turns northwest through open fields until it reaches the intersection of Little John Road and Bow Drive, where it then travels

through neighborhoods to the C Tanks. The construction staging areas included the Copper Cover WTP site, the C Tank site, booster pump station site, and other areas within the Copper Cove Subdivision. The existing public rights-of-way consist of asphalt roads, a vegetated hillside, and areas with exposed soil that is mostly devoid of vegetation.

The 2006 ISMND also envisioned the construction and operation of a BPS to allow increased pumping capacity, control of flows, maintain increased peak flows, and provide operational flexibility of flow rates in the system. The in-line BPS would be located on a 0.5-acre triangular parcel provided to the CCWD by the Copper Valley Golf Club. The BPS site is bounded by Saddle Creek Drive to the northwest and by a construction access road to the southeast. A section of the 20" diameter water transmission pipeline would terminate at a parcel across from the BPS site and would also connect to the BPS itself. Although the BPS was included as part of the 2006 ISMND, it has not been constructed to date. The 2006 ISMND pipeline and BPS improvements are included as **Figure 1** (Appendix A).

OVERVIEW OF THE PROPOSED PROJECT

The CCWD, as CEQA Lead Agency, proposes the Copper Cove Water System Improvements Project (proposed project) as described in the 2006 ISMND with changes incorporated:

1) Construction of a new 20" diameter water transmission pipeline *(adding two altitude control valves in buried vaults pipeline appurtenances at C-Tank site).*
2) Eliminating construction of a new Booster Pump Station (BPS) including deleting underground suction and discharge piping manifolds.
3) Modify the existing Effluent Pump Station at the WTP by replacing the pumps and upgrading electrical equipment.
4) Temporary staging areas during construction.
5) Copper Cove B-Tanks and Clearwells:
    a. Phase 1 / Demolition and replacement of existing redwood water storage tank at Tank B site and construction of a new 330,000-gallon clearwell at the WTP site.
    b. Phase 2 / Repair, rehabilitation and maintenance of existing welded steel tanks at Tank B and clearwell at WTP site.
    c. Associated grading, excavation, piping, and paving for above tanks.

The 2006 ISMND included a new inline BPS in addition to modifications to the existing Effluent Pump Station at the Copper Cove WTP. Rather than constructing a new BPS, the proposed project would replace the existing effluent pumps with three higher-head pumps at the existing Copper Cove WTP Effluent Pump Station. The existing WTP Effluent Pump Station currently includes two operating effluent pumps and a third unused, redundant pump. The project objectives can be accomplished by upgrading the pumps in existing locations. The existing Copper Cove WTP and BPS sites will be used as a staging area for the improvements as considered in the 2006 ISMND. The 20" diameter transmission main and Effluent Pump Station are shown in **Figure 2** (Appendix A).

The new 20" diameter transmission pipeline would be the same as presented in the 2006 ISMND. The pipeline will follow the same alignment from the Copper Cove WTP site to the C Tanks. Because the BPS is being eliminated, the 20" diameter underground piping manifolds for the BPS can also be eliminated and 20" piping simplified passing through the BPS site. Also, altitude valves will be added on the transmission main nearest C Tank to help reduce the risk of overflows.

At the Copper Cove WTP site, the construction of the 20" diameter transmission pipeline coincides with work on the repair and maintenance of the existing clearwell (Phase 1) and construction of the new

330,000-gallon clearwell (Phase 2). The new clearwell is located in an area of open space, north of the existing clearwell on the WTP site. This location is ungraded and requires tree removal, clearing and grubbing. The earthwork for the foundation requires a cut of 13' to lower the ground elevation. The construction of the new clearwell (Phase 1) and rehabilitation of the existing clearwell (Phase 2) must be coordination with the construction of the 20" diameter transmission pipeline on the WTP site. This occurs in a common area of disturbance evaluated in the 2006 ISMND; see **Figure 3** (Appendix A).

CCWD will proceed with tank repair, maintenance and replacement work at its B-Tank site. This work must be performed in a phased order and sequenced to keep tanks in service to supply water to our customers. First / Phase 1, demolition of an existing redwood tank and replacing and putting into service a new welded steel tank. Then / Phase 2, taking the existing steel tank out of service for rehabilitation and to make repairs. The steel tank rehabilitation and redwood tank replacement work occur on the B-Tank site as shown in **Figure 4** (Appendix A).

CHANGES FROM THE 2006 ISMND

The proposed project improvements would include nuance changes to the 2006 ISMND that would not result in any new or more substantial impacts that were not identified by the previously adopted 2006 ISMND. The changes include both added and deleted items of work. The proposed project changes are either categorically exempt activities or would be located within or adjacent to the existing footprint of the improvements evaluated in the 2006 ISMND, as outlined below:

- The 2006 ISMND contemplated both a new C-Tank BPS and modifications to the existing WTP Effluent Pump Station. The project objectives can be accomplished by replacing pumps and by making associated electrical and piping modifications and improvements to the existing Effluent Pump Station at the existing WTP site. The proposed BPS construction will be eliminated from the project, and this site only used as a temporary staging area.
- The proposed 20" diameter transmission line would be located within the same alignment outlined in the 2006 ISMND. Where the BPS is eliminated, the associated underground suction and discharge piping manifolds can equally be eliminated and 20" diameter pipeline will pass straight through this area. Also, to help prevent tank overflows – an existing operational concern – two altitude valves inside buried vaults will be added to the 20" transmission line.
- CCWD will perform maintenance and replacement of existing water storage tanks and existing clearwell, which are categorical exempt activities under Cal. Code Regs. Tit.14, §15301 and §15302. The new clearwell construction, adjacent to the existing clearwell at the WTP site, will include grading, concrete foundation, site piping and erection of the steel tank. The proposed work occurs within the area of disturbance and potential effects evaluated in the 2006 ISMND for the 20" diameter transmission pipeline and adjacent staging area. The project activities all occur in a common area of the WTP site and construction is best accomplished by scheduling and coordinating these related project activities and completing the work together.

BASIS FOR ADDENDUM

The CEQA Guidelines environmental review procedures allow for the updating and use of a previously adopted negative declaration for projects that are different from the previous project or the conditions under which the project was analyzed. Section 15164 of the CEQA Guidelines states the following with respect to an Addendum to an adopted negative declaration:

> *b) An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.*

c) *An addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.*
d) *The decision-making body shall consider the addendum with the final EIR or adopted negative declaration prior to making a decision on the project.*

In accordance with CEQA Guidelines Section 15164, this Addendum has been prepared to document that the proposed project modifications do not require preparation of a subsequent EIR or negative declaration under Section 15162.

The proposed project is similar to the project evaluated in the adopted 2006 ISMND, as the proposed project would be constructed in areas that were utilized for the improvements envisioned in the 2006 ISMND. The proposed improvements would be located either within, adjacent to, or in parallel with the improvement areas envisioned as part of the 2006 ISMND. As supported in the 2006 ISMND and this Addendum, there are no substantial changes proposed in the Copper Cove Water System Improvements Project which would result in any new significant environmental effects or a substantial importance which was not known for the 2006 ISMND.

None of the circumstances listed in CEQA Guidelines Section 15162 requiring the preparation of a subsequent negative declaration are present, and only minor technical changes or additions are necessary to update the previously adopted 2006 ISMND; therefore, an Addendum may be prepared.

MITIGATION MEASURE ENHANCEMENT

In addition to the 2006 ISMND, the CCWD made a supplemental Biological Resources Assessment and Aquatic Resources Delineation, included as Appendix B and Appendix C, respectively. A supplemental Cultural Resources Assessment was made included as Appendix D.

The mitigation measure labeled “Pond Turtles”, outlined in the 2006 ISMND, will be augmented and enhanced based on the proposed project improvements. The existing mitigation measure “Pond Turtles” will be renamed to “Preconstruction Surveys for Sensitive Species”. This measure will be enhanced to require a qualified biologist to conduct preconstruction surveys for the western pond turtle, California red-legged frog, California tiger salamander, western spadefoot, western red bat, and hoary bat. The advised enhancements to measures from the 2006 ISMND will be incorporated herein.

As the existing mitigation measures will be augmented and enhanced, no new impacts will result as part of the proposed project. The proposed project will not introduce new or more significant impacts that were not previously disclosed in the 2006 ISMND, and no new mitigation measures are necessitated.

ADDENDUM PROCESSING

The CCWD directed and supervised the preparation of this Addendum, which has been reviewed and determined to be complete and accurate. The CCWD has concluded, based on the proposed project description and the previously approved 2006 ISMND, that this Addendum is the appropriate CEQA compliance document for the proposed project.

APPENDICES

Appendix A—Figures
Appendix B—Biological Resources Assessment
Appendix C—Aquatic Resources Delineation
Appendix D—Cultural Resources Assessment

Appendix A

Figures

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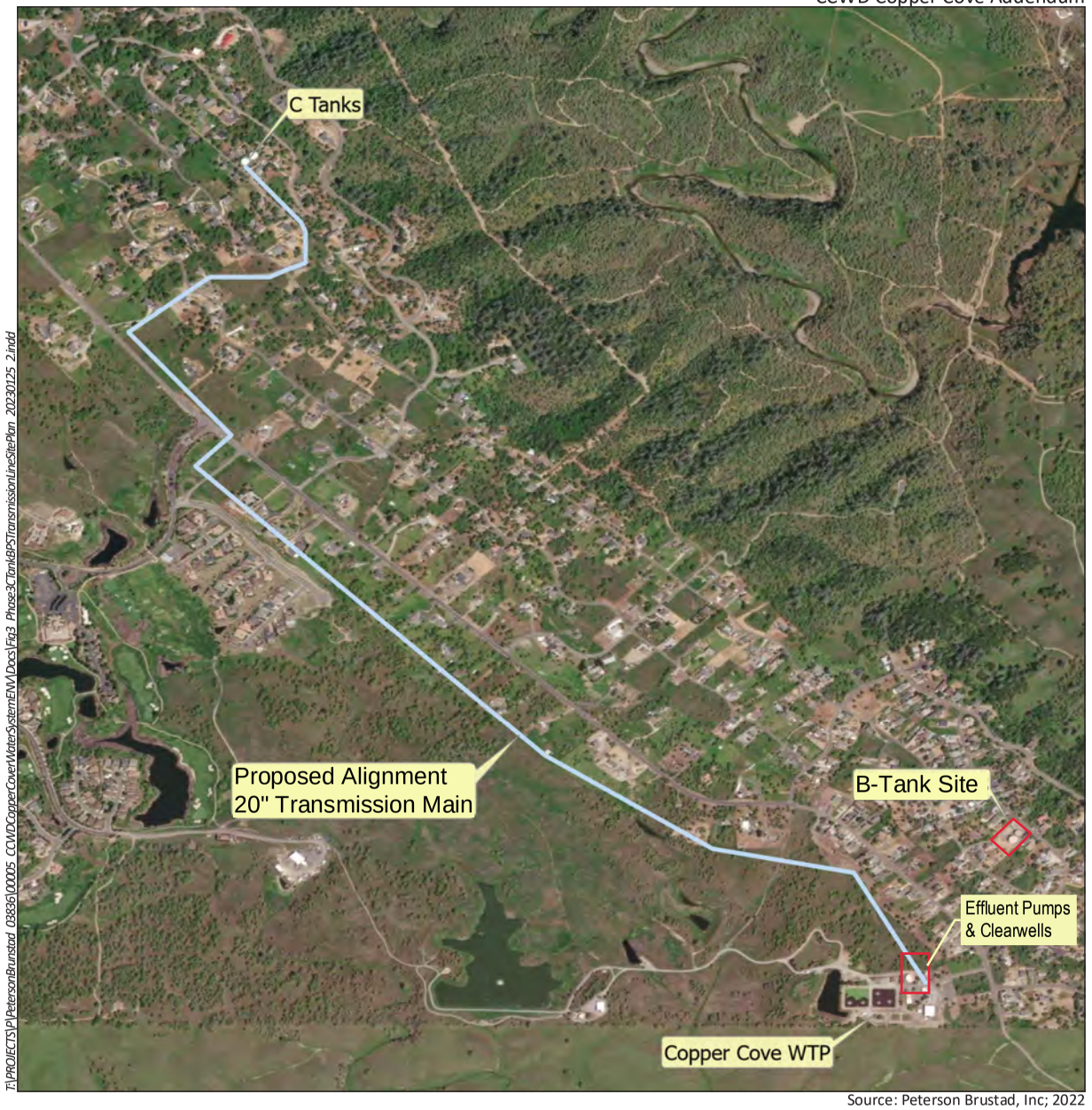
Source: PBS&J

HELIX
Environmental Planning

2006 ISMND Project Improvements Site Plan

Figure 1



Source: Peterson Brustad, Inc; 2022

HELIX Environmental Planning

Effluent Pump Station Site and 20" Transmission Line Plan

Figure 2

T:\PROJECTS\P\PetersonBrunstad_03836\00005_CCWDCopperCoverWaterSystemENV\Docs\Fig2_CopperCoveWTP_20230125.indd

Source: Peterson Brustad, Inc; 2022

HELIX Environmental Planning

Copper Cove WTP Clearwells Site Plan

Figure 3

Source: Peterson Brustad, INC; 2022

HELIX Environmental Planning

Steel Tank Rehabiliation and Redwood Tank Replacement Site Plan

Figure 4

Appendix B

Biological Resources Assessment

Copper Cove Water System Improvements Project Phases 1 and 2

Biological Resources Assessment

Prepared for:

Peterson Brustad Inc.
80 Blue Ravine Road, Suite 280
Folsom, CA 95630

Prepared by:

HELIX Environmental Planning, Inc.
11 Natoma Street, Suite 155
Folsom, CA 95630

December 2022 | 03836.00005.001

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TABLE OF CONTENTS

Section **Page**

LIST OF TABLES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSA	California Special Animals
CWA	Clean Water Act
DBH	diameter at breast height
EPA	U.S. Environmental Protection Agency
FESA	Federal Endangered Species Act
HCP	Habitat Conservation Plan
HELIX	HELIX Environmental Planning, Inc.
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
msl	mean sea level
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
OHWM	ordinary high-water mark
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) conducted a Biological Resources Assessment (BRA) for the 2.76-acre Copper Cove Water System Improvements Project (Project) on November 10, 2022. The Project consists of two separate locations one is located on Kiva Place (Clearwell) and consists of a 1.98-acre site and the other on Signal Hill Trail (B Tank Site) consists of a 0.78-acre site. These two locations are collectively referred to as the Study Area. The Study Area is located in the community of Copper Cove Village in Calaveras County, California (Study Area). The Study Area is situated in Sections 25 and 26 of Township 1 North and Range 12 East on the U.S. Geological Survey (USGS) "*Melones Dam, California"* 7.5-minute quadrangle map. The approximate center of the Study Area of each Study Area component is at latitude 37.912220° and longitude -120. 613331°, NAD 83 (B Tank Site) and latitude 37.908838° and longitude -120.615755°, NAD 83 (Clearwell Site). The elevation of the Study Area is between 785 feet and 985 feet above mean sea level (msl).

The purpose of this BRA is to assess the general biological resources on the Study Area, assess the suitability of the Study Area to support special-status species and sensitive vegetation communities or habitats, analyze any potential impacts to biological resources that could occur as a result of the proposed project and provide suggested mitigation measures to avoid and/or reduce any such impacts to less than significant.

The 2.76-acre Study Area is in a rural residential area in Copperopolis, Calaveras County, California and consists primarily of a developed area, blue oak woodland and annual grassland. The Study Area is comprised of blue oak woodland (0.590 acre), annual grassland (0.425 acre), canal (0.054-acre), developed (1.659 acres), ditch (0.031 acre), and seasonal wetland swale (0.001 acre). Surrounding land uses include rural, single-family residences.

Known or potential sensitive biological resources in the Study Area include:

- Potential habitat for federally threatened and state endangered Chinese Camp brodiaea (*Brodiaea pallida*);
- Potential habitat for special-status plants including Jepson's onion (*Allium jepsonii*), Hoover's calycadenia (*Calycadenia hooveri*), forked hare-leaf (*Lagophylla dichotoma*);
- Although not expected to occur, the Study Area provides potentially suitable habitat for the federally and state listed as threatened California tiger salamander (*Ambystoma californiense*) and the federally listed as threatened California red-legged frog (*Rana draytonii*);
- Habitat for California Department of Fish and Wildlife (CDFW) Species of Special Concern western pond turtle (*Actinemys marmorata*), western spadefoot (*Spea hammondii*) and western red bat (*Lasiurus blossevillii*);
- Potential habitat for CDFW designated special mammals including hoary bat (*Lasiurus cinereus*);
- Sensitive aquatic resources including seasonal wetland swale and a canal; and,
- Blue oak woodland protected by the Calaveras County General Plan.

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1.0 INTRODUCTION

This report summarizes the findings of a Biological Resources Assessment (BRA) completed by HELIX Environmental Planning, Inc. (HELIX) for the for ±2.76-acre Copper Cove Water System Improvements Project (Project), located on Kiva Place in the community of Copperopolis in Calaveras County, California (Study Area). This document addresses the onsite physical features, plant communities present, and the common plant and wildlife species occurring or potentially occurring in the Study Area. In addition, the suitability of habitats to support special-status species and sensitive habitats are analyzed, as well as any potential impacts to biological resources that could occur as a result of the proposed project. Suggested mitigation measures are provided to avoid and/or reduce any such impacts to less than significant.

1.1 PROJECT DESCRIPTION

The Calaveras County Water District (CCWD) is proposing to improve the existing Copper Cove Water System to reliably maintain potable water services to the expanding community. The proposed improvements would be completed in two (2) phases: Phase 1 and Phase 2. Phase 1 would include the replacement of the existing Redwood Tank on the B-Tank Site and the construction of a new Water Treatment Plant (WTP) Clearwell on the Copper Cove WTP Site. Phase 2 would include the rehabilitation of the existing Steel Tank on the B-Tank Site, and the rehabilitation of the existing WTP Clearwell on the Copper Cove WTP Site. Phase 2 also includes replacement of the B Zone Booster Pump Station. Implementation of Phase 1 and Phase 2 would result in a net reduction in water treatment/storage capacity from approximately 1-million gallons to 750,000-gallons. All referenced figures prepared in support of the BRA are included in **Appendix A**.

2.0 REGULATORY FRAMEWORK

Federal, State, and local environmental laws, regulations, and policies relevant to the California Environmental Quality Act (CEQA) review process are summarized below. Applicable CEQA significance criteria are also addressed in this section.

2.1 FEDERAL REGULATIONS

2.1.1 Federal Endangered Species Act

The U.S. Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3) (19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

In the context of the proposed Project, FESA consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) would be initiated if development resulted in the potential for take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

2.1.2 Migratory Bird Treaty Act

Raptors, migratory birds, and other avian species are protected by a number of State and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior.

2.1.3 The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) prohibits the taking or possession of and commerce in bald and golden eagles with limited exceptions. Under the Eagle Act, it is a violation to "*take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof.*" Take is defined to include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is further defined in 50 CFR Part 22.3 as "*to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.*"

2.2 STATE JURISDICTION

2.2.1 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to FESA but pertains to State-listed endangered and threatened species. CESA requires state agencies to consult with the CDFW when preparing CEQA documents. The purpose is to ensure that State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species. It also directs CDFW to determine whether jeopardy would occur and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

2.2.2 California Department of Fish and Game Codes

A number of species have been designated as "Fully Protected" species under Sections 5515, 5050, 3511, and 4700 of the Fish and Game Code (FGC) but are not listed as endangered (Section 2062) or threatened (Section 2067) species under CESA. Except for take related to scientific research, all take of fully protected species is prohibited. The California Fish and Game Code defines take as "*hunt, pursue,*

catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Additionally, Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game Commission to designate plants as rare or endangered. The NPPA prohibits take of endangered or rare native plants, with some exceptions for agricultural and nursery operations and emergencies. Vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations require proper advance notification to CDFW.

2.3 JURISDICTIONAL WATERS

2.3.1 Federal Jurisdiction

Unless considered an exempt activity under Section 404(f) of the Federal Clean Water Act, any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403). Activities exempted under Section 404(f) are not exempted within navigable waters under Section 10.

"Waters of the U.S." are defined as: "All waters that are currently used, or 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; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; the territorial sea; or wetlands adjacent to these waters (33 Code of Federal Regulations [CFR] Part 328)."

Within non-tidal waters that meet the definition cited above and, in the absence of adjacent wetlands, the indicator used by the USACE to determine the lateral extent of its jurisdiction is the ordinary high water mark (OHWM) – the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, and/or the presence of litter and debris.

Wetlands are defined under the CFR Part 328.3 as those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

The USACE has determined that not all features which meet the wetland definition are, in fact, considered to be waters of the U.S. Normally, features not considered as waters of the U.S. include: (a) non-tidal drainage and irrigation ditches excavated on dry land; (b) artificially irrigated areas which would revert to upland if the irrigation ceased; (c) artificial lakes or ponds created by excavating and/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, (d) artificial reflecting or swimming pools or other

small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons, and, (e) 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 (see 33 CFR 328.3(a)). Other features may be excluded based on Supreme Court decisions (e.g., SWANCC and Rapanos) or by regulation.

Federal and state regulations pertaining to waters of the U.S., including wetlands, are discussed below.

The Clean Water Act (33 United States Code (USC) 1251-1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there were no practicable alternative that would have less adverse impacts.

2.3.2 State Jurisdiction

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Federal CWA. Although the CWA is a Federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE permits for fill and dredge discharges within Waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;

II. A framework for determining if a feature that meets the wetland definition is a water of the state;
III. Wetland delineation procedures; and,
IV. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "Waters of the U.S."

More specifically, a wetland is defined as: "*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 wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to Waters of the State, which includes Waters of the U.S. and non-federal Waters of the State, requires filing of an application under the Procedures.

California Department of Fish and Wildlife

CDFW is a trustee agency that has jurisdiction under Section 1600 et seq. of the California Fish and Game Code. Under Sections 1602 and 1603, a private party must notify CDFW if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds… except when the department has been notified pursuant to Section 1601." Additionally, CDFW asserts jurisdiction over native riparian habitat adjacent to aquatic features, including native trees over four inches in diameter at breast height (DBH). If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures. Generally, CDFW recommends applying for a Streambed Alteration Agreement (SAA) for any work done within the lateral limit of water flow or the edge of riparian vegetation, whichever is greater.

2.4 CEQA SIGNIFICANCE

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study Checklist included in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

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

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;

- 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;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

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

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

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish or result in the loss of an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.4.1 California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Vascular Plants of California*. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS Rare Plant Ranking System:

- Rank 1A: Plants presumed Extinct in California and either rare or extinct elsewhere
- 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
- Rank 3: Plants about which we need more information – A Review List

All plants appearing on CNPS Rank 1 or 2 are considered to meet CEQA Guidelines Section 15380 criteria. The CDFW, in consultation with the CNPS assigns a California Rare Plant Rank (CRPR) to native

species according to rarity; plants with a CRPR of 1A, 1B, 2A, 2B, or 3 are generally considered special-status species under CEQA. Furthermore, the CNPS CRPR include levels of threat for each species. These threat ranks include the following:

0.1 - Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat);

0.2 - Moderately threatened in California (20 to 80% occurrences threatened/moderate degree and immediacy of threat); and

0.3 - Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

Threat ranks do not designate a change of environmental protections, so that each species (i.e., CRPR 1B.1, CRPR 1B.2, CRPR 1B.3, etc.), be fully considered during preparation of environmental documents under CEQA.

2.4.2 California Department of Fish and Wildlife Species of Concern

Additional fish, amphibian, reptile, bird, and mammal species may receive consideration by CDFW and lead agencies during the CEQA process, in addition to species that are formally listed under FESA and CESA or listed as fully protected. These species are included on the *Special Animals List*, which is maintained by CDFW. This list tracks species in California whose numbers, reproductive success, or habitat may be in decline. In addition to "Species of Special Concern" (SSC), the *Special Animals List* includes species that are tracked in the California Natural Diversity Database (CNDDB) but warrant no legal protection. These species are identified as "California Special Animals" (CSA).

2.5 LOCAL POLICIES AND REGULATIONS

2.5.1 Calaveras County General Plan

In addition to federal and State regulations described above, the *Calaveras County General Plan* (General Plan) includes goals, objectives, policies, and measures regarding biological resources within the County limits (Calaveras County 2019). Applicable sections of the General Plan for this BRA are summarized below.

Water Resources/Water Quality

- Goal: High quality and abundant water resources.
- Policies:
    - COS 2.1 Participate in regional, watershed-level, and integrated resources management planning efforts to improve watershed health and water quality (IM COS-2A, COS-2D and COS-3D).
    - COS 2.2 Protect the County's surface and ground water resources and watersheds from uses that could adversely impact water quality (IM COS-3A and COS-3B).
    - COS 2.3 Encourage the use of design features in new development to capture stormwater and recharge groundwater (IM COS-3B and COS-3C).

Biological Resources

- Goal: A diversity of native plants, fish, and wildlife species and their habitats.
- Policies:
    - COS 3.1 To protect sensitive biological resources, new development shall use site planning techniques, including buffers and setbacks, and encourage other techniques such as clustering of development (IM COS-4B).
    - COS 3.2 Avoid impacts to habitats that support special status species to the extent practicable. Where impacts cannot be avoided, mitigate impacts in accordance with resource agency (CDFW and/or USFWS) protocols/policies for the species (IM COS-3B, COS-4B, COS-4C, COS-4F, COS-4H, COS-4I, COS-4K, COS-4L, COS-4N and COS-4O).
    - COS 3.3 Require new development to identify and mitigate impacts to wildlife habitat and wetlands, riparian habitats, and other aquatic resources consistent with state and federal regulations (IM COS-4C COS-4D, COS-4H, COS-4I, COS-4K, COS-4L, COS-4N and COS-4O).
    - COS 3.4 Identify and protect corridors important to wildlife movement and dispersal (IM COS-4C and COS-4E).
    - COS 3.5 Encourage preservation of oak woodlands in accordance with state law (IM COS-4D).
    - COS 3.6 Conservation easements may be acceptable means to mitigate impacts to protect wildlife habitat, wetland areas, and oak woodlands from new development (IM COS-4D, COS-4F, COS-4H, COS-4I, COS-4K, COS-4L, COS-4N and COS-4O).
    - COS 3.7 Support efforts to eradicate invasive species and encourage practices that reduce their spread (IM COS-4G, COS-4J and COS-4K).
    - COS 3.8 Where practicable, improve the ability of listed species and any native wildlife to safely cross highways and roadways to reduce human injuries and fatalities resulting from vehicle-animal collisions (IM COS-4O).
    - COS 3.9 Preserve and enhance healthy woodlands consistent with state law, reasonable development, and fire safety considerations (IM COS-4D).

Oak Woodlands (COS-4D)

Calaveras County currently does not have formal guidelines for oak tree conservation. As outlined in the General Plan, until formal guidelines for oak conservation and planning are established, development that is subject to a discretionary entitlement and subject to CEQA review should enlist the services of a qualified professional (meaning a qualified biologist, botanist, arborist, or Registered Professional Forester) to survey the property in question for oak woodlands and to recommend options for avoidance and/or mitigation consistent with the provisions of PRC 21083.4.

In the interim, the County shall require development that is subject to a discretionary entitlement and subject to CEQA review to enlist the services of a qualified professional (meaning a qualified biologist, botanist, arborist, or Registered Professional Forester) to survey the property in question for oak woodlands and to recommend options for avoidance and/or mitigation consistent with the provisions of

RPC 21083.4 if potentially significant impacts to oak woodlands are identified If a potentially significant impact to oak woodlands is identified, the following shall apply:

- The oak woodland on the project site shall be mapped and the extent of woodland canopy proposed to be removed as a result of the proposed project shall be identified.

- If avoidance is utilized for all or part of the mitigation, the oak woodland to be avoided by the project shall be protected by identifying the dripline of the oak woodland canopy to be preserved on all construction plans and by implementation of best management practices or other measures recommended by the qualified professional to prevent damage to the woodland to be preserved.

- Mitigation consistent with the provisions of PRC 21083.4, other than avoidance, shall be applied at a ratio of 1:1 to 2:1. The ratio and the type(s) of mitigation chosen shall be informed by the recommendations of the qualified professional with respect to providing similar habitat functions and values as the woodland habitat removed as part of the project.

- If mitigation consisting of replacement planting, transplanting and/or identification of off-site mitigation through acquisition of a conservation easement is utilized, it shall be applied based on the recommendations of the qualified professional that the replacement habitat will provide similar habitat functions and values as the woodland habitat removed as a part of the project. Mitigation shall take place in Calaveras County.

Blue oak woodlands are present in the Study Area. Based on these findings, additional mitigation is required if oak woodland will be impacted within the Study Area.

3.0 METHODS

Available information pertaining to the natural resources of the region was reviewed prior to conducting the field survey. The following published information was reviewed for this BRA:

- California Department of Fish and Wildlife (CDFW). 2022. *California Natural Diversity Database* (CNDDB); For: *Melones Dam, CA* and eight surrounding USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed [October 20, 2022];

- California Native Plant Society (CNPS). 2022. *Inventory of Rare and Endangered Plants* (online edition, v8-03 0.45) For: *Melones Dam, CA* and eight surrounding USGS 7.5-minute series quadrangles, Sacramento, CA. Accessed [October 20, 2022];

- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2022. *Web Soil Survey*. Available online at: http://websoilsurvey.sc.egov.usda.gov. Accessed [October 20, 2022];

- U.S. Fish and Wildlife Service (USFWS). 2022. *Information for Planning and Consultation* (IPaC) *Copper Cove Water System Improvements Project.* Accessed [October 20, 2022]; and,

- U.S. Geological Survey (USGS). 2022 *Melones Dam, California*. 7.5-minute series topographic quadrangle. United States Department of Interior.

Prior to conducting the biological field survey, existing information concerning known habitats and special-status species that may occur in the Study Area was reviewed. The results of the database query are summarized in **Appendix B**. The biological field survey was conducted on November 10, 2022, by HELIX senior biologist Patrick Martin. The weather during the field survey was cloudy and clear with an average temperature of between 50 and 60° Fahrenheit. The Study Area was systematically surveyed on foot to ensure total search coverage, with special attention given to portions of the Study Area with the potential to support special-status species and sensitive habitats. Binoculars were used to further extend site coverage and identify species observed. All plant and animal species observed were recorded (**Appendix C**), and all biological communities occurring onsite were characterized. All resources of interest were mapped with a Global Positioning System (GPS)-capable tablet equipped with a GPS receiver running ESRI Collector for ArcGIS® with sub-meter accuracy.

Following the field survey, the potential for each species (including special status species) identified in the database query to occur within the Study Area was determined based on the site survey, soils, elevational and geographic ranges, habitats present within the Study Area, and species-specific information, as shown in **Appendix D**.

4.0 RESULTS

4.1 SITE LOCATION AND DESCRIPTION

The 2.76-acre Study Area is located in the community of Copper Cove Village, Calaveras County, California, just north of Tulloch Lake and south of State Route 4. The Study Area consists of two separate locations: Phase 1 is located on Kiva Place (Clearwell) and Phase 2 on Signal Hill Trail (B Tank Site) in the community of Copper Cove Village (Study Area). The Study Area is situated in Sections 25 and 26 of Township 1 North and Range 12 East on the U.S. Geological Survey (USGS) "*Melones Dam, California"* 7.5-minute quadrangle map (**Appendix A: Figures 1 and 2**). The Study Area consists mostly of the water tanks, developed land, supporting facilities, annual grassland and blue oak woodland (**Appendix A: Figure 3**). Vegetation within the Study Area is largely comprised of blue oak woodland, annual grassland, with ruderal/invasive species dominating previously disturbed or developed areas. The approximate center of the Study Area of each Study Area component is at latitude 37.912220° and longitude -120. 613331°, NAD 83 (B Tank Site) and latitude 37.908838° and longitude -120.615755°, NAD 83 (Clearwell Site).

4.2 PHYSICAL FEATURES

4.2.1 Topography and Drainage

Terrain in the Study Area is comprised of slight hillslopes at each site, with the Study Area at the B Tank Site located at a higher elevation than Clearwell Study Area. The B Tank Site Study Area is dominated by a developed area with two water tanks and support structures. The Study Area at Clearwell consists of the developed areas associated with existing structures such as water tanks and support structures and paved or graveled areas in addition to areas dominated by blue oak woodland, annual grassland, a seasonal wetland swale and an excavated canal that is no longer used or maintained but still conveys water. Elevations on the site range from approximately 780 feet to 985feet above mean sea level (msl).

The Study Area is primarily in the Rock Creek-French Camp Slough watershed (USGS Hydrologic Unit Code (HUC) 18040051). A portion of the B Tank Well Site of the Study Area is located within the Upper Stanislaus River watershed (HUC 18040010). All drainages adjacent to the Study Area are tributary to the San Joaquin River, which is a traditional navigable waters of the U.S.

4.2.2 Soils

The NRCS has mapped four soil units within the Study Area: Bonanza-Loafercreek complex, 3 to 15 percent slopes, Copperopolis-Whiterock complex, 3 to 15 percent slopes, rocky, Urban land-Copperopolis complex, 0 to 15 percent slopes, and Urban land-Loafercreek-Dunstone complex, 3 to 15 percent slopes (Appendix A: Figure 4). The general characteristics and properties associated with these soil types are described below.

Bonanza-Loafercreek complex, 3 to 15 percent slopes is a well-drained soil that consists of loam, and gravelly clay loam over bedrock derived from residuum weathered from metavolcanic rock (volcanic soil). Bonanza-Loafercreek complex, 3 to 15 percent slopes is well drained and is found on hills and backslopes. The restrictive layer consists of lithic and paralithic bedrock at 20 to 49 inches below the surface. This soil series is not prime farmland. This soil unit is not considered hydric (NRCS 2022).

Copperopolis-Whiterock complex, 3 to 15 percent slopes, rocky, is a well-drained soil that consists of channery loam, and extremely gravelly loam over bedrock derived from residuum weathered derived from slate. Copperopolis-Whiterock complex, 3 to 15 percent slopes, rocky is well drained and is found on low hills and summits. The restrictive layer consists of lithic bedrock at 10 to 20 inches below the surface. This soil series is not prime farmland. This soil unit is not considered hydric (NRCS 2022).

Urban land-Copperopolis complex, 0 to 15 percent slopes, is a well-drained soil that consists of loam, clay loam, very gravelly clay loam over bedrock that is derived from colluvium over residuum derived from metavolcanic rock (volcanic soil). Urban land-Copperopolis complex, 0 to 15 percent slopes is well drained and is found on hills and summits. The restrictive layer consists of lithic and paralithic bedrock at 20 to 49 inches below the surface. This soil series is not prime farmland. This soil unit is not considered hydric (NRCS 2022).

Urban land-Loafercreek-Dunstone complex, 3 to 15 percent slopes, is a well-drained soil that consists of loam, clay loam, very gravelly clay loam over bedrock that is derived from colluvium over residuum derived from metavolcanic rock (volcanic soil). Urban land-Loafercreek-Dunstone complex, 3 to 15 percent slopes is well drained and is found on hills and backslopes. The restrictive layer consists of lithic and paralithic bedrock at 20 to 49 inches below the surface. Minor soil components of this soil unit are considered hydric in depressions (NRCS 2022).

4.3 BIOLOGICAL COMMUNITIES

Two upland communities and five aquatic communities occur within the Study Area: blue oak woodland (0.590 acre), annual grassland (0.425 acre), canal (0.054 acre), developed (1.659 acres), ditch (0.031 acre), and seasonal wetland swale (0.001 acre). These habitat types are discussed below. A comprehensive list of all plant and wildlife species observed within the Study Area in these habitats is provided in **Appendix C**. Representative site photographs are included in **Appendix E**.

4.3.1 Developed

Developed habitat consists of paved roads, graveled areas, structures such as water tanks. Developed habitat consists primarily of have paved surfaces which generally do not provide habitat for plants and wildlife. Leaking water tanks at both the B Tank site and the Clearwell site both support wetland aeras where the tanks are leaking that consist of wetland vegetation, but not meet wetland criteria. Native and nonnative trees, shrubs and herbs are present in developed habitat that could provide habitat for wildlife, however developed areas are routinely treated chemically and mechanically for vegetation. Approximately 1.659 acres of developed habitat occurs in the Study Area (**Appendix A, Figures 5a and 5b**).

4.3.2 Blue Oak Woodland

Blue oak woodland habitat dominates the northern boundary of the Study Area and is the dominant natural vegetation community in the surrounding vicinity. Vegetation in this habitat consists primarily of blue oak (*Quercus douglasii*) and interior live oak (*Quercus wislizeni*) dominating parts of the shrub layer underlain with an annual herbaceous species in the understory. Annual vegetation in the understory resembles that of the annual grassland habitat described below. Blue oak woodland within the Study Area. Blue oak woodland provides breeding and foraging habitat for a several species of wildlife, such as cavity nesting birds like woodpeckers. Approximately 0.590 acre of blue oak woodland habitat occurs in the Study Area (**Appendix A, Figure 5b**).

4.3.3 Annual Grassland

Annual grassland habitats are open grasslands composed primarily of annual plant species. Many of these species also occur as understory plants in oak woodland and other habitats. Structure in annual grassland depends largely on weather patterns and livestock grazing; dramatic differences in physiognomy, both between seasons and between years, are characteristic of this habitat. Dominant species observed within annual grassland habitat in the Study Area include medusahead (*Elymus caput-medusae*), wild oats (*Avena fatua*), narrow tarplant (*Holocarpha virgata*). Purple needle grass (*Stipa pulchra*) is also present in the Study Area. Approximately 0.425 acre of annual grassland habitat occurs in the Study Area (**Appendix A, Figure 5b**).

4.4 AQUATIC RESOURCES

4.4.1.1 Seasonal Wetland Swale

A total of 0.001 acre of seasonal wetland swale occurs on the Study Area in the northwestern corner of the Clearwell Site and appears to carry surface runoff from surrounding hillslopes of the Study Area where it intersects a ditch off site of the Study Area where it enters a settling pond that is tributary to Littlejohns Creek. Swales on site meet the 3-paramenter wetland criteria and are typically located in steeper locations and can be associated with vernal pools, which either drain into the swale or are located in deeper sections of the swale. The swale boundaries are characterized by slight shifts in micro-topography over low areas on the landscape between hillslopes as well as shifts in vegetation. A defined ordinary high-water mark is not present, and these features are more similar to seasonal wetlands. Hydric soil in the swale is fulfilled by a depleted matrix with prominent redoximorphic features located

along pore linings of living root channels. Wetland hydrology was met by oxidized rhizospheres, drainage pattern and saturation visible on aerial imagery dated to April 6, 2022. The swale was dry during the site visit in November 2022 following early precipitation for the season. The swale supports a predominance of hydrophytic herbaceous plant species such as Italian ryegrass (*Festuca perennis*), and Mediterranean barley (*Hordeum marinum ssp. gussoneanum*) in addition to upland medusahead.

4.4.1.2 Canal

A total of 0.054 acre of canal is present in the Study Area. The canal in the Study Area is an excavated feature, that likely originated between 1959 and 1984 (NETR 2022). This feature was constructed in part of the seasonal wetland swale described above and was likely constructed in other potential waters of the U.S. that drain the surrounding hillslopes. The canal has steeply incised banks with spoils from excavation of the canal cast downslope into WS-1. The canal is not a part of the wastewater treatment facility and is not managed by the facility. The canal exits the Study Area to the east and reenters the Study Area where there is a confluence with another wetland swale (out of the Study Area) before it enters a culvert in the Study Area. It is unknown where the culvert carries water to, but it likely is diverted to the south where it enters a complex of drainages and wetlands that are tributary to Littlejohns Creek, as evidenced from aerial imagery from 1998 when more of the canal was still above ground (Google Earth 2022). This canal supports hydric soil, wetland hydrology and hydrophytic vegetation and functions similar to a natural drainage feature with a bed and a bank that channels water from surrounding hillslopes and likely only flows during periods of precipitation. Upstream of the Study Area this canal is dominated almost entirely by common cattail (*Typha latifolia*), an obligate hydrophyte. In the Study Area this feature is dominated by tall flatsedge (*Cyperus eragrostis*), and Italian ryegrass.

4.4.1.3 Ditch

A total of 0.031 acre of ditch is present within the Study Area, consisting of one feature that is mostly lined with asphalt with soil, muck and hydrophytic vegetation overlying the ditch. The ditch drains a water tank at the Clearwell site, which continues out of the Study Area and to a series of ponds that drain to Littlejohns Creek to the south. The ditch supports fresh emergent wetland vegetation which consists of slender rush (*Juncus tenius*) and common cattail. No other drainages or wetland drain into this constructed drainage and is entirely a function of the wastewater treatment facility.

4.5 SPECIAL-STATUS SPECIES

Special-status species are plant and wildlife species that have been afforded special recognition and protection by federal, State, or local resource agencies or organizations. These species are generally of relatively limited distribution and may require specialized habitat conditions. Special-status species are defined as meeting one or more of the following criteria:

- Listed or proposed for listing under CESA or FESA;
- Protected under other regulations (e.g., the PCCP, MBTA);
- Included on the CDFW Special Animals List or Watch List;
- Identified as Rare Plant Rank 1 to 3 by CNPS; or,
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on queries of the CNDDB, USFWS, and CNPS ranked species (online versions) for the *New Melones Dam, CA* USGS quadrangle and eight surrounding quadrangles. **Appendix B** includes the common name and scientific name for each species, regulatory status (federal, State, local, CNPS), habitat descriptions, and potential for occurrence within the Study Area. The following set of criteria has been used to determine each species' potential for occurrence within the Study Area:

Will Not Occur: Species is either sessile (i.e., plants) or so limited to a particular habitat that it cannot disperse on its own and/or habitat suitable for its establishment and survival does not occur on the Study Area;

Not Expected: Species moves freely and might disperse through or across the Study Area, but suitable habitat for residence or breeding does not occur in the Study Area, potential for an individual of the species to disperse through or forage in the site cannot be excluded with 100 percent certainty;

Presumed Absent: Habitat suitable for residence and breeding occurs in the Study Area; however, focused surveys conducted for the current project were negative;

May Occur: Species was not observed on the site and breeding habitat is not present, but the species has the potential to utilize the site for dispersal;

High: Habitat suitable for residence and breeding occurs in the Study Area and the species has been recorded recently in or near the Study Area, but was not observed during surveys for the current project; and

Present: The species was observed during biological surveys for the current project and is assumed to occupy the Study Area or utilize the Study Area during some portion of its life cycle.

Only those species that are known to be present, have a high potential to occur, or may occur are discussed further in the following sections, with the exception of California red-legged frog, which is not expected to occur but is briefly discussed.

4.5.1 Listed and Special-Status Plants

According to the database query, 35 listed and/or special-status plant species have the potential to occur on or in the vicinity of the Study Area (CDFW 2022). Based on field observations, published information, and literature review, five special-status plant species have the potential to occur within the Study Area: Jepson's onion (*Allium jepsonii*), Chinese Camp brodiaea (*Brodiaea pallida*), Hoover's calycadenia (*Calycadenia hooveri*), and forked-hair leaf (*Lagophylla dichotoma*).

Special-Status Plants that May Occur

Jepson's Onion (CRPR 1B.2)

Jepson's onion is a perennial herb that is California Rare Plant Rank (CRPR) 1B.2 by CNPS (see Section 2.4.1 for CNPS rating definitions). This species is typically found in serpentinite or volcanic soils in cismontane woodlands, chaparral, and lower montane coniferous forest habitats. It blooms from April to August and is found at elevations ranging from 300 to 1,320 meters elevation (CNPS 2022). Soil in the Study Area consists of gravelly loam and is derived from metavolcanics (volcanic soil) and sedimentary

rock (NRCS 2022; CGS 2010). The biological survey was conducted outside of the optimal period of identification for this species. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022). Jepson's onion may occur in the blue oak woodland habitat within the Study Area. There is potential for direct and indirect effects to Jepson's onion if this species were to occur within the Study Area.

Chinese Camp Brodiaea (Federally threatened, State endangered, CRPR 1B.1)

Chinese Camp brodiaea is a perennial bulbiferous herb that is federally listed as threatened and state listed as endangered and ranked as CRPR 1B.1 by CNPS. This species may be found in serpentinite soils but is known to occur on other soils within vernal streambeds in cismontane woodland and foothill and valley grassland habitats. It blooms from May to June and is found at elevations ranging from 165 to 385 meters elevation (CNPS 2022). Soil in the Study Area consists of gravelly loam and is derived from metavolcanics (volcanic soil) and sedimentary rock (NRCS 2022; CGS 2010). The biological survey was conducted outside of the optimal period of identification for this species. There are several CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022). The nearest record is from 2005 and is located 1.1 miles south of the Study Area along Littlejohns Creek (CDFW 2022). This CNDDB record and adjacent records for this species occur on metavolcanic soils (CGS 2010) similar to what is found in the Study Area. Chinese Camp brodiaea may occur in the blue oak woodland and annual grassland habitat within the Study Area. There is potential for direct and indirect effects to Chinese Camp brodiaea if this species were to occur in the Study Area.

Hoover's Calycadenia (CRPR 1B.3)

Hoover's calycadenia is an annual herb that is California Rare Plant Rank (CRPR) 1B.3 by CNPS. This species is typically found on rocky microsites within cismontane woodland and foothill and valley grassland habitats. It blooms from July to September and is found at elevations ranging from 65 to 300 meters elevation (CNPS 2022). Soil in the Study Area consists of gravelly loam and is derived from metavolcanics (volcanic soil) and sedimentary rock (NRCS 2022; CGS 2010). The biological survey was conducted outside of the optimal period of identification for this species. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022). Hoover's calycadenia may occur in the blue oak woodland and annual grassland habitats within the Study Area. There is potential for direct and indirect effects to Hoover's calycadenia if this species were to occur in the Study Area.

Forked-hair Leaf (CRPR 1B.1)

Forked hair-leaf is an annual herb that is CRPR 1B.1 by CNPS. This species is typically found in clay soils within cismontane woodland and foothill and valley grassland habitats. It blooms from April to May and is found at elevations ranging from 45 to 335 meters elevation (CNPS 2022). Soil in the Study Area is mix of loam and clay loam in sedimentary and metavolcanic derived soils. The biological survey was conducted outside of the optimal period of identification for this species. There is one record of this species within a 5-mile radius of the Study Area, located 0.5-mile northwest of the Study Area (CDFW 2022). The record is from 2000 and documents an observation near Black Creek Ranch but requires further review (CDFW 2022). Forked-hair leaf may occur in the blue oak woodland habitat within the Study Area. There is potential for direct and indirect effects to forked-hair leaf if this species were to occur in the Study Area.

4.5.2 Listed and Special-Status Wildlife

According to the database query, 28 listed and/or special-status wildlife species have the potential to occur onsite or in the vicinity of the Study Area (CDFW 2022. Based on field observations, published information, and literature review, four special-status wildlife species have the potential to occur within the Study Area: western spadefoot (*Spea hammondii*), western pond turtle (*Actinemys marmorata*), western red bat (*Lasiurus blossevillii*), and hoary bat (*Lasiurus cinereus*). These species are discussed in more detail below. In addition to these special-status wildlife species, nesting birds and raptors protected under federal, State, and local laws/policies also have potential to occur within the Study Area. Two other species, California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*), are not expected to occur in the Study Area but are also discussed as they are listed species that have some limited potential to occur within the Study Area.

Special-Status Wildlife that May Occur

Western Spadefoot (CDFW Species of Special Concern)

Western spadefoot is an amphibian that breeds in vernal pools and seasonal ponds or slow portions of streams in grasslands and woodlands. Adults spend most of their time in underground burrows in grasslands surrounding breeding pools (Jennings and Hayes 1994). Breeding is typically finished by the end of March. Adults and juveniles retreat to burrows by late summer, often capable of burrowing up to 20 centimeters in hard soil (Morey and Reznick 2001). Tadpoles mature through late-spring and disperse as pools dry (Zeiner *et al.* 1990). Pools that support potential predators such as fish, bullfrogs, and crayfish are typically unsuitable (Jennings and Hayes 1994).

Western spadefoot was not observed in the Study Area during the biological reconnaissance on November 10, 2022. Blue oak woodlands and surrounding annual grasslands provide suitable upland habitat for this species although aquatic breeding habitat is not present in the Study Area. Cattle ponds, treatment ponds and other seasonal ponds and pools in intermittent streambeds and vernal pool complexes adjacent to the Study Area provide potential aquatic breeding habitat for this species. This species could breed in ponds outside of the Study Area, but this species could utilize upland areas within the Study Area as underground refuge sites or traverse through the Study Area between upland refuge sites and seasonal aquatic breeding sites. There is potential for direct and indirect effects to western spadefoot if this species were to occur in the Study Area.

Western Pond Turtle (CDFW Species of Special Concern)

Western pond turtles are most commonly found in permanent or nearly permanent wetlands, ponds, slow-moving streams, and irrigation ditches (Zeiner *et al.* 1988-1990). Adjacent upland areas are also used for basking and egg-laying. Turtles will lay eggs up to 0.25 mile from water, but typically go no more than 600 feet (Jennings and Hayes 1994). Special habitat features that improve turtle abundance, survival and reproductive success are rocks, logs, open mud banks, emergent aquatic vegetation and streamside vegetation. These features provide the turtles with basking sites and cover from predators (Stebbins 1972). Although pond turtles feed primarily on aquatic invertebrates (USFWS 1992), they also feed on plants, small fish and carrion.

Western pond turtle was not observed in the Study Area during the biological reconnaissance on November 10, 2022. Cattle ponds and other ponds and pools in intermittent streambeds adjacent to the Study Area could provide suitable aquatic habitat for this species. Uplands in blue oak woodlands,

grasslands and other ruderal areas in the Study Area provide suitable egg laying substrate for this species. Western pond turtle could utilize the nearby ponds and surrounding habitats for all life stages, and it could disperse up and down the canal within the Study Area. There are no CNDDB reported occurrences within a 5 mile radius of the Study Area (CDFW 2022). There is potential for direct and indirect effects to western pond turtle if this species were to occur in the Study Area.

Western Red Bat (CDFW Species of Special Concern)

Western red bat roosts primarily in woodlands and forests and forages in open habitat such as croplands, grasslands and shrublands. This species is typically associated with water and/or riparian habitats or mosaics of open space and forests. This species forages along edge habitats and usually found foraging or drinking with other bat species (Zeiner *et al.* 1990). This species has a poor urine concentrating ability and is typically associated with water. Western red bat is known to primarily roost solitarily in trees from 2 to 40 feet high, with females and young roosting higher in the trees than males. Young are typically born from May through July, and volant between 3 to 6 weeks after birth (Zeiner et al. 1990). Reproduction typically occurs individually, with each liter consisting of 1–5 young. Occasionally maternity colonies are found but are rare. Western red bat may also move their young between roost sites and are not tied to a specific roost location (Zeiner *et al.* 1990).

The Study Area contains suitable roosting habitat for this species in blue oak woodland with nearby water sources for this species including larger lakes and large ponds. The Study Area provides both roosting habitat and foraging habitat along woodland edges over adjacent grassland. This species could roost in tall trees and forage over the Study Area. There is one historical record of this species from 1999 documented near Knights Ferry approximately 5 miles south of the Study Area (CDFW 2022). There is potential for direct and indirect effects to western red bat if this species were to roost in or adjacent to Study Area.

Hoary Bat (CDFW Special Animals List)

Hoary bat roosts primarily in woodlands and forests and forages in open habitat such as croplands, grasslands and shrublands. This species is typically associated with water and/or riparian habitats or mosaics of open space and forests. This species forages along edge habitats and is usually found foraging or drinking with other bat species (Zeiner *et al.* 1990). This species has a poor urine concentrating ability and is typically associated with water. Hoary bat is known to primarily roost solitarily in medium to large trees with few branches below the roost site and ground cover with low reflectivity (Zeiner *et al.* 1990). Females and young roosting higher in the trees than males. Young are typically born from May through July, and volant between 33 days after birth (Zeiner *et al.* 1990). Reproduction typically occurs individually, with each liter consisting of 1–4 young.

The Study Area contains suitable roosting habitat for this species in blue oak woodland and areas adjacent to the Study Area contain suitable water sources including larger lakes and large ponds. The Study Area provides both roosting habitat and foraging habitat along woodland edges over adjacent grassland. This species could roost in tall trees and forage over the Study Area. There are no CNDDB reported occurrences within a 5-mile radius of the Study Area (CDFW 2022). There is potential for direct and indirect effects to hoary bat if this species were to roost in or adjacent to Study Area.

Special-Status Wildlife Not Expected to Occur

California Tiger Salamander (Federally Threatened; State Threatened)

The historic range of California tiger salamander (*Ambystoma californiense*) was endemic to the San Joaquin-Sacramento River Valleys, bordering foothills and coastal valleys in what was considered a contiguous distribution (USFWS 2017). Currently, the population extends from Petaluma in Sonoma County (Sonoma DPS), east to the Colusa and Yolo County line, with an isolated population near Gray Lodge Wildlife area north of the Sutter Buttes, and south through the Central Valley to Santa Barbara County (Santa Barbara DPS) (Jennings and Hayes 1994). Today the species is known to occur in about 23 counties and is found primarily in low elevation grassland-oak woodland plant communities of Central California up to 1,640 feet elevation in the Sierra Nevada foothills (USFWS 2017).

California tiger salamander occupies a distinct habitat of both aquatic and terrestrial components that consist of aquatic breeding and non-breeding areas embedded within a matrix of habitats used for dispersal, or refugia. Breeding aquatic habitat consists typically of ephemeral freshwater bodies, such as ponds, vernal pools, constructed ponds and other stock ponds. Permanent bodies of water are occasionally used for breeding, but permanent water bodies must be free of potential predators to eggs and larva, such as fish and American bullfrog (*Lithobates catesbeianus*). Non-breeding habitat is located in uplands away from ponds, typically in mammal burrows, where California tiger salamander will spend most of their life (USFWS 2017). A complex of upland habitat with burrowing mammals and breeding ponds are necessary habitat components required for this species to persist (USFWS 2017). During the onset of fall precipitation, California tiger salamander will emerge from their burrows and migrate to breeding habitat. Eggs are laid along the margins of ponds individually or in small clusters on vegetation or other debris (Jennings and Hayes 1994). The breeding season typically occurs from November through April (USFWS 2017) and is likely influenced by local precipitation and ambient temperature. Females typically lay eggs between December and early April. Larvae typically metamorphose in three to six months and juveniles begin to move out of the natal pond in late spring or early summer, and rarely overwinter (USFWS 2017). When juveniles leave their natal ponds, they distribute into uplands in search of suitable underground refugia, which typically consists of mammal burrows excavated by California ground squirrel and Botta's pocket gopher (USFWS 2017). Very little is known of California tiger salamander behavior while underground. The Study Area is not located within federally designated critical habitat.

The Study Area is in the extant range for California tiger salamander and was known to persist in Calaveras County at the time the Recovery Plan was published (USFWS 2017). There are no reported CNDDB records for this species within a 5-mile radius of the Study Area (CDFW 2022). The nearest CNDDB reported occurrence for California tiger salamander is located 8.5 miles southwest of the Study Area. The record documents larvae found in a seasonal pond in 1993 on private property (CDFW 2022).

The Study Area contains aquatic non-breeding habitat that could potentially be suitable movement habitat for this species traversing through uplands or between potential breeding sites such as ponds and vernal pool complexes south of the Study Area. Wetland habitat in the Study Area does not provide deep-water habitat suitable for egg laying or larval development that could support California tiger salamander. The canal appears to flow only briefly during the wet season, and long enough to support wetland vegetation. Nearby treatment ponds were accessible and are managed for water treatment. Water overflow drains to drainages and wetland complexes south of the Study Area, which are tributary to Littlejohns Creek. Ponds adjacent to the Study Area appear to support suitable aquatic breeding

habitat through most of the year since they were inundated during the site visit in November 2022 and are visible on aerial imagery (Google Earth 2022) to be inundated in most years. However, it is unknown whether adjacent ponds support fish predators and/or American bullfrogs *(Lithobates catesbianus*) that could render these features less suitable for breeding or occupation by California tiger salamander. Adjacent ponds and other streams that may provide suitable breeding habitat for California tiger salamander are within the known upland dispersal distance for this species of 1.3-miles (USFWS 2017), especially annual grassland habitat, streams and vernal pool complexes on the property south of the Study Area.

The Study Area does not support aquatic breeding habitat, and habitat for this species is limited to upland dispersal habitat, refuge habitat and aquatic non-breeding habitat. Access or dispersal between adjacent suitable aquatic breeding sites is limited north of the Study Area based on the surrounding development, but to the south and west there are no dispersal barriers. In addition, the closest known population of California tiger salamander is approximately 8.5 miles southwest of the Study Area (CDFW 2022). This species has not been documented recently near the Study Area (CDFW 2022; USFWS 2017) but could still persist in the region since habitat for this species is abundant in annual grasslands south of the Study Area. Additionally, surrounding lands are mostly private lands and would not necessarily have documented records of this species reported in CNDDB. For these reasons, California tiger salamander is not expected to occur in the Study Area or be impacted by the proposed project, although there is potentially suitable habitat present in the Study Area.

California Red-legged Frog (Federally Threatened; CDFW Species of Special Concern)

California red-legged frog occurs in streams, marshes, ponds, and other permanent or ephemeral freshwater sources; typically within humid forests, woodlands, grasslands, and foothills below ±5,200-feet (USFWS 2002). California red-legged frog generally occupies areas within one to two miles of aquatic breeding habitat in places that stay cool and moist through warm periods. This includes non-breeding aquatic habitat or upland habitats with small mammal burrows, logs, dense vegetation/leaf litter, and other cool, moist refuge locations (USFWS 2002). Breeding occurs from late November to April and usually lasts one to two weeks. Some adults inhabit the breeding habitat all year, but other frogs disperse into other habitats and must travel overland some distance, usually on rainy nights, to get to the breeding location (USFWS 2002). Breeding typically occurs in deep, still, or slow-moving water (greater than 2.5 feet) and can have a wide range of edge and emergent cover amounts (USFWS 2002). California red-legged frog can breed at sites with dense shrubby riparian or emergent vegetation, such as cattails, tules (*Scirpus* spp.), or overhanging willows or can proliferate in ponds devoid of emergent vegetation or any apparent vegetative cover (USFWS 2002).

The Study Area is in the historic range for California red-legged frog but this species was considered to be extirpated in Calaveras County at the time the Recovery Plan was published (USFWS 2002). One record in Calaveras County that was documented after the publication of the Recovery Plan for this species documents an occurrence at Young's Creek near Valley Springs, Calaveras County approximately 24 miles north of the Study Area (Barry and Fellers 2013). This record from 2003 documents a small population of California red-legged frog that is reproductively active in oak savannah (Barry and Fellers 2013). The nearest CNDDB reported occurrence is located at Woods Creek 9.4 miles east of the Study Area in Tuolumne County. The record is non-specific and documents a collection of four individuals from 1950 (CDFW 2022). There are no other known occurrences of California red-legged frog in Calaveras County (CDFW 2022).

The Study Area contains aquatic non-breeding habitat that could potentially be suitable for this species to disperse through uplands or between potential breeding sites between adjacent ponds. Wetland habitat in the Study Area does not provide deep-water habitat suitable for egg laying or larval development that could support California red-legged frog. The canal appears to flow only briefly during the wet season, and long enough support wetland vegetation. Nearby treatment ponds were accessible and are managed for water treatment. Water overflow drains to drainages south of the Study Area, which are tributary to Littlejohns Creek. Ponds adjacent to the Study Area appear to support aquatic breeding habitat through most of the year since they were inundated through the site visit in November 2022 and are visible on aerial imagery (Google Earth 2022). However, it is unknown whether adjacent ponds support fish predators and/or American bullfrogs that could render adjacent ponds less suitable for breeding or occupation by California red-legged frog. Adjacent ponds and other streams that may provide suitable breeding habitat for California red-legged frog are within the known upland dispersal distance for this species of one to two miles (USFWS 2002; USFWS 2005), especially annual grassland habitat, streams and vernal pool complexes in the property south of the Study Area.

The Study Area does not support aquatic breeding habitat, and habitat for this species is limited to upland dispersal habitat, refuge habitat and aquatic non-breeding habitat. Access or dispersal between adjacent suitable aquatic breeding sites is limited north of the Study Area based on the surrounding development, but to the south and west there are no dispersal barriers. In addition, the closest known extant population of California red-legged frog is approximately 24 miles north of the Study Area and this species has not been documented recently near the Study Area (Barry and Fellers 2013; CDFW 2022) but could still persist in the region. For these reasons, California red-legged frog is not expected to occur in the Study Area or be impacted by the proposed project, although there is potentially suitable dispersal habitat present within the Study Area.

Nesting Migratory Birds and Raptors

Migratory birds are protected under the MBTA of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10; this also includes feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Additionally, Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs; and Section 3513 specifically states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

A number of migratory birds and raptors have the potential to nest in or adjacent to the Study Area. Many birds were observed within the Study Area during the field survey and suitable nest locations include trees, shrubs, grass, and bare ground. Therefore, nesting birds are expected to occur within the Study Area during the nesting season (generally February 1 to August 31).

4.6 SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA; Section 1600 of the California Fish and Game Code, which includes riparian

areas; and/or Sections 401 and 404 of the Clean Water Act, which include wetlands and other waters of the U.S. Sensitive habitats or resource types within the Study Area are discussed below.

4.6.1 Aquatic Resources

A total of 0.086 acre of aquatic resources have been delineated in the Study Area consisting of a canal (0.054 acre), seasonal wetland swale (0.001 acre), and ditch (0.0301 acre). The canal is not a part of the Copper Cover Sewer Treatment Plant infrastructure and is not maintained and it was constructed in wetlands and is tributary to waters of the U.S. The ditch is part of the Copper Cover Sewer Treatment Plant infrastructure to control wastewater from the facility. This ditch captures wastewater and delivers it to a pond out of the Study Area and is designed to capture polluted water runoff from the treatment plant before it reaches waterways downstream. This ditch is part of a waste treatment system, which removes or reduces pollution from discharging directly into a water of the U.S. The ditch is not expected to be considered jurisdictional under Section 404 or 401 of the Clean Water Act, as waste treatment systems are not considered waters of the U.S. Of the 0.086 acre of aquatic resources mapped, a total of 0.055 acre of aquatic resources (consisting of 0.054 acre of canal and 0.001 acre of seasonal wetland swale) are likely considered waters of the U.S. and waters of the State subject to USACE and RWQCB jurisdiction under Sections 404 and 401 of the CWA. A formal aquatic resource delineation was conducted in conjunction with this BRA and the results can be found under a separate cover (HELIX 2022). The results of the delineation are subject to concurrence from the appropriate resource agencies.

4.6.2 Wildlife Migration Corridors

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. This fragmentation of habitat can also occur when a portion of one or more habitats is converted into another habitat; for instance, when woodland or scrub habitat is altered or converted into grasslands after a disturbance such as fire, mudslide, or construction 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 Study Area is bordered by rural residential properties on all sides. Although wildlife may disperse through the Study Area on a local level, the Study Area is not considered a wildlife migration or movement corridor.

4.6.3 Oak Woodlands

Approximately 0.590 acre of blue oak woodland habitat occurs in the Study Area, which are protected by Calaveras County.

5.0 IMPACTS AND RECOMMENDED MITIGATION

5.1 SPECIAL-STATUS PLANTS

The Study Area contains suitable habitat for Jepson's onion, Chinese Camp brodiaea, Hoover's calycadenia, and forked-hair leaf. within the blue oak woodland, annual grassland and wetlands. If present within the Study Area, these species could be impacted by the proposed project through grading or vegetation removal activities and development of the Study Area at the Clearwell Site. Loss of special-status plant populations would be a potentially significant impact. It is likely that coordination with USFWS and CDFW will be required in order to obtain concurrence on the potential for Chinese Camp brodiaea to be present in the Study Area and/or be impacted by the proposed project as well as to develop mitigation measures to avoid any potential take of the species. To avoid potential impacts to these species, the following measures are provided as recommendations. Potential impacts to Chinese Camp brodiaea and/or potentially suitable habitat for this species may require informal or formal consultation with USFWS and/or CDFW as required under Section 7 of the Endangered Species Act due to anticipated federal and state permitting associated with the project. To avoid potential impacts to these species, the following measures are recommended:

- A qualified botanist should conduct a special-status plant survey within the appropriate identification (blooming) period prior to the initiation of any ground-disturbing activities that affect suitable habitat for these species or any activities that would disturb or alter suitable habitat in the Study Area. Two botanical surveys should be conducted to identify these species in the Study Area if present, one in May and a follow up survey in July. If no special-status plants are observed, then a letter report documenting the methods and results of the survey should be prepared and submitted to CCWD, CDFW and USFWS and no further measures are recommended.

- If special-status plants are observed within the Study Area, the location of the special-status plants should be marked with pin flags or other highly visible markers and may also be marked by GPS. The project proponent should determine if the special-status plant(s) onsite can be avoided by project design or utilize construction techniques to avoid impacts to the special-status plant species. All special-status plants to be avoided should have exclusion fencing or other highly visible material marking the avoidance area and the avoidance area should remain in place throughout the entire construction period.

- If special-status plants are found within the Study Area and cannot be avoided, the project proponent should consult with the CDFW and/or USFWS to determine appropriate measures to mitigate for the loss of special-status plant populations. These measures may include gathering seed from impacted populations for planting within nearby appropriate habitat, preserving or enhancing existing offsite populations of the plant species affected by the project, or restoring suitable habitat for special-status plant species habitat as directed by CDFW.

5.2 SPECIAL-STATUS WILDLIFE

5.2.1 California Tiger Salamander and California Red-Legged Frog

Based on the habitat assessment conducted for this report, it is our opinion that California red-legged frog is not expected to occur in the Study Area or be impacted by the proposed project. However, the Study Area is within the extant range of California tiger salamander and California red-legged frog and provides potentially suitable upland habitat for these species. It is likely that coordination with USFWS will be required in order to obtain concurrence on the potential for these species to be present in the Study Area and/or be impacted by the proposed project as well as to develop mitigation measures to avoid any potential take of the species. To avoid potential impacts to these species, the following measures are provided as recommendations, but potential impacts to these species and/or potentially suitable habitat for these species may require informal or formal consultation with USFWS as required under Section 7 of the Endangered Species Act due to potential federal and state permitting requirements associated with the project.

- A qualified biologist should conduct a pre-construction survey for California red-legged frog within 7 days and again within 24 hours prior to the start of any project activities that could affect suitable aquatic or upland habitat for California red-legged frog. The survey should include searching for all potential life stages of the frog potentially present at the time of the survey including egg masses, larvae (tadpoles), juveniles, sub adults and adults. If the survey shows that there is no evidence of this species in the Study Area, then a letter report should be prepared to document the survey and be provided to CCWD and USFWS and no additional measures would be warranted. If development does not commence within 24 hours of the survey, or halts for more than 7 days, then an additional survey is required 24 hours prior to starting or resuming work.

    - If California tiger salamander and/or California red-legged frog are observed during the survey, USFWS and CDFW will be notified within one business day and no work shall occur until CDFW and USFWS have been consulted to determine appropriate mitigation and avoidance measures.

- A qualified biologist should conduct an environmental awareness training to all project-related personnel prior to the initiation of work. The training should include identification of California tiger salamander and California red-legged frog, and any other sensitive species with the potential to occur and required practices before the start of construction, general measures that are being implemented to protect the species as they relate to the project, penalties for non-compliance, and boundaries of the permitted disturbance zones. Upon completion of the training, all construction personnel shall sign a form stating that they have attended the training and understand all the measures. Proof of this instruction should be kept on file by the CCWD.

- Wildlife exclusion fencing should be installed around the project area prior to construction. General silt fencing or other solid fencing is recommended. Fencing should be trenched into the soil at least 6-inches and the soil must be carefully compacted against both sides of the fence for its entire length to prevent animals, such as California red-legged frog or western pond turtle from entering the construction area. Plywood cover boards need to be laid down with one edge in contact with the exclusion fence approximately every 100 feet along the perimeter of the silt fence to provide refuge for amphibians seeking cover. Exclusion fencing should be inspected

daily for the duration of construction to ensure it remains intact and any holes, tears, or gaps should be repaired immediately. Fencing should be removed upon construction completion.

- A qualified biological monitor should be present daily during initial construction activities including but not limited to equipment mobilization, site clearing, vegetation removal, and grading/ground disturbance to verify that no California red-legged frog enter the project site during construction.

    - If California red-legged frog or other special-status species are found during construction, work will immediately stop, and all special-status species will be allowed to move out of harm's way on its own accord unless relocation is approved by USFWS and/or CDFW and appropriate handling/take permits are obtained.

    - The biological monitor shall monitor the special-status species to make sure it is not harmed and that it leaves the site on its own and does not return. Alternatively, the biological monitor shall relocate the species to a pre-approved location designated in a relocation plan, if approved/permitted by USFWS and/or CDFW.

    - Prior to the start of daily construction activities during initial ground disturbance, the biological monitor should inspect the exclusion fence to ensure that it is neither ripped nor has holes and that the base is still buried. The fenced area will also be inspected to ensure no wildlife is trapped. If California red-legged frog or western pond turtle or other special-status species are found inside or outside of the fence, work will stop in the immediate vicinity of the animal per the discretion of the biological monitor and the animal will be closely monitored until they move away from the construction area or can be relocated, if allowed.

    - If California tiger salamander, California red-legged frog or western pond turtle are observed during construction, CDFW, USFWS and CCWD should be notified within one business day and no work should occur until CCWD and USFWS have been consulted to determine appropriate mitigation and avoidance measures.

- Construction activities and clearing within the Study Area should be confined to the minimal area necessary to facilitate construction activities. To ensure that construction equipment and personnel do not affect sensitive habitat outside of the work area, orange barrier fencing should be erected to clearly define the habitat to be avoided. This will delineate the Environmentally Sensitive Area(s) (ESA) on the project. The integrity and effectiveness of ESA fencing and erosion control measures should be inspected on a daily basis. Corrective actions and repairs shall be carried out immediately for fence breaches and ineffective BMPs.

- During project activities, all trash that may attract predators should be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris should be removed from work areas.

- To prevent inadvertent entrapment of animals during construction, all excavated, steep walled holes or trenches more than one foot in depth should be covered at the close of each working day with plywood or other suitable material or provided with one or more escape ramps constructed of earth fill or wooden planks.

- To ensure that diseases are not conveyed between work sites by the USFWS-approved biologist or biological monitor, the fieldwork code of practice developed by the Declining Amphibian Population Task Force will be followed at all times.

- All vegetation scheduled for removal should be trimmed back by hand to allow the biological monitor to inspect the ground below for California tiger salamander and California red-legged frog. If no California tiger salamander or California red-legged frog are observed, the brush may be removed with mechanized equipment.

5.2.2 Western Spadefoot

If present in uplands areas in the Study Area at the time of construction, impacts to western spadefoot could include harm as a result of coming into contact with construction equipment or personnel, loss of habitat, displacement from current habitat, or loss of burrow refugia habitat. Impacts that could harm western spadefoot or result in loss of a nest would be considered potentially significant. To avoid potential impacts to individual western spadefoot, the following measures are recommended:

- If the implementation of work activities will occur during the wet season (October 15 – May 15), then a pre-construction survey should be conducted for western spadefoot by a qualified biologist within 7 days of the implementation of project activities. If a western spadefoot is found in the project site during preconstruction surveys, construction activities should not start until the western spadefoot has been relocated by a qualified biologist with appropriate approvals from CDFW to a suitable location outside of the construction zone. The qualified biologist should notify the CCWD and CDFW within 24 hours if western spadefoot is found and shall notify of any individuals that have been relocated. Any western spadefoot observed in the survey limits will be reported to the CNDDB.

- A qualified biological monitor(s) should be present during any initial ground disturbing work or dewatering or other work within the wetlands that could harm western spadefoot in order to relocate any western spadefoot to suitable habitat outside of the work area. Prior to such work occurring, CDFW will be notified of the intent to conduct western spadefoot monitoring and potential relocation. Any western spadefoot observed during biological monitoring activities will be reported to the CNDDB.

5.2.3 Western Pond Turtle

If present in uplands areas in the Study Area at the time of construction, impacts to western pond turtle could include harm as a result of coming into contact with construction equipment or personnel, loss of habitat, displacement from current habitat, or loss of a nest. Impacts that could harm western pond turtle or result in loss of a nest would be considered potentially significant. To avoid potential impacts to individual western pond turtle or nesting pond turtles, the following measures are recommended:

- A pre-construction survey should be conducted for western pond turtle by a qualified biologist within 7 days and again immediately prior to the commencement of construction. If nesting areas for pond turtles are identified within the survey limits, a buffer area of 300 feet should be established between the nesting site and aquatic habitat (e.g. pond or ditch) located near the nesting site. The buffer should be indicated by temporary fencing if construction has or will begin before the nesting period has ended (the period from egg laying to emergence of

hatchlings is normally April to November). If a non-nesting western pond turtle is found in the project site during preconstruction surveys, construction activities should not start until the turtle has been relocated by a qualified biologist with appropriate approvals from CDFW to a suitable location outside of the construction zone. The qualified biologist should notify the CCWD and CDFW within 24 hours if western pond turtle is found and shall notify of any individuals that have been relocated. Any western pond turtles observed in the survey limits will be reported to the CNDDB.

- A qualified biological monitor(s) should be present during any initial ground disturbing work or dewatering or other work within the wetlands that could harm turtles in order to relocate any western pond turtles to suitable habitat outside of the work area. Prior to such work occurring, CDFW will be notified of the intent to conduct western pond turtle monitoring and potential relocation. Any western pond turtles observed during biological monitoring activities will be reported to the CNDDB.

5.2.4 Nesting Migratory Birds and Raptors

Nesting migratory birds and raptors have the potential to forage and nest within the Study Area and other migratory birds and raptors protected under federal, State, and/or local laws and policies have potential to nest and forage within the Study Area. Although no active nests were observed during the field survey, the Study Area and adjacent properties contain suitable habitat to support a variety of nesting birds within trees, shrubs, grass, and on bare ground. If project activities take place during the nesting season (February 1 to August 31), nesting birds may be impacted. Construction activities and construction-related disturbance (e.g., noise, vibration, increased human activity) could adversely affect these species if they were to nest in the Study Area or in suitable habitat adjacent to Study Area through loss of reproductive success, forced fledging, or nest abandonment, which would be a potentially significant impact. If project activities take place outside of the nesting season, no mitigation measures for nesting birds are required. If project activities occur during the nesting season, the following measures are recommended to avoid or minimize impacts to nesting birds:

- To avoid impacts to nesting birds, all ground disturbing activity should be completed between September 1 and January 31, if feasible.

- A qualified biologist should conduct a pre-construction nesting bird survey no more than seven days prior to initiation of project activities.. The survey area should include suitable raptor nesting habitat within 500 feet of the project boundary (inaccessible areas outside of the Study Area can be surveyed from the site or from public roads using binoculars or spotting scopes). Areas that have been inactive for more than 14 days during the avian breeding season must be re-surveyed prior to resumption of project activities. If no active nests are identified, no further mitigation is required. If active nests are identified, the following measure should be implemented:

    - A species-specific buffer (typically 75 to 100 feet for passerines and 300 to 500 feet for raptors) should be established by a qualified biologist around active nests and no construction activities within the buffer should be allowed until a qualified biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest, or the nest has failed). Encroachment into the buffer may occur at the discretion of a qualified biologist. Any encroachment into the buffer should

be monitored by a qualified biologist to determine whether nesting birds are being impacted.

- A qualified biologist should conduct an environmental awareness training to all project-related personnel prior to the initiation of work. The training should follow the same guidelines as the special-status amphibians training described above.

5.2.5 Western Red Bat and Hoary Bat

If these species are roosting in the Study Area at the time of construction, construction activities and construction-related disturbance (e.g., noise, vibration, increased human activity) could adversely affect western red bat or hoary bay by direct harm, loss of roost tree(s), or by causing individuals to leave the roost under suboptimal conditions and exposing them to stress or increased chance of predation, which would be a potentially significant impact. To avoid potential impacts to these species, the following measures are recommended:

A qualified wildlife biologist should conduct surveys for special-status bats during the appropriate time of day to maximize detectability to determine if bat species are roosting near the work area no less than 7 days and no more than 14 days prior to beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (e.g., Anabat, etc.). The type of survey will depend on the condition of the potential roosting habitat. If no bat roosts are found, then no further study is required.

- If evidence of bat use is observed, then the number and species of bats using the roost will be determined. Bat detectors may be used to supplement survey efforts.

- If roosts are determined to be present and have the likelihood to be disturbed by construction, then a qualified biologist will determine if the bats should be excluded from the roosting site before work adjacent to the roost occurs. A mitigation program addressing compensation, exclusion methods, and roost removal procedures will be developed prior to implementation if exclusion is recommended. Exclusion methods may include use of one-way doors at roost entrances (bats may leave, but not reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young).

5.3 BIOLOGICAL COMMUNITIES

Table 1 summarizes impacts to biological communities that would occur as a result of the proposed project.

5.3.1 Sensitive Habitats

Sensitive habitats in the Study Area include seasonal wetland swale, canal, and blue oak woodland that could provide potential habitat for special-status species and are also discussed below.

Table 1.
Impacts to Biological Communities

Biological Community	Permanent Impacts	Temporary Impacts	Avoided Acreage	Total Acres
Canal	0.054	--	--	0.054
Ditch	0.031	--	--	0.031
Seasonal Wetland Swale	0.001	--	--	0.001
Blue Oak Woodland	0.590	--	--	0.590
Annual Grassland	0.425	--	--	0.425
Developed	1.659	--	--	1.659
Total Acres	***2.76***	**--**	**--**	***2.76***

***Acreages calculated at 3 significant figures and subsequently rounded.**

5.3.1.1 Aquatic Habitats

The seasonal wetland swale (0.001 acre), and canal (0.054 acre) within the Study Area are likely to be considered waters of the U.S. and State subject to USACE and RWQCB jurisdiction under Sections 404 and 401 of the CWA as well as subject to CDFW jurisdiction under Section 1600 of the Fish and Game Code. If any impacts to these features are expected, then a formal aquatic resources delineation should be submitted to the appropriate resource agencies to determine the extent of jurisdiction. In the event that any aquatic resources are determined to be jurisdictional, the project proponent will be required to apply for appropriate permits to fill aquatic resources and any mitigation measures contained in the permits will require implementation prior to filling any on-site features or habitats deemed subject to regulation.

The ditch (0.031 acre) is part of the Copper Cover Sewer Treatment Plant infrastructure to control wastewater from the facility. This ditch captures wastewater and delivers it to a pond out of the Study Area and is designed to capture polluted water runoff from the treatment plant before it reaches waterways downstream. This ditch is part of a waste treatment system, which remove or reduce pollution from discharging directly into a water of the U.S. or a water of the State. The ditch is not expected to be considered jurisdictional under Section 404 or 401 of the Clean Water Act, as waste treatment systems are not considered waters of the U.S or waters of the State and manipulation or disturbance of the ditch would not require a permit subject to agency verification.

If aquatic habitats are anticipated to be avoided during the implementation of project activities, then boundaries of these habitats should be clearly marked and avoided during construction. Highly visible material, such as orange construction fencing should be constructed at least 50 feet from the boundary of these habitats to establish an appropriate no-disturbance buffer. Erosion control measures should also be implemented around these habitats and all other measures outlined in the Project's Storm Water Pollution Prevention Plan (SWPPP) and other general construction permits should be followed.

5.3.1.2 Blue Oak Woodland

Approximately 0.590 acre of blue oak woodland habitat occurs in the Study Area. Protected trees under the Calaveras County Oak Woodlands (COS-4D) ordinance within the Study Area include oak woodland canopy. If oak woodland avoidance is not attainable, then mitigation for oak woodland in Calaveras County typically includes the retention of a qualified professional to recommend mitigation per Oak Woodlands (COS-4D) for impacts to oak woodlands. Mitigation may include planting of replacement

trees on or off-site, or preservation of oak woodland onsite. Any oak woodland preserved onsite and all mitigation planting areas must be protected in perpetuity through a conservation easement.

6.0 SUMMARY

HELIX conducted a biological resources assessment of the 2.76-acre Study Area for the Copper Cove Water System Improvements Project located in Copperopolis, Calaveras County, California. A total of 0.086 acre of aquatic resources has been delineated in the Study Area. A total of 0.055 acre of potential jurisdictional waters of the U.S. and state are present including canal (0.054 acre) and seasonal wetland swale (0.001 acre). A 0.031-acre ditch is a part of the wastewater treatment facility and is not likely to be considered a water of the U.S. or water of the State. The Study Area also includes suitable habitat for a variety of special-status plant and wildlife species as outlined below:

- Potential habitat for federally threatened and state endangered Chinese Camp brodiaea (*Brodiaea pallida*);
- Potential habitat for special-status plants including Jepson's onion (*Allium jepsonii*), Hoover's calycadenia (*Calycadenia hooveri*), forked hare-leaf (*Lagophylla dichotoma*);
- Although not expected to occur, the Study Area provides potentially suitable habitat for the federally and state listed as threatened California tiger salamander (*Ambystoma californiense*) and the federally listed as threatened California red-legged frog (*Rana draytonii*);
- Habitat for California Department of Fish and Wildlife (CDFW) Species of Special Concern western pond turtle (*Actinemys marmorata*), western spadefoot (*Spea hammondii*) and western red bat (*Lasiurus blossevillii*);
- Potential habitat for CDFW designated special mammals including hoary bat (*Lasiurus cinereus*);
- Blue oak woodland protected by the Calaveras County General Plan.

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Appendix C

Aquatic Resources Delineation

Copper Cove Water System Improvements Project Phases 1 and 2

Aquatic Resources Delineation Report

Prepared for:

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TABLE OF CONTENTS

Section **Page**

TABLE OF CONTENTS (cont.)

LIST OF TABLES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

--	Plants without a listed indicator status
APN	Assessor's Parcel Number
CFR	Code of Federal Regulations
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
FAC	Facultative Plants
FACU	Facultative Upland Plants
FACW	Facultative wetland plants
HELIX	HELIX Environmental Planning, Inc.
HUC	Hydrologic Unit Code
msl	mean sea level
NRCS	Natural Resource Conservation Service
NWPR	Navigable Waters Protection Rule
OHWM	ordinary high water mark
PCC	Prior Converted Cropland
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
UPL	Upland Plants
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water Quality Certification

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EXECUTIVE SUMMARY

This report presents the results of a delineation of aquatic resources conducted for the 2.76-acre Copper Cove Water System Improvements Project – Phases 1 and 2 (Study Area) located in Calaveras County in Copperopolis, California. The potential presence of aquatic resources was assessed following the technical guidelines provided in the *Corps of Engineers Wetlands Delineation Manual* (USACE Manual) and the U.S. Army Corps of Engineers (USACE) *Arid West* Regional Supplement (Supplement). The Supplement presents wetland indicators, delineation guidance, and other information that is specific to the *Arid West* Region. The jurisdictional boundaries for other waters of the United States (Waters of the U.S.) were determined in accordance with, *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*.

A total of 0.086 acre of aquatic resources have been delineated in the Study Area. Wetlands in the Study Area consist of a canal (0.054 acre), ditch (0.031 acre), and seasonal wetland swale (0.001 acre). The ditch is a part of the wastewater treatment facility and is not likely to be considered a water of the U.S. or water of the State. A total of 0.055 acre of wetlands and drainages within the Study Area are believed to be waters of the U.S. and waters of the State.

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1.0 INTRODUCTION

On behalf of Peterson Brustad Inc. (Applicant), HELIX Environmental Planning, Inc. (HELIX) has prepared this aquatic resources delineation report in support of the Copper Cove Water System Improvements Project (Project) to delineate potential jurisdictional wetlands and other waters of the U.S. and State on a 2.76 acre Study Area located in unincorporated Calaveras County, California. The proposed project would replace existing water tanks and install new water tanks and supporting facilities. The purpose of this delineation was to identify any aquatic resources in the Study Area that would potentially qualify as waters of the U.S. and/or waters of the State. Waters of the U.S. are subject to regulatory jurisdiction by the U.S. Army Corps of Engineers (USACE) as well as the applicable Regional Water Quality Control Board (RWQCB). Waters of the State are subject solely to the jurisdiction of the applicable RWQCB. Impacts to aquatic resources, if present, would potentially require obtaining permits and authorizations from one or both agencies. The results presented in this document are preliminary and subject to verification by the USACE.

The Calaveras County Water District (CCWD) is proposing to improve the existing Copper Cove Water System to reliably maintain potable water services to the expanding community. The total Copper Cove Water System improvements would be constructed within a total of four phases. However, this ARD covers the first two phases of the project: Phase 1 and Phase 2. Phase 1 would include the replacement of the existing Redwood Tank on the B-Tank Site and the construction of a new Water Treatment Plant (WTP) Clearwell on the Copper Cove WTP Site. Phase 2 would include the rehabilitation of the existing Steel Tank on the B-Tank Site, and the rehabilitation of the existing WTP Clearwell on the Copper Cove WTP Site. Implementation of Phase 1 and Phase 2 would result in a net reduction in water treatment/storage capacity from approximately 1-million gallons to 750,000-gallons.

1.1 PROJECT LOCATION

The 2.76-acre Study Area is located on Pleasant Valley Road in the community of Copperopolis in Calaveras County, California (**Appendix A, Figure 1**). The Project consists of two separate locations one is located on Kiva Place (Clearwell) and is a 1.98-acre site and the other site is located on Signal Hill Trail (B Tank Site) and consists of a 0.78 acre site. These two locations are collectively referred to as the Study Area and are located in the community of Copper Cove Village in Calaveras County, California (Study Area). The Study Area is situated in Sections 25 and 26 of Township 1 North and Range 12 East on the U.S. Geological Survey (USGS) "*Melones Dam, California"* 7.5-minute quadrangle map. The approximate center of the Study Area of each Study Area component is at latitude 37.912220° and longitude -120. 613331°, NAD 83 (B Tank Site) and latitude 37.908838° and longitude -120.615755°, NAD 83 (Clearwell Site). The elevation of the Study Area is between 785 feet to 985 feet in elevation.

1.2 DRIVING DIRECTIONS

From downtown Sacramento, travel south on State Route (SR) 99 for approximately 45.6 miles and take the SR-4 east exit (Exit 252B) and turn left/east onto SR-4. Travel 34.2 miles east towards Copperopolis and turn right/south onto Town Square Road and in 450 feet turn right onto Little John Road. Follow Little John Road for 5.5 miles and turn right onto Kiva Place. The Clearwell Site is accessible from Kiva Place through a gate. To access the B Tank Site from the Clearwell Site Road turn left from Kiva Place onto Little John Road and travel north 0.4 mile to Moccasin Street/Court. Continue on Moccasin Street/Court for 0.1 mile and turn right onto Bayview Drive. Continue on Bayview Drive for 0.1 mile and

turn right onto Signal Hill Trail. Travel 0.2 mile to Signal Hill Trail to the B Tank Site. Parking is available along Signal Hill Trail and access is available through a locked gate.

1.3 AGENT CONTACT INFORMATION

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1.4 REGULATORY SETTING

1.4.1 Waters of the U.S.

Unless considered an exempt activity under Section 404(f) of the Federal Clean Water Act, any person, firm, or agency planning to alter or work in "waters of the U.S.," including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from USACE (33 USC 403). Activities exempted under Section 404(f) are not exempted within navigable waters under Section 10.

"Waters of the U.S." are defined as: "All waters that are currently used, or 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; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; the territorial sea; or wetlands adjacent to these waters (33 Code of Federal Regulations [CFR] Part 328)."

Within non-tidal waters that meet the definition cited above and, in the absence of adjacent wetlands, the indicator used by the USACE to determine the lateral extent of its jurisdiction is the ordinary high water mark (OHWM) – the line on the shore established by fluctuations of water and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, and/or the presence of litter and debris.

Wetlands are defined under the CFR Part 328.3 as those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

The USACE has determined that not all features which meet the wetland definition are, in fact, considered to be waters of the U.S. Normally, features not considered as waters of the U.S. include (a) non-tidal drainage and irrigation ditches excavated on dry land; (b) artificially irrigated areas which would revert to upland if the irrigation ceased; (c) artificial lakes or ponds created by excavating and/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, (d) artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons, and (e) 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 (see 33 CFR 328.3(a)). Other features may be excluded based on Supreme Court decisions (e.g., SWANCC and Rapanos) or by regulation.

Federal and state regulations pertaining to waters of the U.S., including wetlands, are discussed below.

The Clean Water Act (33 United States Code (USC) 1251-1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S. obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Board (RWQCB) administers the certification program in California and may require State Water Quality Certification before other permits are issued.

Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the U.S.

Section 404 establishes a permit program administered by USACE that regulates the discharge of dredged or fill material into waters of the U.S. (including wetlands). Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40 CFR Part 230), allowing the discharge of dredged or fill material for non-water dependent uses into special aquatic sites only if there were no practicable alternative that would have less adverse impacts.

1.4.2 Waters of the State

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by Section 401 of the Clean Water Act. Although the Clean Water Act is a federal law, Section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under Section 401, the State and Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues the WQC for discharges requiring USACE permits for fill and dredge discharges within Waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On May 28, 2020, the SWRCB implemented the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California (SWRCB 2019). The Procedures consist of four major elements:

I. A wetland definition;

II. A framework for determining if a feature that meets the wetland definition is a water of the state;
III. Wetland delineation procedures; and
IV. Procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities.

Under the Procedures and the State Water Code (Water Code §13050(e)), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "waters of the U.S."

More specifically, a wetland is defined as: "*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 wetland definition encompasses the full range of wetland types commonly recognized in California, including some features not protected under federal law, and reflects current scientific understanding of the formation and functioning of wetlands (SWRCB 2019).

Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

2.0 ENVIRONMENTAL SETTING

2.1 LOCATION DESCRIPTION

The Study Area and surrounding area has changed significantly over the last 50 years based on a review of historic aerial imagery (NETR 2022). The majority of the land surrounding the Study Area consists of rural residences, a water treatment facility and annual grasslands with wetlands. A canal that passes through the Study Area at the Clearwell Study Area was constructed between 1959 and 1984 and is tributary to drainages downstream. Other canals are present in the area that are similar and appear to convey water to stock ponds from other drainages. An aerial image of the Study Area is included in Appendix B, Figure 3.

2.2 EXISTING CONDITIONS

Terrain in the Study Area is comprised of slight hillslopes at each site, with the B Tank Site Study Area located at a higher elevation than Clearwell Study Area. The B Tank Site Study Area is dominated by a developed area with two water tanks and support structures. The Study Area at Clearwell consists of the developed areas associated with existing structures such as water tanks and support structures and paved or graveled areas in addition to areas dominated by blue oak woodland, annual grassland, a seasonal wetland swale and an excavated canal that is no longer used or maintained. Elevations on the site range from approximately 780 feet to 985feet above mean sea level (msl).

2.3 FIELD CONDITIONS

Fieldwork for the aquatic resources delineation was conducted on November 10, 2022. The weather during the site visit was generally dry, sunny, and cool, with temperatures ranging between 40 to 55 degrees Fahrenheit (weather.com). The initial site visit was conducted following a precipitation event and freezing conditions.

2.4 INTERSTATE OR FOREIGN COMMERCE CONNECTION

The Study Area is located primarily in the Rock Creek-French Camp Slough watershed (USGS Hydrologic Unit Code (HUC) 18040051). A portion of the B Tank Well Site of the Study Area is within the Upper Stanislaus River watershed (HUC 18040010). All drainages adjacent to the Study Area are ultimately tributary to the San Joaquin River, which is a traditional navigable waters of the U.S. However, aquatic resources in the Study Area do not cross state boundaries nor are they used for foreign commerce.

3.0 METHODS

3.1 DATA GATHERING

The following sources were used in preparation of this jurisdictional delineation:

- Aerial photography taken April 3, 2020 downloaded from Esri®;
- U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory online wetland mapper (USFWS 2022);
- Natural Resources Conservation Service (NRCS) web soil survey (NRCS 2022b);
- Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987);
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: Arid West* Region (Version 2.0) (USACE 2008);
- Field Indicators of Hydric Soils in the United States (Version 8.2) (NRCS 2018); and
- USACE 2020 National Wetland Plant List for the Arid West Region (USACE 2020).

3.2 BOUNDARIES OF THE DELINEATION

The delineation area includes the estimated 2.76-acre Study Area (Appendix B). Refer to the Delineation Map in **Appendix B** for the limits of the delineation.

3.3 DETERMINATION PROCEDURES

3.3.1 Delineation Methods

Criteria for determining the presence of wetlands subject to Corps jurisdiction are presented in the Corps *Wetlands Delineation Manual* (Environmental Laboratory 1987) and in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008).

Key criteria for determining the presence of wetlands subject to Corps jurisdiction (Environmental Laboratory 1987) are:

a) The presence of inundated or saturated soil conditions resulting from permanent or periodic inundation by ground water or surface water.

b) A prevalence of vegetation typically adapted for life in saturated soil conditions (hydrophytic vegetation).

To assess whether wetlands are present, the Corps requires that data be recorded on three environmental parameters: hydrology, soil, and vegetation. Positive wetland indicators for all three parameters are generally required for the Corps to assert jurisdiction.

Fieldwork for the jurisdictional delineation was conducted by HELIX Senior Biologist, Patrick Martin. The fieldwork was conducted November 10, 2022, in accordance with the *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE 2008). Vegetation, soils, and hydrologic characteristics were visually assessed by conducting meandering transects through the entire Study Area to obtain 100 percent visual coverage.

The Munsell Color (Gretag Macbeth 2000) chart was used to determine moist soil colors and thus, hydric soils. Data were taken at eight representative sample points throughout the Study Area to classify the site's soils, vegetation, and hydrologic characteristics. Field data forms are provided in Appendix E.

Plant species identifiable at the time of the survey were recorded (refer to Appendix C for the list of plants observed with the wetland indicator status for each species). Plant species were identified and categorized as shown in **Table 1**.

Table 1
Wetland Indicator Status Rating

Indicator Status (abbreviation)	Characterization
Obligate (OBL)	Occur almost always under natural conditionsin wetlands
Facultative Wetland (FACW)	Usually occur in wetlands butoccasionally found in non-wetlands
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands
Facultative Upland (FACU)	Usually occur in non-wetlands butoccasionally found in wetlands
Upland (UPL)	Occur in wetlands in another region, but almost always occurs under natural conditions in non-wetlands in theregion specified

Geographic coordinates of aquatic resources boundaries and locations of sample points were recorded in the field with an electronic tablet wirelessly connected to a Geode® (Global Navigation Satellite

System (GNSS)) receiver unit with sub-meter accuracy. Aerial imagery was also used to assist with the development of the boundaries of some of the aquatic resources. These data were exported into ArcMap 10.7.1® and used to produce the Aquatic Resources Delineation Map included as **Appendix B**. Representative photographs are included as **Appendix D**.

3.3.2 Plant/Habitat Nomenclature

Habitat nomenclature is generally derived from *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Plant taxonomy nomenclature is taken from *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012).

4.0 RESULTS

4.1 VEGETATION COMMUNITIES/HABITAT TYPES

Three upland communities occur within the Study Area: blue oak woodland (0.590 acre), annual grassland (0.425 acre), and developed (1.659 acres). Upland vegetation communities/habitat types are described in detail below. Aquatic resources are discussed below in Section 5.0.

4.1.1 Blue Oak Woodland

Blue oak woodland habitat dominates the northern boundary of the Study Area and is the dominant natural vegetation community in the surrounding vicinity. Vegetation in this habitat consists primarily of blue oak (*Quercus douglasii*) (--) and interior live oak (*Quercus wislizeni*) (--) dominating parts of the shrub layer underlain with an annual herbaceous species in the understory. Annual vegetation in the understory of this community resembles that of the annual grassland habitat described below. Oak woodland is located between valley foothill riparian and an ephemeral drainage to the east and is bordered by a school to the west of the Study Area.

4.1.2 Annual Grassland

Annual grassland habitats are open grasslands composed primarily of annual plant species. Many of these species also occur as understory plants in oak woodland and other habitats. Structure in annual grassland depends largely on weather patterns and livestock grazing; dramatic differences in physiognomy, both between seasons and between years, are characteristic of this habitat. Dominant species observed within annual grassland habitat in the Study Area include medusahead (*Elymus caput-medusae*) (--), wild oats (*Avena fatua*) (--), narrow tarplant (*Holocarpha virgata*) (--). Purple needle grass (*Stipa pulchra*) (--) is also present in the Study Area.

4.1.3 Developed

Developed habitat consists of paved roads, graveled areas, structures such as water tanks. Developed habitat consists primarily of hard paved surfaces which generally do not provide habitat for plants and wildlife. Leaking water tanks at both the B Tank site and the Clearwell site both support wetland aeras where the tanks are leaking and support wetland vegetation, but do not meet wetland criteria. Native and nonnative trees, shrubs and herbs are present in developed habitat that could provide habitat for wildlife, however developed areas are routinely treated chemically and mechanically for vegetation.

4.2 CLIMATE

The climate in Calaveras County is Mediterranean, characterized by wet, cool winters and dry, hot summers. The nearest weather station to the Study Area with complete climate data is located at New Melones Dam, California approximately 10 miles northeast of the Study Area and is situated at a higher elevation in the Sierra Nevada foothills to the Study Area. Average daily maximum and minimum temperatures are 66° and 98° Fahrenheit (F) in July (NRCS 2022a). Average daily maximum and minimum temperatures are 58° and 38° F in January (NRCS 2022a). The mean annual precipitation is 27.73 inches, with less than one percent occurring as snow. The weather station received approximately 2.04 inches of rainfall in the 2022 season leading up to the first field delineation visit on November 10, 2022 (NRCS 2022a), which was near average for this time of year or 92 percent of a normal year, in addition to some late season rain for the 2021/2022 rain year in August and September. In the 2021/2022 rain year, the weather station received 17.36 inches, which was 63 percent of normal (NRCS 2022a).

4.3 SOILS

The NRCS has mapped four soil units within the Study Area: Bonanza-Loafercreek complex, 3 to 15 percent slopes, Copperopolis-Whiterock complex, 3 to 15 percent slopes, rocky, Urban land-Copperopolis complex, 0 to 15 percent slopes, and Urban land-Loafercreek-Dunstone complex, 3 to 15 percent slopes (Appendix A: Figure 4). The general characteristics and properties associated with these soil types are described below (NRCS 2022b).

Bonanza-Loafercreek complex, 3 to 15 percent slopes is a well-drained soil that consists of loam, and gravelly clay loam over bedrock derived from residuum weathered from metavolcanic rock (volcanic soil). Bonanza-Loafercreek complex, 3 to 15 percent slopes is well drained and is found on hills and backslopes. The restrictive layer consists of lithic and paralithic bedrock at 20 to 49 inches below the surface. This soil series is not prime farmland. This soil unit is not considered hydric (NRCS 2022).

Copperopolis-Whiterock complex, 3 to 15 percent slopes, rocky, is a well-drained soil that consists of channery loam, and extremely gravelly loam over bedrock derived from residuum weathered derived from slate. Copperopolis-Whiterock complex, 3 to 15 percent slopes, rocky is well drained and is found on low hills and summits. The restrictive layer consists of lithic bedrock at 10 to 20 inches below the surface. This soil series is not prime farmland. This soil unit is not considered hydric (NRCS 2022).

Urban land-Copperopolis complex, 0 to 15 percent slopes, is a well-drained soil that consists of loam, clay loam, very gravelly clay loam over bedrock that is derived from colluvium over residuum derived from metavolcanic rock (volcanic soil). Urban land-Copperopolis complex, 0 to 15 percent slopes is well drained and is found on hills and summits. The restrictive layer consists of lithic and paralithic bedrock at 20 to 49 inches below the surface. This soil series is not prime farmland. This soil unit is not considered hydric (NRCS 2022).

Urban land-Loafercreek-Dunstone complex, 3 to 15 percent slopes, is a well-drained soil that consists of loam, clay loam, very gravelly clay loam over bedrock that is derived from colluvium over residuum derived from metavolcanic rock (volcanic soil). Urban land-Loafercreek-Dunstone complex, 3 to 15 percent slopes is well drained and is found on hills and backslopes. The restrictive layer consists of lithic and paralithic bedrock at 20 to 49 inches below the surface. Minor soil components of this soil unit are considered hydric in depressions (NRCS 2022).

4.4 HYDROLOGY

Terrain in the Study Area is comprised of slight hillslopes at each site, with the Study Area at the B Tank Site located at a higher elevation than Clearwell Study Area. The B Tank Site Study Area is dominated by a developed area with two water tanks and support structures. The Study Area at Clearwell consists of the developed areas associated with existing structures such as water tanks and support structures and paved or graveled areas in addition to areas dominated by blue oak woodland, annual grassland, seasonal wetland swale and an excavated canal that is no longer used or maintained but still conveys water. Elevations on the site range from approximately 780 feet to 985 feet in elevation.

The Study Area is primarily in the Rock Creek-French Camp Slough watershed (USGS Hydrologic Unit Code (HUC) 18040051). A portion of the B Tank Well Site of the Study Area is within the Upper Stanislaus River watershed (HUC 18040010). All drainages adjacent to the Study Area are tributary to the San Joaquin River, which is a traditional navigable waters of the U.S.

4.5 USFWS NATIONAL WETLANDS INVENTORY

The USFWS National Wetlands Inventory (NWI) online database was queried to identify whether any wetlands or other waters of the U.S. mapped by the USFWS are present in the Study Area. The query identified one riverine aquatic resource within the Study Area (Appendix A, Figure 5). The NWI also shows a palustrine emergent wetland, excavated freshwater pond and freshwater emergent wetland in the area surrounding the Study Area, which includes some ponds of the treatment facility.

5.0 AQUATIC RESOURCES

As depicted in **Table 2** (located at this end of this section), a total of 0.086 acre of aquatic resources have been delineated in the Study Area. Wetland features mapped within the Study Area include seasonal wetland swale (0.001 acre), canal (0.054 acre and 309 linear feet) and ditch (0.031 acre) (**Appendix B**).

Table 2
Aquatic Resources in the Study Area

Feature	Lat./Long.	Cowardin Classification[1]	Area (ac.)	Area (sq. ft.)	Length (ft.)	Avg. Width (ft.)
Wetlands[1]						
WS-1	38.694146/ -120.820938	PEM1C	0.001	43.56	--	--
D-1	37.908746/-120.616024.	PEM1Cx	0.031	1,350.36	--	--
		Wetlands Total	**0.032**	**1,393.92**	--	--
Other Waters						
C-1	38.694070/ -120.821080	R4SBCx	0.054	2,352.24	309	12
		Other Waters Total	**0.054**	**2,352.24**	**309**	**--**
		Total Aquatic Resources	**0.086**	**3,746.16**	**309**	--

[1] Cowardin Codes for Wetlands: System (P = Palustrine; R = Riverine) Subsystem (4 = Intermittent)– Class (EM = Emergent; SB = Streambed) – Subclass (1 = Persistent) — Water Regime (C = Seasonally Flooded) –Special Modifiers (x = excavated)

[1] R = Valley Foothill Riparian; SP = Seep; ED = Ephemeral Drainage

Seasonal Wetland Swale

A total of 0.001 acre of seasonal wetland swale occurs on the Study Area in the northwestern corner of the Clearwell Site and appears to carry surface runoff from surrounding hillslopes of the Study Area where it intersects a ditch off site of the Study Area where it enters a settling pond that is tributary to Littlejohns Creek. Swales on site meet the 3-paramenter wetland criteria and are typically located in steeper locations and can be associated with vernal pools, which can either drain into the swale or are located in deeper sections of the swale. The swale boundaries are characterized by slight shifts in micro-topography over low areas on the landscape between hillslopes as well as shifts in vegetation. A defined ordinary high-water mark is not present, and these features are more similar to seasonal wetlands. Hydric soil in the swale is fulfilled by a depleted matrix with prominent redoximorphic features located along pore linings of living root channels. Wetland hydrology was met by oxidized rhizospheres, drainage pattern and saturation visible on aerial imagery dated to April 6, 2022. The swale was dry during the site visit in November 2022 following early precipitation for the season. The swale supports a predominance of hydrophytic herbaceous plant species such as Italian ryegrass (*Festuca perennis*) (FAC), and Mediterranean barley (*Hordeum marinum ssp. gussoneanum*) (FAC) in addition to upland medusahead.

Canal

A total of 0.054 acre and 309-linear feet of canal is present in the Study Area. Canal in the Study Area is an excavated feature, that likely originated between 1959 and 1984 (NETR 2022). This feature was constructed in part of the seasonal wetland swale WS-1 described above and was likely constructed in other potential waters of the U.S. that was likely used to both drain surrounding hillslopes and carry water between drainages to possibly a pond used for cattle. The canal has steeply incised banks with spoils from excavation of the canal cast downslope into WS-1. The canal is not a part of the wastewater treatment facility and is not managed by the facility. The canal exits the Study Area to the east and reenters the Study Area where there is a confluence with another wetland swale (out of the Study Area) before it enters a culvert in the Study Area. It is unknown where the culvert carries water to, but it likely is diverted to the south where it enters a complex of drainages and wetlands that are tributary to Littlejohns Creek, as evidenced from aerial imagery from 1998 when more of the canal was still above ground (Google Earth 2022). This canal supports hydric soil, wetland hydrology and hydrophytic vegetation and functions similar to a natural drainage feature with a bed and a bank that channels water from surrounding hillslopes and likely only flows during periods of precipitation. Hydric soil in the swale is fulfilled by a depleted matrix with prominent redoximorphic features located along pore linings of living root channels. Wetland hydrology was met by surface water, oxidized rhizospheres, drainage pattern and saturation visible on aerial imagery dated to April 6, 2022. Upstream of the Study Area this canal is dominated almost entirely by common cattail (*Typha latifolia*) (OBL), an obligate hydrophyte. In the Study Area this feature is dominated by tall flatsedge (*Cyperus eragrostis*) (FACW), and Italian ryegrass.

Ditch

A total of 0.031 acre of ditch was delineated within the Study Area, consisting of one feature that is mostly lined with asphalt with soil over the ashphalt, muck and hydrophytic vegetation overlying the ditch. The ditch drains a water tank at the Clearwell site, which continues out of the Study Area and to a series of ponds that drain to Littlejohns Creek to the south. The ditch supports fresh emergent wetland vegetation which consists of slender rush (*Juncus tenius*) (FACW) and common cattail. No other

drainages or wetlands drain into this constructed drainage and is created entirely as a function of the wastewater treatment facility. The ditch is mostly underlain by asphalt but soil has been deposited into the ditch and a loamy gleyed matrix is present that fulfills hydric soil criteria (over the asphalt). Wetland hydrology is provided by the surface water emanating from the water tank. Outside of the Study Area this ditch continues, and it intercepts WS-1 before it drains into a facility pond, which overflows into natural drainages to the south that tributary to Littlejohns Creek.

5.1 POTENTIAL WATERS OF THE U.S.

A total of 0.086 acre of aquatic resources were delineated in the Study Area consisting of 0.055 acre of potentially jurisdictional waters of the U.S. including seasonal wetland swale (0.001 acre), and drainages consisting of one canal (0.054 acre and 309 linear feet). The canal was constructed between 1959 and 1984 as part of the WS-1 described above and was likely constructed in other potential waters of the U.S. that drain the surrounding hillslopes upstream of the Study Area. The canal intercepts one drainage before reentering the Study Area and which are ultimately tributary to Littlejohns Creek south of the Study Area. All aquatic resources are potentially jurisdictional waters of the U.S. All potential wetlands and other waters of the U.S. in the Study Area are ultimately tributary to the San Joaquin River, a traditional navigable water.

The ditch (0.031 acre) is part of the Copper Cover Sewer Treatment Plant infrastructure to control wastewater from the facility. This ditch captures wastewater and delivers it to a pond out of the Study Area and is designed to capture polluted water runoff from the treatment plant before it reaches waterways downstream. This ditch is part of a waste treatment system, which remove or reduce pollution from discharging directly into a water of the U.S. The ditch is not expected to be considered jurisdictional under Section 404 or 401 of the Clean Water Act, as waste treatment systems are not considered waters of the U.S.

5.2 POTENTIAL WATERS OF THE STATE

Waters of the State include natural and artificial wetlands and streams and all waters of the U.S. Within the Study Area, a total of 0.086 acre of aquatic resources have been delineated in the Study Area. Of this 0.086 acre of aquatic resources, 0.055 acre of potentially jurisdictional waters of the State including canal (0.054 acre), and seasonal wetland swale (0.001 acre) are present within the Study Area. The canal was constructed between 1959 and 1984 as part of the WS-1 described above and was likely constructed in other potential waters of the U.S. that drain the surrounding hillslopes upstream of the Study Area which are ultimately tributary to Littlejohns Creek south of the Study Area. The canal intercepts one drainage before reentering the Study Area and where it continues to drain to the south.

The ditch (0.031 acre) likely does not qualify as a water of the State. According to the Procedures, artificial wetlands that were constructed and are currently used and maintained for one or more of the following purposes are not considered waters of the State: industrial or municipal wastewater treatment or disposal, settling of sediment, 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 (SWRCB 2019). The ditch was constructed, is asphalt lined and is being maintained to treat stormwater and polluted runoff from the treatment facility.

6.0 SUMMARY

HELIX conducted an aquatic resources delineation of the estimated 2.76-acre Study Area for the Copper Cove Water System Improvements Project located in Copperopolis, Calaveras County, California. A total of 0.086 acre of aquatic resources have been delineated in the Study Area. Potential jurisdictional waters of the U.S. and state including canal (0.054 acre), and seasonal wetland swale (0.001 acre). The ditch is a part of the wastewater treatment facility and is not likely to be considered a water of the U.S. or water of the State. A total of 0.055 acre of wetlands and drainages are believed to be waters of the U.S. and waters of the State. The results presented in this document are preliminary and subject to verification by the resource agencies.

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Appendix D

Cultural Resources Assessment

Copper Cove Water System Improvements Project Phases 1 and 2

Cultural Resources Assessment

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TABLE OF CONTENTS

Section **Page**

LIST OF APPENDICES

LIST OF TABLES

No. Title **Page**

EXECUTIVE SUMMARY

This report summarizes the findings of a Cultural Resources Assessment completed by HELIX Environmental Planning, Inc. (HELIX) for the 2.76-acre Copper Cove Water System Improvements Project (project) located in the unincorporated community of Copperopolis, Calaveras County, California. The project would take place in two locations within the community's limits: The Copper Cove Water Treatment Plant (WTP) Site and the B-Tank Site. The proposed Copper Cove WTP Site is approximately 2.0-acres and is located at 5130 Kiva Place, on Assessor's Parcel Number (APN) 065032001. The proposed B-Tank Site is approximately 0.8-acre and is located at 3748 Signal Hill Trail on APN 065015002. The project site is located in Section 25 and 26t, Township 1 North, and Range 12 East of the US Geological Survey (USGS) 7.5-minute Melones Dam quadrangle map. The project proponent is the Calaveras County Water District (CCWD).

As part of this CRA, HELIX Archaeologists requested a records search at the Central California Information Center (CCIC) on October 27, 2022, which revealed that four studies have previously been conducted within a 0.25-mile radius of the project's Area of Potential Effect (APE), and that none of these studies included the APE as part of their survey areas. No cultural resources have been previously recorded within the proposed project's APE, though three resources have been previously recorded within a 0.25-mile radius of the APE.

On November 1, 2022, HELIX requested that the Native American Heritage Commission (NAHC) conduct a search of their SLF for the presence of Native American sacred sites or human remains in the vicinity of the proposed project area. On December 9, 2022 the NAHC reported that the SLF search results were negative. However, the NAHC's response also suggested that the absence of specific site information in the SLF does not definitely indicate the absence of cultural resources in the vicinity of the project. As a result, the NAHC recommended that HELIX reach out to points of contact for 12 Native American tribes who may have knowledge of cultural resources within the project vicinity. HELIX sent letters to these 12 Native American Tribal points of contact on December 13, 2022. As of the writing of this report, no responses have been received from the recommended points of contact.

HELIX Senior Archaeologist Ben Siegel M.A., RPA surveyed the entirety of the APE on November 10, 2022. The lone cultural resource encountered during the survey proved to be a redwood water tank which is known to be over 45 years old in age. The tank was given the field name "CCWD Redwood Tank" and additional efforts were made to record features from this water tank on to the appropriate California State Parks DPR forms. The completed DPR forms for this structure, replete with a series of detailed photographs of this cultural resource can be found in Appendix E of this report. HELIX assessed the eligibility of the CCWD Redwood Tank against the criteria for inclusion in both the California Register of Historic Places (CRHR), and the National Register of Historic Places (NRHP) and recommends the resource as ineligible for inclusion in either register. An explanation of this assessment is provided in Section 6.1.1 of this report.

In light of the CCWD Redwood Tank's ineligibility for either the CRHR or NRHP, HELIX recommends that there are no historical resources (under CEQA) and no historical properties (under Section 106 of the National Historical Preservation Act) that would require consideration during project implementation. However, HELIX does recommend that the Inadvertent Discovery Plan outlined in Sections 6.2.2 and 6.2.3 of this report are adopted by project proponents to prepare for the unlikely event that previously

unrecorded resources are encountered to excavations and ground disturbances associated with the proposed project.

1.0 PROJECT BACKGROUND

1.1 INTRODUCTION

This report summarizes the findings of a Cultural Resources Assessment (CRA) completed by HELIX Environmental Planning, Inc. (HELIX) for the 2.76-acre Copper Cove Water System Improvements Project (project), located in the unincorporated community of Copperopolis, Calaveras County, California.

Calaveras County Water District (CCWD) proposes to improve and expand the existing Copper Cove Water System to reliably maintain potable water services to the expanding community. Phase 1 of the improvement project would include the replacement of the existing redwood tank located on the B-Tank Site and the construction of a new water treatment plant (WTP) on the Copper Cove WTP Site. Phase 2 of the improvement project would include the rehabilitation of the existing steel tank on the B-Tank Site and the rehabilitation of the existing WTP on the Copper Cove WTP Site. Implementation of Phase 1 and Phase 2 would result in a net reduction in water treatment/storage capacity from approximately 1 million gallons to 750,000 gallons. The Section 106 review process normally involves a four-step procedure described in detail in the regulations implementing Section 106 of the National Historical Preservation Act (NHPA) (36 CFR Part 800). The following is a summary of the basic requirements of the process:

- Identify and evaluate historic properties in consultation with the State Historic Preservation Office (SHPO) and interested parties.
- Assess the effects of the undertaking on properties that are eligible for inclusion in the National Register of Historic Places (NRHP).
- Consult with the SHPO, other agencies, and interested parties to develop an agreement that addresses the treatment of historic properties and notify the Advisory Council on Historic Preservation.
- Proceed with the project according to the conditions of the agreement.

HELIX has conducted this CRA to identify historic properties that could potentially be affected by the proposed undertaking. Under federal regulations, where there is a federal undertaking on non-federal land, a consultant may gather the information necessary for the federal agency to meet its responsibilities under Section 106, although the agency official remains legally responsible for all required findings and determinations [36 CFR Part 800.2(a)(3).

Cultural resources investigations conducted in support of this project are also subject to provisions of the California Environmental Quality Act (CEQA), as defined by Section 15064.5 of the CEQA Guidelines, with Calaveras County (County) acting as the Lead Agency. This report documents HELIX's efforts to assess the potential of ground disturbances associated with this project to affect historical resources (i.e., prehistoric or historic-era cultural resources that meet the criteria of significance under CEQA). The County must determine the potential for the proposed project to result in significant impacts to historical resources and must consider mitigation measures and alternatives to avoid those impacts as part of their decision-making process.

1.2 PROJECT DESCRIPTION

The project proposes to improve and expand the existing Copper Cove Water System to reliably maintain potable water services to the expanding community. The proposed project is located within the Copper Cove Subdivision, in the unincorporated community of Copperopolis, Calaveras County. The project would take place in two locations within the community's limits: the Copper Cove WTP Site and the B-Tank Site. The proposed Copper Cove WTP Site is approximately 2.0-acres and is located at 5130 Kiva Place, on Assessor's Parcel Number (APN) 065032001. The proposed B-Tank Site is approximately 0.8-acre and is located at 3748 Signal Hill Trail on APN 065015002. The project site is located in Sections 25 and 26, Township 1 North, and Range 12 East of the U.S. Geological Survey (USGS) 7.5-minute Melones Dam quadrangle map (Figure 1 and Figure 2; Figures are provided in Appendix A). The project proponent is the Calaveras County Water District (CCWD).

The proposed improvements would be completed in two (2) phases: Phase 1 and Phase 2. Implementation of Phase 1 and Phase 2 would result in a net reduction in water treatment/storage capacity from approximately 1-million gallons to 750,000-gallons.

Phase 1 would include the replacement of the existing CCWD Redwood Tank on the B-Tank Site and the construction of a new WTP Clearwell on the Copper Cove WTP Site. The existing CCWD Redwood Tank would be replaced with a 360,000-gallon welded steel water tank that would be approximately 22.25 feet above grade. The proposed water tank would be located within the same footprint of the existing CCWD Redwood Tank as it would require no relocation or extra construction work aside from the already-planned CCWD Redwood Tank demolition. The new WTP Clearwell would include the construction of a new 300,000-gallon tank that would be approximately 13 feet above grade. Construction of the new Clearwell would be located north of the existing Clearwell, in an area with open space and no existing facilities. However, the proposed WTP Clearwell would be at a higher ground elevation than the existing Clearwell, thereby requiring a contractor to cut into the hill to lower the ground elevation by an average of 13 feet to match the existing Clearwell elevation. Construction would require 0.5-acre grading, tree removal, clearing, and grubbing.

Phase 2 would include the rehabilitation of the existing CCWD Steel Tank on the B-Tank Site, the rehabilitation of the existing WTP Clearwell on the Copper Cove WTP Site, and the rehabilitation of the B Zone Booster Pump Station. The existing CCWD Steel Tank would be modified and rehabilitated instead of constructing a new tank. The side shells of the CCWD Steel Tank would be cut to reduce the tank capacity to 360,000 gallons. The rehabilitated CCWD Steel Tank would be approximately 20 feet above grade. The existing 300,000-gallon WTP Clearwell would be modified and rehabilitated and would require, at a minimum, the replacement of its roof plate, rafters, and center column due to degradation and delamination. The rehabilitated 300,000-gallon WTP Clearwell would be approximately 16 feet above grade. Within the B Zone Booster Pump Station and control building, the mechanical, electrical, and instrumentation components are aged and need to be replaced to improve staff safety and system reliability. The building and backup power supply are also in poor condition and would need to be replaced.

1.3 AREA OF POTENTIAL EFFECTS

The Area of Potential Effects (APE) for the proposed project is defined as the geographic area where project activities may directly or indirectly cause changes in the character or use of historic properties of

prehistoric or historic age, if any such properties exist. The APE for the undertaking is intended to address both current and future development, and therefore includes the 2.76-acres of the proposed project area (Figure 3 and Figure 4). The APE is surrounded by rural residences, a water treatment facility, and open grassland. The terrain within the APE consists of slight hillslopes at each site, with the B-Tank Site located at a higher elevation than the Copper Cove WTP Site.

1.4 PERSONNEL

Benjamin D. Siegel, RPA., conducted the pedestrian survey of the project's APE and authored this report. Mr. Siegel has over 12 years of private sector cultural resource management and technical report writing experience for regulatory compliance. He has directed cultural resource management projects across the United States, has authored or co-authored cultural resource and interdisciplinary impact assessments associated with development projects that have required compliance with Section 106 of the National Historic Preservation Act, the CEQA, NEPA, and FERC regulations, and has helped guide numerous projects through SHPO and THPO review processes in several states and jurisdictions. Mr. Siegel meets the U.S. Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology. A resume for Mr. Siegel is provided in Appendix B.

2.0 REGULATORY FRAMEWORK

2.1 FEDERAL REGULATIONS

2.1.1 National Environmental Policy Act

The NEPA and its supporting federal regulations establish certain requirements that must be adhered to for any action "financed, assisted, conducted or approved by a federal agency." In making a decision on the issuance of federal grant monies or a permit to conduct work on federal lands for components of the proposed action, the federally designated lead agency pursuant to NEPA is required to "determine whether the proposed action may significantly affect the quality of the human environment." NEPA requires the systematic evaluation of potential environmental impacts of a proposed action and alternative actions, the identification of adverse effects, and consultation with any federal agency that has jurisdiction by law or special expertise with respect to any environmental impact involved. With regard to cultural resources, NEPA states, "It is the continuing responsibility of the Federal Government to use all practicable means . . . to preserve important historic, cultural, and natural aspects of our national heritage." (42 USC 4331). The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP, or may cause loss or destruction of significant scientific, cultural, or historical resources, must be considered [40 Code of Federal Regulations (CFR) 1508.27(b)8].

2.1.2 National Historic Preservation Act of 1966 (16 USC 470)

The NHPA of 1966 (16 USC 470) declared a national policy of historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the NRHP, established the position of State Historic Preservation Officer and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out

the purposes of the NHPA, assisted Native American tribes in preserving their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP).

2.1.3 Section 106

Section 106 of the NHPA states that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in or eligible for inclusion in the NRHP, and that the ACHP must be afforded an opportunity to comment on such undertakings through a process outlined in 36 CFR Part 800. The Section 106 process involves the identification of significant historic and archaeological resources ("historic properties") within an APE, the determination of whether the undertaking will cause an adverse effect on historic properties, and the resolution of those adverse effects through execution of a Memorandum of Agreement. In addition to the ACHP, interested members of the public—including individuals, organizations, and agencies (such as the California Office of Historic Preservation)—are provided with opportunities to participate in the process.

2.1.4 National Register of Historic Places

The NRHP was established by the NHPA as "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR 60.2).

The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history.
- Criterion B: It is associated with the lives of persons who are significant in our past.
- Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

Cemeteries, birthplaces, graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature are not considered eligible for the NRHP unless they satisfy certain conditions. In general, a resource must be at least 50 years old to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

2.1.5 Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the inadvertent discovery and/or intentional removal of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

2.1.6 American Indian Religious Freedom Act

The American Indian Religious Freedom Act (AIRFA) of 1978 was enacted to protect and preserve the traditional religious rights and cultural practices of Native Americans. These rights include, but are not limited to, access of sacred sites, freedom to worship through ceremonial and traditional rights and use, and possession of objects considered sacred. The AIRFA requires that federal agencies evaluate their actions and policies to determine if changes are needed to ensure that Native American religious rights and practices are not disrupted by agency practices. Such evaluations are made in consultation with native traditional religious leaders.

2.2 STATE REGULATIONS

2.2.1 California Environmental Quality Act

Pursuant to CEQA, a historical resource is a resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources, or identified as significant in a local survey conducted in accordance with state guidelines, are also considered historic resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in, or determined eligible for listing in, the CRHR, or is not included in a local register or survey, shall not preclude a Lead Agency, as defined by CEQA, from determining that the resource may be a historic resource as defined in California Public Resources Code (PRC) Section 5024.1.7.

CEQA applies to archaeological resources when (1) the historic or prehistoric archaeological resource satisfies the definition of a historical resource, or (2) the historic or prehistoric archaeological resource satisfies the definition of a “unique archaeological resource.” A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria (PRC § 21083.2(g)):

1. The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

2. The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

2.2.2 California Register of Historical Resources

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC § 5024.1(a)). Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks (CHL) numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR.

A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria (PRC § 5024.1(c)):

> Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
>
> Criterion 2: It is associated with the lives of persons important in our past.
>
> Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
>
> Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to be recognizable as historic resources and to convey the reasons for their significance. It is possible that a resource whose integrity does not satisfy NRHP criteria may still be eligible for listing in the CRHR. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Resources that have achieved significance within the past 50 years also may be eligible for inclusion in the CRHR, provided that enough time has lapsed to obtain a scholarly perspective on the events or individuals associated with the resource.

2.2.3 Native American Heritage Commission

Section 5097.91 of the Public Resources Code (PRC) established the NAHC, whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Under Section 5097.9 of the PRC, a State policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines located on public property. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

2.2.4 Government Code Sections 6254(r) and 6254.10

These sections of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the NAHC, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency."

2.2.5 Health and Safety Code Sections 7050 and 7052

Health and Safety Code, Section 7050.5 declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

2.2.6 Penal Code Section 622.5

Section 622.5 of the Penal Code provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands, but specifically excludes the landowner.

3.0 CULTURAL BACKGROUND

The following is a brief overview of the prehistory, ethnography, and historic background of the project area intended to provide a historical context for any cultural resources that might be found in the vicinity of the APE. This section is not intended to be a comprehensive review of the current resources available; rather, it serves as a general overview of human occupations and uses of the general project vicinity.

3.1 PREHISTORIC BACKGROUND

Over the decades, a number of schema have been developed to organize the prehistoric past of the west-central Sierra Nevada (e.g., Hull 2007; Moratto 1999; Moratto et al. 1988). Most have been predicated on cross-dating projectile points with types established in the Great Basin and, to a lesser degree, California's Central Valley. A confusing and redundant array of local point typologies, deficient correlations of hydration data, and insufficient use of radiocarbon dating led Rosenthal (2008, 2011) to use the more recent East Sonora Bypass (ESB) Project as a springboard for establishing a new chronology applicable to west slope Sierra Nevada watersheds from the Tuolumne River in the south to the Calaveras River in the north, and for developing a hydration rate model for Bodie Hills obsidian applicable to elevations below the current snowline (i.e., below 4000 feet amsl). The ESB Project resulted in the synthesis of data from more than 100 newly and previously excavated sites, incorporating thousands of radiocarbon, obsidian hydration, projectile point, and shell and glass bead data to delineate five temporal periods that account for the span of human prehistory in the area. This

chronology, a revised, simplified, and clearly defined projectile point typology, and radiocarbon-linked hydration brackets, form the basis of the brief cultural-historical sketch applicable to the Project vicinity.

3.1.1 Early Archaic (11,500-7000 BP)

Similar to much of California, the earliest Holocene archaeological record is the least recognized and most poorly understood temporal segment of human history on the west-central Sierra Nevadan slopes. Well-defined stratigraphic contexts are elusive and often deeply buried. Despite numerous archaeological investigations in the region, the Skyrocket Site (CA-CAL-629/630) (La Jeunesse and Pryor 1996) remains as one of the better examples of an Early Archaic period site with a diverse and abundant artifact assemblage. Another important Early Archaic site is the Clarks Flat Site (CA-CAL-342) (Peak and Crew 1990), located about 13.5 miles southeast of the APE within the Stanislaus River canyon. Early components at both localities were characterized, in part, by a variety of projectile points, most notably in Wide-stem and Large Stemmed Dart forms (see Rosenthal et al. 2011), including a comparatively large quantity of Bodie Hills obsidian and bifaces and points commonly manufactured from local toolstone. The Skyrocket Site also contained hundreds of handstones and millingstones, various cobble-core tools, large greenstone bifaces, and plant macrofossil assemblages dominated by gray pine (*Pinus sabiniana*) and acorn (*Quercus* sp.) nutshell. Early site occupation may have been based around repeated, seasonally structured visits during the fall and winter, a model that contrasts with traditional notions of high mobility and wide-ranging settlement in that time period. Early Archaic deposits have also appeared in the nearby Sonora locality, partially in the form of flake tools and percussion debitage, in a buried late Pleistocene soil near a creek at CA-TUO-4557.

3.1.2 Middle Archaic (7000-3000 BP)

In contrast with earlier occupations, deposits dating to the Middle Archaic are relatively common throughout the region, though they too tend to be buried beneath more recent alluvial deposits. Assemblages are generally varied and diverse, containing most classes of durable artifacts that include high numbers of handstones and millingstones (and rare mortars and pestles); cobble-based chopping, pounding, and milling tools; more flake tools and fewer core tools, drills, battered stone, and other stone and bone tools than in later periods; as well as dart points morphologically typed as large-stemmed, concave base, side-notched, contracting-stem, small-stemmed, and corner-notched darts (Rosenthal 2011). In contrast to lower elevations where they appear significantly later in the archaeological record, soapstone artifacts are an Archaic hallmark in the east Sonora area where they made their first appearance possibly more than five millennia ago. As with other time periods, Bodie Hills obsidian dominates the flaked stone assemblage, while more locally available cryptocrystalline silicates, metavolcanic greenstones, and igneous materials were also widely used to the extent that they were locally available.

It is argued that the model of Middle Archaic site types and distribution demonstrates a focus on wintertime consolidation in substantial residential sites below snowlines and summertime dispersals to higher elevations where groups could take advantage of summer-ripening seeds, berries, and fruits. While this may be the case, it can also be argued that the evidence supporting this may be a reflection of what is preserved and observable in the archaeological record (i.e., what has survived over time).

Deer and, to a lesser extent, rabbits and other small mammals comprise the faunal Middle Archaic assemblages recovered from sites dating to this time period. Distributions of imported obsidian across central California indicate strong ties between west-central and east-slope Sierra Nevadan groups, as

access to eastern obsidian sources, particularly Bodie Hills, became well established during this time. By the Middle Archaic, a strong social territory was in place that included the Tuolumne River watershed to the south and the Calaveras and Mokelumne river watersheds in the north, and from the lower foothills to 6000 feet in elevation. Archaeological sites in Calaveras County are distinctive in that they demonstrate that the people in these areas were not dependent upon Bodie Hills obsidian but instead relied on local lithic materials and broader sources of obsidian to the west.

3.1.3 Late Archaic (3000-1100 BP)

With some exceptions, Late Archaic technologies, lifeways, and settlement patterns differed little from those of the Middle Archaic. However, assemblages dating to this time period are much more numerous on the west slope. They can be found in a variety of settings, are frequently buried beneath alluvial deposits, and often take the form of temporary camps or processing localities or, more frequently, sites that were used seasonally for long periods of time (Wohlgemuth and Whitaker 2009). Marker artifacts, including projectile points, are largely similar to the Middle Archaic, as are dietary faunal and plant assemblages; however, obsidian (primarily Bodie Hills) found its greatest use during the Late Archaic. There are shifts in the relative frequencies of various flaked, ground, and battered tools and plant processing was more strongly emphasized, particularly the rise of the use of acorns as demonstrated in the paleobotanical assemblages during this time.

3.1.4 Recent Prehistoric I and II (1100-200 BP)

This interval marks strong technological, settlement, and subsistence divergences from 6000 years of Archaic Period stability and continuity. It is divided into the Recent Prehistoric I (1100-610 BP) and II (610-200 BP) periods, partially based on projectile point shifts occurring around those times. The bow and arrow appear in the western Sierra Nevada archaeological record around 1100 BP, bringing with them small corner-notched and contracting-stem points. Discrete Recent Prehistoric I assemblages are rarely identified, though, possibly due to well-documented environmental stress (the Medieval Climatic Anomaly) during this time, which may have reduced regional carrying capacities. In contrast, later Recent Prehistoric II deposits are among the more common in the Central Sierra Nevada region, and are mostly associated with bedrock milling stations and Desert Side-notched and Cottonwood arrow points. By this time, the bedrock mortar was ubiquitous, both within residential sites and at unique task sites. The use of the acorn came to prevail over gray pine nuts as a major dietary component, and significant increases in thin-shelled pine nuts (probably sugar pine [*Pinus lambertiana*]) are also apparent; several hypotheses circulate to explain this. Rosenthal (2008) suggests the greater capacity for storage of the acorn in a less cumbersome way than storing pine nuts in their cones. Greater emphasis also seems to have been placed on the harvesting and storage of summer ripening plant foods (manzanita [*Arctostaphylos* spp.] and small seeds) for consumption in the winter. However, the archaeobotanical assemblage of CA-CAL-116, analyzed by Wohlgemuth (in Siskin and Martin 2013), revealed the most robust acorn assemblage that has been recorded in nearly two decades of research in the western Sierra Nevada.

Such subsistence changes, in concert with shifts toward both small, numerous, midden-dominated, continuously occupied residential hamlets and special-use localities, appear to indicate shifts toward resource intensification and logistically organized settlements. In the western slope region, the Recent Prehistoric II period is also notable for residential sites containing an expanded artifact assemblage that included bone awls, drills, and other tool-making tools, evidence for basketry in specialized sites, and incised tablets, bone whistles, shell and glass beads, and other specialized or non-utilitarian implements.

Again, Calaveras County sites demonstrate that the Native populations relied on local toolstone and that while Bodie Hills was perhaps the dominant source of obsidian, Recent Prehistoric sites such as CA-CAL-116 included obsidian, in albeit limited quantities, from Casa Diablo, Napa Valley, and Sutro Springs, in addition to Bodie Hills (Siskin and Martin 2013).

3.2 ETHNOGRAPHIC BACKGROUND

The first written information about the Sierra Miwok was presented in journals from the early 1800s during Spanish and Mexican incursions into Miwok territory, followed by accounts from gold rush miners and newspapermen of the 1850s, and a few tales written by early settlers. Early researchers, principally anthropologists, gathered data on late 19th and early 20th century Miwok material culture, language, social lifeways, customs, and more, documented in monographs and field notes. The most commonly referenced description of Sierra Miwok lifeways is Samuel Barrett and Edward Gifford's 1933 study entitled *Miwok Material Culture: Indian Life of the Yosemite Region*, a compilation of 20th century observations about Sierra and Plains Miwok speakers. There are numerous other references and compilations, summarized in Davis-King (2007, et al. 2010, 2014a, 2014b) and Davis-King in Culleton, and others (2000).

There was contact with Sierra Miwok prior to the 1840s. Important forays into their territory also occurred after Indians working for Charles Weber found gold in the Stanislaus River in May or June of 1848. Accounts and letters from Charles Weber indicate that he had contracted with José Jesus, a Yokuts leader, to pan for gold in the Stanislaus River (Hammond and Morgan 1966). Word rapidly spread that the precious metal was easily found in creek beds, and soon thousands of men migrated to the county in search of gold.

The story of Calaveras County during the first few years of settlement is not much different from other Mother Lode communities. Hordes of miners came; water systems were developed; settlements grew up around the more successful and environmentally rich mining areas; transportation networks between these areas developed, first as trails and then as wagon roads; farms, orchards, and truck gardens sprang up; saloons and fandango halls, along with boarding houses provided entertainment, bed, bath, and sustenance to the miners; the bare bones of western civilization in the form of government, law, newspapers, and social lodges developed; and violence became commonplace, not only among the newly arrived argonauts, but also with the Indians who had lived in the area so long.

Conflict raged daily in the mining camps because of the increasing dominance of the Anglo miners over the Miwok and "foreigners." Much of the county's early archival data revel in tales of hegemony. The fact that Miwok subsistence locales had been totally ravaged, and generally that a whole lifestyle had been uprooted went unacknowledged. The Indians continued to be marginalized in society, even as the miners left and others came to establish homes, ranches, and towns. When lucky, a Miwok family or small group might attach themselves to some farmer or family, and have some semblance of peace and tranquility in their daily life. In other cases, the people were pushed into small settlements on marginal lands that could not support family farm plots or community agriculture. It was into this environment that the first ethnographers came, to find sick and destitute Indians, willing to tell their stories and sell their precious baskets in exchange for food, medicine, or money. This is developed and described more in the ethnographic descriptions offered below.

The Project area falls in the area traditionally associated with Northern Sierra Mi-Wuk speakers. The drainages of the Mokelumne and Calaveras rivers formed the core area where the language was

formerly spoken (Callaghan 1997). Sierra Miwok is a complex and old language, perhaps in place for as much as 3000 years BP (Freeland 1951, Levy 1978), and linguistic indications are that the people were somewhat isolated from their neighbors to the west during this time. It is important to understand that Miwok consists of five diverse languages, broken into two dominant branches, Western Miwok and Eastern Miwok. This is explained and diagramed well in Golla's (2011) masterwork, *California Indian Languages*. The Project vicinity falls in the Eastern Miwok branch, Sierra Miwok language, Northern Sierra dialect (or language). The heritage of language in the Jesus Maria Creek drainage provides great measure of support for the Calaveras Band of Mi-Wuk Indian's claim to traditional areas, and their long-standing ability to identify places of significance to their group.

Although river watersheds tend to characterize ethnolinguistic group locations through time according to linguists, early ethnographers found that linguistic group division was not so easily defined by drainage. Thus C. Hart Merriam (1929) found that Northern Miwok tribes, bands, and villages were found from the Middle Fork Cosumnes River south to Sheep Ranch and Mountain House [sic Mountain Ranch] in Calaveras County, while Tozzer (1900:7) found that the people of Mountain Ranch, Angels Camp, Murphys, Sheep Ranch, Big Trees "talk the same, and toward the south the same." By this Tozzer meant that from Mountain Ranch to Tuolumne County, the people spoke the same language, which would be Central Sierra Me-Wuk, another dialect of Sierra Miwok. When Stephen Powers (1976:346) traveled through California, he was taken by the similarity among the Miwok speakers, noting:

> An Indian may start from the upper end of Yosemite and travel with the sun 150 miles...without encountering a new tongue... Another may journey from the Cosumnes southward to the Fresno, crossing three rivers... and still hear the familiar numerals with scarcely the change of a syllable....

This observation supports the point that Miwok speakers themselves make that they did not differentiate among one another. Kroeber (1976:444), based on Gifford's observations, wrote:

> Among themselves the Miwok are content to refer to one another by village, or employ an endless succession of "northerners" and similar directional names that never crystallize into specific designations. The same people that are northerners to their neighbors on one side are southerners to those on the other, and so on ad infinitum, even beyond the boundaries of the stock.

Merriam (1967:357) recorded that Eph (or Eaph), from the West Point village, was considered the head of "all the Indians from Cosumnes River south to San Andreas and El Dorado in Calaveras County." In September 1905, Eaph told Merriam that his tribe went to the north bank of the South Fork Cosumnes River south to El Dorado and San Andreas, but did not go as far as Sheep Ranch, and on the west the territory went as far as Buena Vista (in Amador County), and easterly as much as ten miles beyond West Point. The Northern Miwok hunted large and small game and birds, gathered numerous varieties of roots, berries, nuts, herbs, and medicines, lived in relatively large year-round villages often centered around a *nena* (ancestral home place and patrilineal lineage), and actively foraged and hunted away from the camps. Travel was along both established trails and idiosyncratic paths, while connection with neighboring villages was important for safety, communication, social bonding, ceremonial activities and more.

3.3 HISTORIC BACKGROUND

Early Spanish explorers and the Franciscan and Jesuit missionaries who followed them were the first Europeans to reach northern California. The interior of the Sacramento Valley, away from the easily defended and more accessible chain of coastal missions and pueblos, was left largely untouched by the Spanish and "Californios" (Hoover et al. 1990). Settlement of the Sacramento area did not begin until the late 1830s and early 1840s, when entrepreneurs such as John Sutter and Jared Sheldon obtained land grants from the Mexican government, typically in exchange for an agreement to protect Mexican interest in these remote regions. In 1839, John Sutter built the earliest Euro-American settlement within Sacramento County. Named Sutter's Fort, it was well known outpost that brought with it an increase in Euro-American trappers, hunters, and settlers to the Sacramento area. As a result of the Mexican War (1847 to 1848), California became part of the territory of the United States. In 1848, gold was discovered at Sutter's Mill in Coloma which resulted in a torrent of gold seekers flooding into the Sacramento region. As the population soared and the gold decreased, many of the settlers who decided to stay turned to alternative vocations, particularly agriculture. Many found that the local land was relatively cheap and provided good crops. Raising grain, livestock, and produce to sell to the thousands of miners heading to the gold fields proved a profitable venture. These combined events hastened the settlement of the area and the development of Sacramento as an economic and transportation center. The designation of Sacramento as the state capital, in 1854, also resulted in the area's increase in socio-political importance.

3.4 LOCAL HISTORY

Miners flooding into the Sierra foothills during the gold rush represent the first non-indigenous settlement of the Project vicinity. Located on El Dorado Creek, the "El Dorado camp" was among the first mining camps established in Calaveras County. In August 1851, it was noted as located in Township 7, when the County Townships were fixed (*Calaveras Chronicle,* 18 October 1851). The name of the camp was changed from El Dorado to Mountain Ranch when a post office was established in 1858, as there was already an established town of El Dorado in Placer County. Within a few short years, the camp had become a trading center for quartz and drift miners in the area. By 1858-59, six properties were assessed in El Dorado locally, but in tents or habitations too simple to be assessed. By 1871, the camp was noted as a decayed mining town, but with promising quartz ledges nearby. By 1876 one quartz mill had been erected, and in 1899 four stamp mills and one Tuster mill were operating (Gudde 1975:228).

Whiskey Slide camp was another early Euro-American settlement in the region. The first mention of the camp was in 1853, when it was reported as "Venetian Slide," "the name given to a new camp just springing into existence near Jesus Maria. The extent of the mining ground is small though extremely rich; some claims paying $1 to the pan" (*San Joaquin Republican,* July 26, 1853). In June 1854, the camp was noted in the *Alta*, as a place where miners regularly washed two dollars to the pan (Daily *Alta*, June 8, 1854). By 1857, it was the seat of the Whiskey Slide Canal Company (Old Italian Ditch) (Gudde 1975). In 1865 the Whiskey Slide Quartz Mill and Whiskey Slide Ditch were assessed. By 1880, there were no longer any assessments for property at Whiskey Slide Camp.

Copperopolis was founded by W. K. Reed and Thomas McCarty in 1860 after they discovered vast copper deposits in the area. In the same year, Hiram Hughes also discovered copper and several extensive copper mines were established in what would come to be known as the Coppern Canon Mining District. These copper discoveries came on the heels of the end of the California gold rush, and consequently the local mines became the main focus of mining efforts in Calaveras County in the 1860s.

William Reed and Thomas McCarty soon founded the Union Copper Mine (and later the Keystone and Empire Mines), while other mines in the area included the Napoleon Mine and the Calaveras Claim. The town adopted the name "Copperopolis" in 1861. In 1862, Reed sold his interests in the mines and built a toll road, named "Reeds Turnpike" which spanned from Copperopolis to Telegraph City. The road also connected with a route to Stockton. This road remained a toll road through 1865.

The mines in the area were heavily used during the Civil War during which time they were the most significant copper producing mines in the US. This sparked the rapid development and industrialization of the area as copper was needed for munitions and shell casings during the war. So great was the boom caused by the war that by 1865, the number of businesses in the Copperopolis region had increased to 90, from 28 just 4 years prior. Copper mined in the area was sent to Stockton and then to San Francisco, where it was shipped to smelters on the East Coast via shipping lanes around Cape Horn.

Copperopolis was a very pro-Union town during the War, a fact which is reflected in the street names within the town including Union (now Main Street), Lincoln, Grant, and Sherman. Several establishments in the region also adopted supportive names including the Union Hotel, Union Mine, and the Union Bridge. In 1867 however, the town of Copperopolis was largely destroyed by a catastrophic fire and was never rebuilt. This was in part due to a steep drop off in demand for copper at the end of the Civil War. Investors from Boston purchased the mines in the 1880s, and some production did continue through the early 20th century. The town also saw upticks in business, productivity, and population growth during boom times caused by the first and second world wars. During World War II the Keystone Mine even briefly reopened until it closed for the last time in 1945. When the mines finally did close, the U.S. Bureau of mines reported that those in Copperopolis had produced 72,598,883 lbs of copper, worth over $12 million, which adjusted for inflation amounts to roughly $160 million worth of copper.

The community of Copperopolis also contains four buildings that are listed on the National Register of Historic Places including: the Copperopolis Armory, the Copperopolis Congregational Church, the Honigsberger Store, and Reeds Store and also features several sites that have had historical markers and or placards installed to commemorate their significance to the community including the Calaveras Telephone Company Building, The Old Corner Saloon, the Copperopolis Historical Plaza, and the Copperopolis Cemetery. The cemetery also features a marker for Thomas McCarty, one of the original founders of the town.

In more recent times the town has been redesigned to welcome visitors and tourists. The town square has been refinished with timeless architecture and covered walkways and now features specialty boutique shops, restaurants, and residential lofts. The community also continues to grow with a population of 3,671 recorded for the 2010 census up from the 2,363 listed in the 2000 census.

The Tulloch Reservoir is located approximately four miles southeast of Copperopolis. The Reservoir had two developments on its shores in the 1970s, Copper Cove and The Shores. The Copper Cove development was built by the I.C. Deal Development Corporation of Hayward, CA and Dallas, TX, on 4,800 acres of a total 5,000 acres previously owned by Clifford Mitchell around the north end of the Tulloch Reservoir. Mitchell had owned and operated the Black Creek Lodge on the reservoir for many years. The overall development consisted of 2,200 single family parcels for homes and cabins ranging from one-half to nine acres in size and a 200+ space mobile home park, with miles of waterfront on Tulloch Reservoir. I.C. Deal Development was renamed Great Lakes Development Corporation, and by the end of 1970 it had merged with and become a subsidiary of Centex Corporation.

In May 1969, the Calaveras County Board of Supervisors approved the first Copper Cove subdivision (Units 1 and 2) consisting of 870 acres with 660 developable lots ranging from one-half to five acres in size in the Black Creek area of Tulloch Reservoir. The first subdivision proposed included 14 miles of roads, a water system, a new homeowners' lodge, residential mobile-home park, commercial area and a community area with boat docks with a value of $21 million. The lodge was to be remodeled, expanded, and renamed as the Copper Cove Lodge. Potable water would be provided by the Calaveras County Water District (CCWD) and the water system serving the development would meet county standards. The water source was initially Tulloch Reservoir, with up to 2,000 acre-feet to be sold annually to CCWD by the South San Joaquin and Oakdale Irrigation Districts. The water source would eventually be changed to the Bureau of Reclamation's New Melones Reservoir once the new dam was completed. The CCWD was to install a pump and water treatment facilities. The Copper Cove development was to be the first in the county to be on a sewage disposal system for the waterfront lots, with the rest of the lots on septic tanks. The developer anticipated completion of Units 1 and 2 within two years, with roads already under construction by May 1969, the homeowner's lodge to be built first (completed in October 1969), and home lots to go on the market by June of that year.

Units 3 through 7 totaling over 2,200 acres with about 1600 lots were approved in July 1969. Quarter- to full-page ads were taken out by the developer in August promoting Copper Cove in the *Oakland Tribune, Modesto Bee* and *San Francisco Examiner* newspapers, and again in March 1970 in other bay area newspapers. Ads would continue in bay area papers in the following years during development of Copper Cove. Unit 8 was approved in January 1970 with 429 lots on 1,040 acres. In September 1971, a 45-acre mixed use expansion of Copper Cove (Unit 8A) was approved for another mobilehome park, 10 rental duplexes, four-acre commercial site, recreation area, and sites for a school and fire station, all to be on county water. The development of Copper Cove was apparently complete by May 1974.

By March 1970, a contract was awarded for construction of Unit 7. The development's roads were constructed by the George Reed Construction Company, and the water and sewer systems were constructed by W.M. Lyles Company. A March 1971 article on the construction progress for the water and sewer system noted that Unit 7's 704 lots would be the first to benefit from the system. The water and sewer systems were taken over by CCWD in February 1973. The sewer system serves only Unit 7 of Copper Cove, while the water system serves Units 1, 2 and 7. Water was pumped from Tulloch Reservoir initially (later New Melones Reservoir) to a tank and booster station, then treated before being pumped to the 300,000-gallon Redwood Water Tank that serves as storage for the Unit 7 homes. A different pumping station sends water to a different 400,000-gallon water tank to provide storage for Units 1 and 2.

4.0 RECORDS SEARCHES

On October 27, 2022, a records search addressing the APE and a 0.25-mile radius beyond the APE boundaries was conducted by the Central California Information Center (CCIC) at California State University, Stanislaus. The purpose of the record search was to (1) identify prehistoric and historic resources previously documented in the APE and within 0.25-mile of APE boundaries; (2) determine which portions of the APE may have been previously studied, when those studies took place, and how the studies were conducted; and, (3) ascertain the potential for archaeological resources, historical resources, and human remains to be found in the APE. This search also included a review of the appropriate USGS topographic maps on which cultural resources are plotted, archaeological site records, building/structure/object records, and data from previous surveys and research reports. The California

Points of Historical Interest, the California Historical Landmarks, the NRHP, the CRHR, and the California State Historic Resources Inventory listings were also reviewed to ascertain the presence of designated, evaluated, and/or historic-era resources within the APE. Historical maps and historical aerial photographs of the area were also examined (NETROnline 2022).

4.1 RECORDS SEARCH RESULTS

4.1.1 Previous Studies

The cultural resources records search conducted at the CCIC revealed that no parts of the APE have previously been archaeologically surveyed, and identified four studies that have previously been conducted within a 0.25-mile radius of the APE (Table 1). These four studies are briefly described in the table below.

Table 1
PREVIOUS STUDIES CONDUCTED WITHIN 0.25 MILE OF THE APE

Report	Year	Author(s)	Title	Includes APE?	Affiliation
04206	2001	PAR Environmental Services	Cultural Resource Inventory of the Proposed Red Mountain Development, Calaveras County, California, Final Report	No	PAR Environmental Services
06678	2008	Rosenthal, J., J. Meyer, J. Costello, and J. Marvin	Cultural Resource Survey and Evaluation for the Tuscany Hills Project, Lake Tulloch, Calaveras County	No	Far Western Anthropological Group, Inc. / Foothill Resources
07476	2008	Costello, J., P. Mikkelsen, J. Rosenthal, and S. Waechter	Draft: Historic Properties Treatment Plan for the Tuscany Hills Project, Lake Tulloch, Calaveras County	No	Foothill Resources Ltd. And Far Western Anthropological Research
09179	2019	Patrick, I.	Letter Report: Lift Station 12 & 13, Force Main Bypass and Lift Station 6, 8, 15, & 18, Renovations (District CIP #151076/ #15080) [Copper Cover Lift Stations]	No	Patrick GIS Group, Inc. for Augustine Planning Associates

4.1.2 Previously Recorded Resources

The records search revealed that no cultural resources have been previously recorded within the APE, and that three cultural resources have been previously recorded within 0.25-mile of the APE. These resources are described briefly in Table 2.

Table 2
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN 0.25 MILE OF THE APE

Primary	Trinomial	Year	Recorder	Description	Within APE?
P-05-002348	CA-CAL-001856	2001	Dougherty, J., J. Barton, T. Bakic, and K. McIvers	Prehistoric- Bedrock milling feature, fire cracked rock, and small cultural midden	No
P-05-003358	CA-CAL-002047H	2006	Marvin, Judith	Historic- Upper Road to O'Byrnes Ferry, a historic road	No
P-05-003370	CA-CAL-002057	2007	Far Western	Prehistoric- Rock Shelter with lithic scatter and hearths/pits	No

4.1.3 Historic Maps and Aerial Photographs

Historic maps examined for this CRA included an analysis of *Copperopolis* USGS 7.5-minute quadrangle maps from 1916, 1942, and 1954, a *Melones Dam* USGS 7.5-minute quadrangle map from 1962, and a General Land Office (GLO) Map from 1870, all of which depicted the Project Area. The historic USGS quadrangle maps and the GLO map from 1870 revealed no signs of development within the APE through 1962. The historic aerial photograph series examined for this investigation included photographs from 1959 and 1984 which covered the Project Area. The 1959 aerial photograph suggests that the APE and its vicinity was devoid of any development in 1959 and instead covered in sparse shrubs and brush. Within the 1984 photograph however, the water retention ponds associated with the Copper Cover Water system installation appear constructed and the water tanks associated with the system on Signal Hill Trail have been built. Several roads in the project vicinity had also been constructed by this time, including Kiva Place, Kiva Drive, Arrowhead Street, and Little John Road. Notably, no structures are present in the vicinity of the water tanks on Signal Hill Trail as of the 1984 photograph demonstrating that none of the residences in the neighborhood which surrounds these water tanks in 2022 are old enough to be considered historic properties (NETROnline 2022).

4.2 NATIVE AMERICAN HERITAGE COMMISSION SACRED LANDS FILE SEARCH

On November 1, 2022, HELIX requested that the NAHC conduct a search of their SLF for the presence of Native American sacred sites or human remains in the vicinity of the proposed project area. HELIX received a response from NAHC on December 9, 2022 which reported that the SLF search results were negative. However, the NAHC response also suggested that the absence of specific site information in the SLF does not definitely indicate the absence of cultural resources in the vicinity of the project. As a result, the NAHC recommended that HELIX reach out to points of contact for 12 Native American Tribes who may have knowledge of cultural resources within the project vicinity. The recommended points of contact are as follows:

- Debra Grimes, Cultural Resources Specialist, Calaveras Band of Mi-Wuk Indians
- Gloria Grimes, Chairperson, Calaveras Band of Mi-Wuk Indians
- Main Office for Calaveras Band of Mi-Wuk Indians
- Main Office for California Valley Miwok Tribe

- Main Office for California Valley Miwok Tribe
- Lloyd Mathiesen, Chairperson, Chicken Ranch Rancheria of Me-Wuk Indians
- Sara Dutschke, Chairperson, Ione Band of Miwok Indians
- Cosme Valdez, Chairperson, Nashville Enterprise Miwok-Maidu-Nishinam Tribe
- Joey Garfield, Tribal Archaeologist, Tule River Indian Tribe
- Kerri Vera, Environmental Department, Tule River Indian Tribe
- Neil Peyron, Chairperson, Tule River Indian Tribe
- Kenneth Woodrow, Chairperson, Wuksache Indian Tribe/Eshom Valley Band

On December 13, 2022, HELIX sent a letter to each of the tribal representatives listed above to request any information they may possess regarding cultural resources in the vicinity of the APE. As of the writing of this report, no responses have yet been received from these tribal points of contact. All correspondence with the NAHC and Native American Tribes can be found in Appendix C.

5.0 PEDESTRIAN SURVEY

HELIX Registered Professional Archaeologist Benjamin Siegel surveyed the proposed undertaking's APE on November 10, 2022. The survey involved the systematic investigation of the APE's ground surface by walking in parallel 10-meter (m) transects. During the survey, the ground surface was examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, fire-affected rock, prehistoric ceramics), soil discoloration that might indicate the presence of a prehistoric cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations, wells) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as gopher holes, burrows, cut banks, and drainage banks were also visually inspected. Representative survey photographs are found in Appendix D.

The project area consists of two separate locations: one located on Kiva Place (Clearwell) and the other is located on Signal Hill Trail (B Tank Site) in the community of Copper Cove Village. HELIX's surveyor examined the Clearwell portion of the Project Area first. This area was found to contain water tanks, developed and paved over land, support facilities, and a small hilly grass area to the north which was punctuated by rock outcroppings and blue oaks (Photograph 1). The ground surface of the small hilly grass area was thoroughly inspected, with special care given to the examination of the area's rock outcroppings. Fairly densely populated with grasses, the area only afforded the surveyor moderate visibility (50% or less), save for two nearly oval shaped areas that had been cleared of grass, the western most measuring 20m north to south by 7m east to west and the more eastern of the two spanning 7m north to south and 8m east to west, through recent disturbances caused by automobiles. These areas revealed the area's native soils which consisted of a clay loam with shale rock inclusions (Photograph 2).

A drainage was also encountered in the northeastern quarter of the small hilly grassy area. This drainage proved to be 2.5m wide and 1.5m deep (Photograph 3) and ran for approximately 64m from the north center of the APE, through to the mid-eastern boundary of the APE. Once outside the eastern boundary of the APE the drainage flows to the southeast, ultimately draining into a designed and developed ditch which flows back into the developed portion of the Clearwell APE to the south of the grassy area

(Photograph 4). The edges of this drainage were inspected thoroughly for traces of material culture or past human occupation or use. The developed portion of the Clearwell APE was also briefly examined for structures that might be older than 45 years in age, and or other traces of prehistoric or historic era resources (Photograph 5). No cultural resources were encountered within the entirety of the Clearwell portion of the APE.

HELIX's archaeologist next examined the B Tank site of the APE located on Signal Hill Trail (Photograph 6). The entire tank site was found to have been built upon roughly 2.5m of fill dirt and gravel, making it impossible for the surveyor to examine this portion of the Project Area's native soils (Photograph 7). Within the B Tank portion of the APE HELIX's surveyor encountered two large water tanks, as well as piping, and ancillary structures associated with these tanks. One of the water tanks, the further south of the two, site is clearly modern (Photograph 8). It is made out of metal, measures roughly 26m in diameter, and possesses a metallic ladder on its western side, as well as metallic entry latches affixed with metallic fasteners on its western and eastern sides, and metallic tubing along its southeastern side, presumably to regulate the flow of water in and out of the tank.

The second water tank, located further north within the B Tank Site, is a redwood water tank, known to be more than 45 years in age. As a result additional efforts were made to record features from this water tank on to the appropriate California State Parks DPR forms. The completed DPR forms for this structure, replete with a series of detailed photographs of the resource can be found in Appendix E of this report. A brief description of the features of the CCWD Redwood Tank observed in the field is also provided below.

Given the temporary resource name of "CCWD Redwood Tank" in the field, the CCWD Redwood Tank within the B Tank Site of the APE measures approximately 14.5m in diameter (Photograph 9). The tank is seated on a 3 inch (7.62cm) tall poured concrete slab, and possess an water gauge and iron ladder on its northern side. The sides of the tank consist of redwood planks which are uniformly 11.5 inches (29.21 cm) wide and run the full height of the tank wall. These planks are held together, and presumably held watertight, by 28 metal bands approximately 1 inch (2.54 cm) in diameter which possess corkscrew planed ends on one side so they can hold metal nuts. These bands are held around the perimeter of the tank with 8 inch (20.32cm) long fasteners, which are 3.25 inches (8.25cm) tall x 3 (7.62cm) inches wide which hold the metal bands, and can tighten them, using metal hexagonal nuts (which measure 1 inch or 2.54 cm to a side) to sinch down and tighten the metal bands.

The roof of the tank is 16 sided and formed by a series of planks which radiate from the tank's center outward. The outer edges of these planks are fixed together by a series of 16 large planks which form the perimeter of the roof and give the roof its 16 sided shape. On top of these radiating planks the roof is covered in black, sandpaper-like shingles. At its bottom the CCWD Redwood Tank shows signs of leaking water on its southwestern side.

Beyond the CCWD Redwood Tank noted above, HELIX's archaeologist found no other traces of prehistoric or historic-era materials or features within the B Tank Site portion of the APE.

Ultimately the CCWD Redwood Tank proved to be the only cultural resource encountered by HELIX's surveying archaeologist during the intensive pedestrian survey of both the Clearwater and Tank B Site portions of the currently proposed APE.

6.0 NRHP/CRHR EVALUATION OF THE CCWD REDWOOD TANK

The results of this CRA resulted in the identification of one cultural resource within the project's APE, a Redwood Water Tank, given the temporary field name CCWD Redwood Tank, located within the Tank Site B portion of the APE. To determine if this resource should be identified as a historic property (for purposes of Section 106 of the NHPA) or a historical resource (for purposes of CEQA), HELIX evaluated the CCWD Redwood Tank against the criteria of eligibility for listing on the NRHP or CRHR which are described in sections 2.1.4 and 2.2.1 respectively. Each NRHP/CRHR criterion is addressed individually below.

Criterion A/1. The Redwood Tank does not qualify as a historic property or historical resource under Criterion A/1 (association with events that have made a significant contribution to the broad patterns of our history). The CCWD Redwood Tank was built circa 1971 to support the new Copper Cove Community (CCWD 1970). Copper Cove was a 4,800-acre water-oriented subdivision project developed by I. C. Deal Development Corporation, later named Great Lakes Development Corporation. The community was one of many in the Copperopolis area of Calaveras County that were being developed in the 1960s and 1970s, and one of two near Tulloch Reservoir southeast of Copperopolis. According to reports, development in the Sierra Foothills area was booming at the time "spurred primarily by the Bay Area and Peninsula families who like the mountains for a second home or for retirement."[1] Although a portion of Copper Cove homes were the first in the county to be on a sewer system instead of septic tanks, there is no evidence that the Copper Cove Community played any major role in the overall development history of the area. While the CCWD Redwood Tank was integral to the overall development of the Copper Cove Community, its construction and use did not substantially shape local, state, or national history. Likewise, there is no evidence to suggest that the tank is associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B/2. The CCWD Redwood Tank does not qualify as a historic property or historical resource under Criterion B/2 (association with the lives of significant persons in our past). There is no evidence to suggest that construction or operation of the tank is associated with any person considered important in history. Designed by Haight & Weatherby, Inc. this firm was involved in a variety of local development projects. The water system was built by W.M. Lyles Construction Company which was active in Northern California from the 1950s through the 1970s, but the water system for Unit 7 of Copper Cove is a minor project that does not represent the company's overall larger body of work.

Little information is available in the historic record regarding Richard Haight, other than society listings. He was employed as a surveyor in the San Andreas area by at least 1955 through 1965 (*Stockton Daily Evening Record* 1955, 1965a). He served as the surveyor for a new camping/trailer park project in the San Andreas area in 1965 (*Stockton Daily Evening Record* 1965b).

Gene Weatherby grew up in Calaveras County, California, earned his civil engineering degree from UC Berkeley and worked for the US Forest Service and some private firms before receiving his civil engineers license and starting his own engineering firm in 1964. During the 1970s, Weatherby was a director with the Mokelumne Hill Fire Department and the Sanitary District. Weatherby served for a

[1] Elizabeth Chapman McKnight, "The Back Road," *Stockton Daily Evening Record*, August 10, 1969, 12.

time on the Local Agency Formation Committee in Calaveras County, and on the boards of the Consulting Engineers and Land Surveyors of California and the American Council of Engineering Companies. He also served as the consulting engineer for the public works departments of Calaveras and Alpine Counties (*Calaveras Enterprise* 2013). He was named Engineer of the Year by the San Joaquin Engineers Council in 2009 (*The Record* 2009).

Weatherby partnered with land surveyor Richard Haight to form Haight & Weatherby, based in San Andreas, California. Richard Haight served as president and Gene Weatherby served as vice-president of the company. In 1969, Haight & Weatherby participated with the Calaveras County High School and the Operating Engineers Local Union No. 3 to establish a pilot engineering apprentice and journeyman training program in Calaveras County (*Engineers News* 1968). By 1969, Haight & Weatherby Inc. had merged with PMT Associations Inc. of Sacramento under the corporate name of TEVCO. PMT Associations was reportedly "one of the largest professional engineering and land surveying firms in California"[2] at the time. The new company continued to have a San Andreas office that still operated under the Haight & Weatherby name, under the direction of Richard Haight. The available evidence in the historical record indicates that Haight & Weatherby's influence was limited, the Copper Cove water system is not representative of W.M. Lyle Company's overall larger body of work, and neither company appears to be associated with a prominent figure in local, state, or national history.

Criterion C/3. The CCWD Redwood Tank does not qualify as a historic property or historical resource under Criterion C/3 (embodiment of 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). The CCWD Redwood Tank was built circa 1971 as part of the Copper Cove Community water infrastructure. Pressure for hasty development of settlements began with the California Gold Rush in 1849. Water was needed to support those settlements. The most readily available and significant source of material for building both shelter and water storage was the massive and numerous redwood trees. Through the end of the 1800s and early 1900s, redwood water tanks were built throughout the state and are ubiquitous in Northern California. The generic materials used in their construction have no unique or distinguishing characteristics or features. Furthermore, by the 1960s and 1970s, many water storage facilities were being built of metal rather than the outdated and less efficient wood planks. There is no evidence that Haight & Weatherby, Inc., and their principals were recognized as master engineers. Likewise, there is no evidence that W.M. Lyle Company were recognized as master builders nor is the tank representative of their overall body of work. Therefore, the Redwood Tank does not embody distinctive characteristics of a type, period or method of construction, does not possess significant and distinguishable design elements or high artistic values, and does not represent the work of a master.

Criterion D/4. The CCWD Redwood Tank does not qualify as a historic property or historical resource under Criterion D/4 (has yielded or may be likely to yield, information important in history or prehistory). Generic in materials and construction, the tank does not have the potential to add to our understanding of local, state, or national history.

Based on this analysis, HELIX recommends that the CCWD Redwood Tank at Tank B site is not eligible for listing on the NRHP or CRHR.

[2] Mike Womack, "Survey Notes," *Engineers News*, Vol. 28, No. 8, August 1969, 7.

7.0 SUMMARY AND RECOMMENDATIONS

7.1 SUMMARY

In order to assist CCWD in its responsibility to comply with Section 106 of the NHPA, as well as its responsibility to comply with CEQA, HELIX assessed the potential for the proposed undertaking to affect historic properties within the project APE. This assessment involved an archival record search at the CCIC, Native American Outreach, Historic Map and historic ariel photograph analysis, an intensive pedestrian survey of the APE, and an evaluation of any cultural resources encountered.

A records search conducted by HELIX at CCIC on January 3, 2022, determined that eight studies have previously been conducted within a 0.25-mile radius of the current proposed undertaking's APE, but that none of these studies included the current APE as part of their survey areas. The records search also determined that no previously recorded cultural resources have been documented within 0.25-mile of the current APE, or within the APE itself.

On November 1, 2022, HELIX requested that the NAHC conduct a search of their SLF for the presence of Native American sacred sites or human remains in the vicinity of the proposed project area. On December 9, 2022, the NAHC reported that the SLF search results were negative. However, the NAHC response also suggested that the absence of specific site information in the SLF does not definitely indicate the absence of cultural resources in the vicinity of the project. As a result, the NAHC recommended that HELIX reach out to points of contact for 12 Native American Tribes who may have knowledge of cultural resources within the project vicinity. As of the writing of this report, no responses have been received from the recommended points of contact. correspondence from the NAHC has been received.

HELIX's historic maps and aerial photographs analysis of the project area suggests that the APE remained largely undeveloped from 1870 through 1962. Within a 1984 historic ariel photograph of the project area however, the water retention ponds associated with the Copper Cove Water system installation appear constructed and the water tanks associated with the system on Signal Hill Trail have been built. Several roads in the project vicinity had also been constructed by this time, including Kiva Place, Kiva Drive, Arrowhead Street, and Little John Road. Ultimately HELIX's historic maps and aerial photographs analysis of the project area did not reveal any traces of prehistoric or historic era land use within the APE.

HELIX Secretary of Interior Qualified Archaeologist Ben Siegel, M.A., RPA, surveyed the entirety of the Project APE on November 10, 2022. Within the Clearwell portion of the APE the surveyor encountered a significantly and recently developed area with support facilities and structures to the south, and a small undeveloped area to the north. The ground surface within the undeveloped portion proved to consist of a series of small hills covered in grass. This area was thoroughly inspected using 10m transect intervals, with special care given to the examination of the area's shale rock outcroppings. Fairly densely populated with grass, the area only afforded the surveyor moderate visibility (50% or less), save for two nearly oval shaped areas that had been cleared of grass through recent disturbances caused by automobiles. These cleared spots revealed the area's native soils which consisted of a clay loam with shale rock inclusions. The surveyor also encountered a drainage which cut through the northeastern quarter of the undeveloped area. The edges of this drainage were inspected thoroughly for traces of

material culture or past human occupation or use. No cultural resources were encountered within the entirety of the Clearwell portion of the APE.

HELIX's archaeologist next examined the B Tank site of the APE located on Signal Hill Trail. The entire tank site was found to have been built upon roughly 2.5m of fill dirt and gravel, making it impossible for the surveyor to examine this portion of the Project Area's native soils. Within the B Tank portion of the APE HELIX's surveyor encountered two large water tanks, as well as piping, and ancillary structures associated with these tanks. One of the water tanks, the further south of the two, is clearly a modern metallic water tank which measures roughly 26m in diameter (Photograph 8). The second water tank, located further north within the B Tank Site, is a redwood water tank with a 14.5m diameter which is known to be more than 45 years in age. As a result, the tank was given the temporary field name "CCWD Redwood Tank" and additional efforts were made to record features from this water tank on to the appropriate California State Parks DPR forms. The completed DPR forms for this structure, replete with a series of detailed photographs of this cultural resource can be found in Appendix D of this report.

Ultimately, the CCWD Redwood Tank was the only cultural resource identified through HELIX's cultural resource investigation of the Project APE.

To determine if the CCWD Redwood Tank should be identified as a historic property (for purposes of Section 106 of the NHPA) or a historical resource (for purposes of CEQA), HELIX evaluated the tank against the criteria of eligibility for listing on the NRHP or CRHR. The tank does not meet Criterion A/1 because it is not associated with events that have made a significant contribution to the broader patterns of local, state, or national history. It does not meet Criterion B/2 because there is no evidence to suggest that the construction or operation of the tank is associated with any person considered important in local, state, or national history. The tank does not meet Criterion C/3 because it does not embody distinctive characteristics of a type, period, or method of construction, nor does it represent the work of a master or possess high artistic values. Finally, the tank does not meet Criterion D/4 as it is unlikely to yield information important to local, state, or national history. As a result, HELIX recommends that the CCWD Redwood Tank is not eligible for inclusion in either the NRHP or CRHR.

7.1.1 Sensitivity and Potential Effects

HELIX's CRA resulted in the identification of one cultural resource within the project's APE, a redwood water tank, given the temporary field name CCWD Redwood Tank which is located within the Tank Site B portion of the APE. HELIX evaluated this resource under the criteria of eligibility for listing on the NRHP or CRHR and recommends that the resource is not eligible for inclusion in either of the two registers.

As a result, HELIX recommends that there would be no effect on historic properties or historical resources, including archaeological and built-environment resources, as a result of the proposed undertaking. No additional studies, archaeological work, or construction monitoring are recommended. However, HELIX does recommend that the Worker Awareness Training Program and Inadvertent Discovery Procedures outlined below be implemented in the unlikely event that human remains or cultural resources are encountered during construction activities.

7.2 RECOMMENDATIONS

7.2.1 Inadvertent Discovery of Human Remains

Although considered highly unlikely, there is always the possibility that ground disturbing activities during construction may uncover previously unknown human remains. In the event of an accidental discovery or recognition of any human remains, PRC Section 5097.98 must be followed. Once project-related earthmoving begins and if there is a discovery or recognition of human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance of the specific location or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains are Native American, the coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98, or

2. Where the following conditions occur, the landowner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendent or on the project area in a location not subject to further subsurface disturbance:

    - The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission;

    - The descendent identified fails to make a recommendation; or

    - The landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

7.2.2 Inadvertent Discovery of Cultural Resources

In the event that cultural resources are exposed during ground-disturbing activities, construction activities should be halted within 100 feet of the discovery. Cultural resources could consist of but are not limited to stone, bone, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. If the resources cannot be avoided during the remainder of construction, an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards should then be retained, in coordination with the CCWD, to assess the resource and provide appropriate management recommendations. If the discovery proves to be NRHP- and/or CRHR-eligible, additional work, such as data recovery excavation, may be warranted and should be discussed in consultation with the CCWD.

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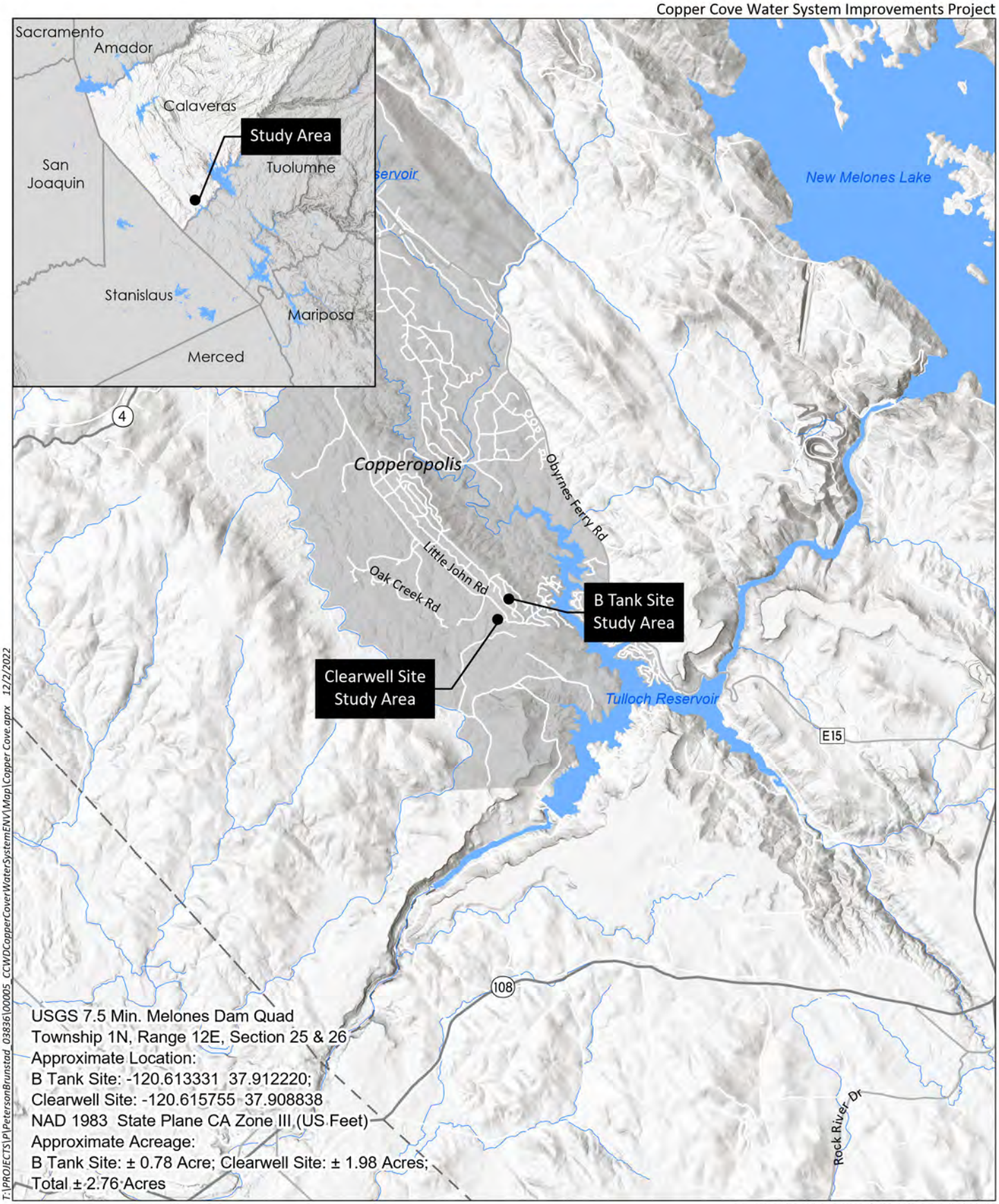
Appendix A

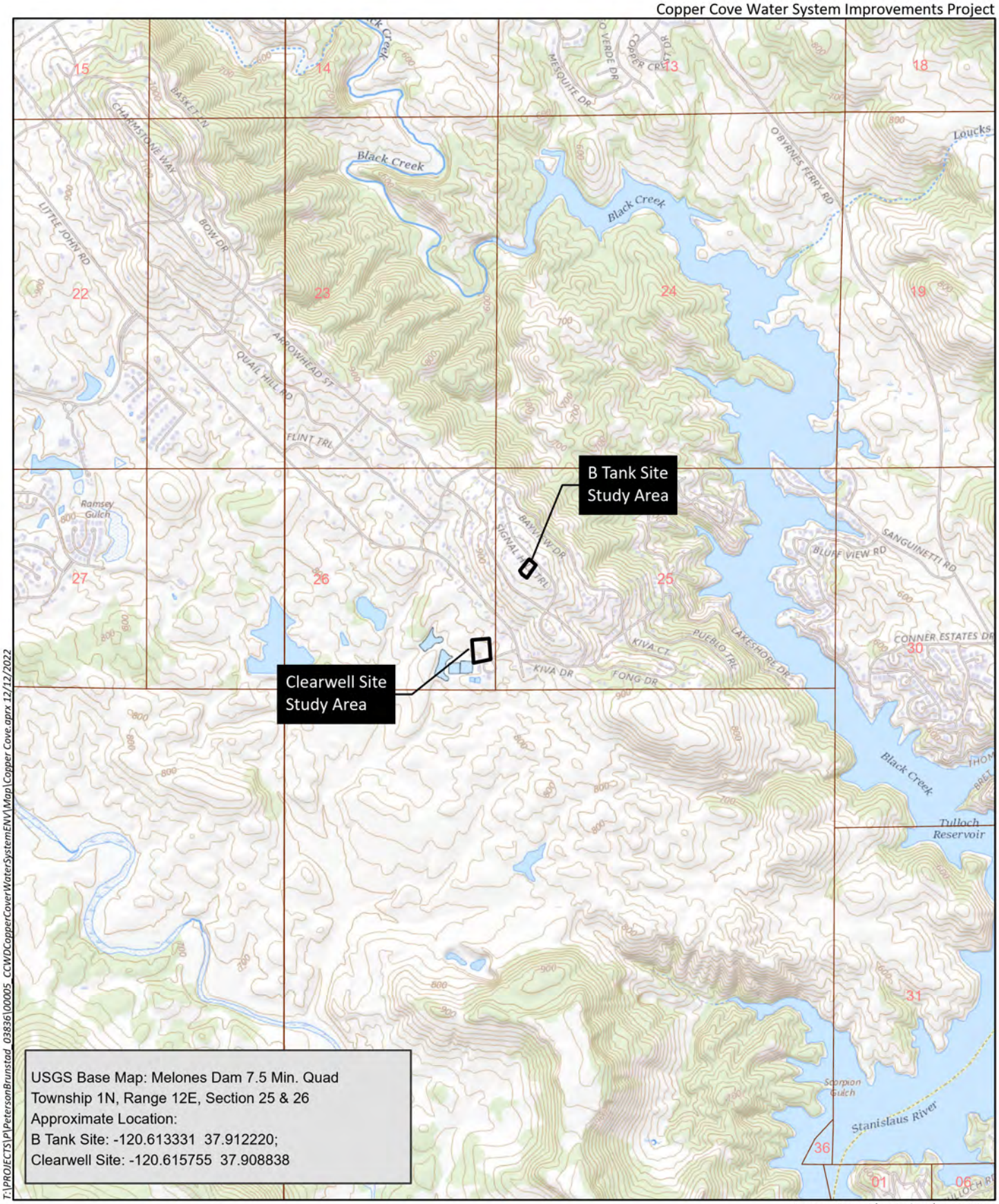
Figures



HELIX Environmental Planning

Vicinity Map

Figure 1



USGS Base Map: Melones Dam 7.5 Min. Quad
Township 1N, Range 12E, Section 25 & 26
Approximate Location:
B Tank Site: -120.613331 37.912220;
Clearwell Site: -120.615755 37.908838

T:\PROJECTS\P\PetersonBrunstad_03836\00005_CCWDCopperCoverWaterSystemENV\Map\Copper Cove.aprx 12/12/2022

0 2,000 Feet

Source: USGS, The National Map, 2021

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Project Location Map

Figure 2

HELIX Environmental Planning

Area of Potential Effects Map

Figure 3

Appendix B

Resumes

BENJAMIN SIEGEL, RPA

Cultural Resources Project Manager

Mr. Siegel is an archaeologist and cultural resource manager with 14 years of experience directing cultural resource management efforts across the United States and in countries abroad. He regularly authors or co-authors cultural resource assessments and reports associated with projects requiring compliance with Section 106 of the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), and California Environmental Quality Act (CEQA). He has applicable experience in directing records searches, field surveys, site evaluations, data recovery efforts, and developing resource mitigation plans for large scale cultural resource efforts. Mr. Siegel is also experienced in the application of the California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP) evaluation criteria to various cultural resources. He meets the Secretary of the Interior's (SOI) Professional Qualifications Standards for prehistoric archaeology, historic archaeology, and history and is a member of the Register of Professional Archaeologists.

Social and Ecological Resilience Across the Landscape Fire Management Features Cultural Resources (2021 - 2022). Senior Archeologist managing a fuel break expansion project extending through Stanislaus National Forest lands. Cultural resources studies included Section 106 compliance with the Stanislaus National Forest as the lead agency, and CEQA compliance with the County of Tuolumne as the lead agency. Project activities managed included leading intensive pedestrian surveys of fuel break areas totaling approximately 8,500 acres, documenting over 100 cultural resources using California DPR 523 site recordation forms and following Stanislaus National Forest protocols, developing avoidance and minimization strategies for at-risk cultural resources, and producing a comprehensive Cultural Resources Inventory Report. Work performed for the County of Tuolumne with the U.S. Forest Service as project partners.

West Point Water Supply Drought Resiliency Biological and Cultural Resource Evaluations (2022). Senior Archaeologist for a dam enhancement project, approximately four acres in size, located in West Point, Calaveras County. Responsible for conducting a California Historical Resources Information System (CHRIS) records search and leading a pedestrian survey of the project area. Author of a cultural resource assessment that meets with CEQA and Section 106 requirements. Work performed for Calaveras County Water District.

Forebay Park Improvements (2022). Senior Archaeologist for proposed recreation improvements to the approximately six-acre Forebay Park located in Pollock Pines, El Dorado County. Responsible for conducting a California Historical Resources Information System (CHRIS) records search, Native American outreach, and directing a pedestrian survey of the project area. Author of the project's cultural resource assessment which meets with CEQA requirements. Work performed for El Dorado County.

EDUCATION

Doctor of Philosophy Candidate, Anthropology, University of California, Berkeley, 2023

Master of Arts, Anthropology, University of California, Berkeley, 2019

Master of Arts, Maritime Studies and Nautical Archaeology, East Carolina University, 2011

Master of Arts, American History, Emory University, 2007

Bachelor of Arts, History, Cum Laude, Emory University, 2007

CERTIFICATIONS

Registered Professional Archaeologist, No. 989542

U.S. SOI Qualified for Historic Archaeology, Prehistoric Archaeology, and History

PROFESSIONAL AFFILIATIONS

Society for Historical Archaeology

North Vista Plaza Project (2021 - 2022). Senior Archaeologist for an approximately 41-acre residential development project in Valley Springs, Calaveras County. Responsible for California Historical Resources Information System (CHRIS) records search and Native American Heritage Commission Sacred Lands File. Directed the pedestrian survey of the project area. Authored the cultural resource technical report to comply with USACE and Section 106 of the National Historic Preservation Act. Work performed for LGI Homes.

Orleans Mutual Water Company, Water Treatment and Storage Improvements IS/MND (2022). Senor Archaeologist for replacement of an existing in-line filtration plant and water distribution system with a new water treatment plant system and storage in unincorporated Orleans, Humboldt County. Prepared cultural resources assessment in support of CEQA IS/MND. Work performed as a subconsultant to Water Works Engineers with Orleans Mutual Water Company as the project owner, and State Water Resources Control Board as the lead agency.

Creekside Ridge Drive Development Cultural Extended Phase I Plan & Letter Reports (2021). Senior Archaeologist for approximately two-acre developmental project located in Roseville, Placer County. Responsible for developing and planning an Extended Phase I archaeological study based on previous cultural resource efforts in the project vicinity and for the proposed development project. Work performed for RSC Engineering, Inc. with the City of Roseville as the lead agency.

Mowry Village Residential Development (2021). Senior Archaeologist responsible for conducting a California Historical Resources Information System (CHRIS) records search, historic aerial photograph analysis, tribal outreach, and an intensive pedestrian survey to inform a cultural resource assessment of a 35-acre project area in the City of Newark in Alameda County. The project site had a high potential to contain prehistoric archaeological sites and resources. Served as the primary author for the final cultural resource assessment report for the project to comply with CEQA requirements for the management of cultural resources. Work performed for Integral Communities.

Folsom Corporate Center Apartments IS/MND (2021). Senior Archaeologist for proposed multi-family apartment community project approximately seven acres in size, in Folsom, Sacramento County. Responsible for conducting a California Historical Resources Information System (CHRIS) records search, Native American outreach, and directing a pedestrian survey of the project area. Author of the project's cultural resource assessment which meet with CEQA requirements. Work performed for the City of Folsom Community Development Department.

Natoma Senior Apartments IS/MND (2022). Senior Archaeologist for proposed senior apartment housing project approximately five acres in size, in Folsom, Sacramento County. Responsible for conducting a California Historical Resources Information System (CHRIS) records search, Native American outreach, and directing a pedestrian survey of the project area. Author of a cultural resource assessment that meets with CEQA and Section 106 requirements. Work performed for City of Folsom Community Development Department.

Fred Jackson First Mile/Last Mile Connection Environmental Compliance (2021). Senior Archaeologist for construction monitoring during roadway improvement project located in unincorporated community of North Richmond, Contra Costa County. Responsible for California Historical Resources Information System records search, Native American Heritage Commission Sacred Lands File search, technical cultural report authorship, and for the development of a Worker Environmental Awareness Program training for project construction crews and contractors before excavation and ground disturbance activities. Work performed for Contra Costa County.

Watt Avenue Apartments (2021). Senior Archaeologist for seven-acre apartment complex development project located in North Highlands, Sacramento County. Responsible for producing the Cultural Resource Assessments associated with CEQA and Section 106 compliance. Work performed for New Green Properties, LLC.

Appendix C

Native American Correspondence

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Calaveras County Water District Copper Cover Water System Improvement Project (03836.00005.001)

County: Calaveras

USGS Quadrangle Name: Melones Dam

Township: 9 N **Range:** 5 E **Section(s):** 9

Company/Firm/Agency: Ben Siegel, RPA for HELIX Environmental Planning, Inc.

Street Address: 11 Natoma Street, Suite 155

City: Folsom **Zip:** 95630

Phone: 916-365-8700

Fax: 619-462-1515

Email: bens@helixepi.com

Project Description:

The project consists of improvements to the Calaveras County Water District Copper Cover Water System which includes work in two locations. At the installation located along Kiva Place there will be construction of a new water treatment plant clearwell, and rehabilitation of the existing water treatment plant clearwell. At the installation on Signal Hill Trail there will be a replacement of a redwood water tank, rehabilitation of a steel tank, and the replacement of a booster pump station. Ground disturbances will be limited to the Project Areas depicted on the attached map.

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

December 9, 2022

Ben Siegel
HELIX Environmental Planning, Inc.

Via Email to: bens@helixepi.com

Re: Calaveras County Water District Copper Cover Water System Improvement (03836.00005.001) Project, Calaveras County

Dear Mr. Siegel:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Calaveras County
12/9/2022

Calaveras Band of Mi-Wuk Indians - Grimes
Debra Grimes, Cultural Resources Specialist
P.O. Box 1015 Mi-wuk
West Point, CA, 95255
Phone: (209) 470 - 8688
calaverasmiwukpreservation@gmail.com

Calaveras Band of Mi-Wuk Indians
Gloria Grimes, Chairperson
P.O. Box 899 Mi-wuk
West Point, CA, 95255
Phone: (209) 419 - 5675
calaverasband.miwukindians@gmail.com

Calaveras Band of Mi-Wuk Indians
546 Bald Mountain Road Mi-Wuk
West Point, CA, 95255
Phone: (209) 293 - 2189

California Valley Miwok Tribe
14807 Avenida Central Miwok
La Grange, CA, 95329
Phone: (209) 931 - 4567
Fax: (209) 931-4333

California Valley Miwok Tribe
AKA Sheep Rancheria of Me-Wuk Indians of CA,
P.O. Box 395 Miwok
West Point, CA, 95255
Phone: (209) 293 - 4179
l.ewilson@yahoo.com

Chicken Ranch Rancheria of Me-Wuk Indians
Lloyd Mathiesen, Chairperson
P.O. Box 1159 Me-Wuk
Jamestown, CA, 95327
Phone: (209) 984 - 9066
Fax: (209) 984-9269
lmathiesen@crtribal.com

Ione Band of Miwok Indians
Sara Dutschke, Chairperson
9252 Bush Street Miwok
Plymouth, CA, 95669
Phone: (209) 245 - 5800
consultation@ionemiwok.net

Nashville Enterprise Miwok-Maidu-Nishinam Tribe
Cosme Valdez, Chairperson
P.O. Box 580986 Miwok
Elk Grove, CA, 95758-0017
Phone: (916) 429 - 8047
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This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Calaveras County Water District Copper Cover Water System Improvement (03836.00005.001) Project, Calaveras County.

Appendix D

Representative Survey Photographs

Photograph 1. Overview of grassy area within clearwell portion of APE, facing West, from Northeast corner.

Photograph 2. Evidence of recent soil disturbance (Western most disturbed area) within grassy area of clearwell portion of the APE, facing Northeast.

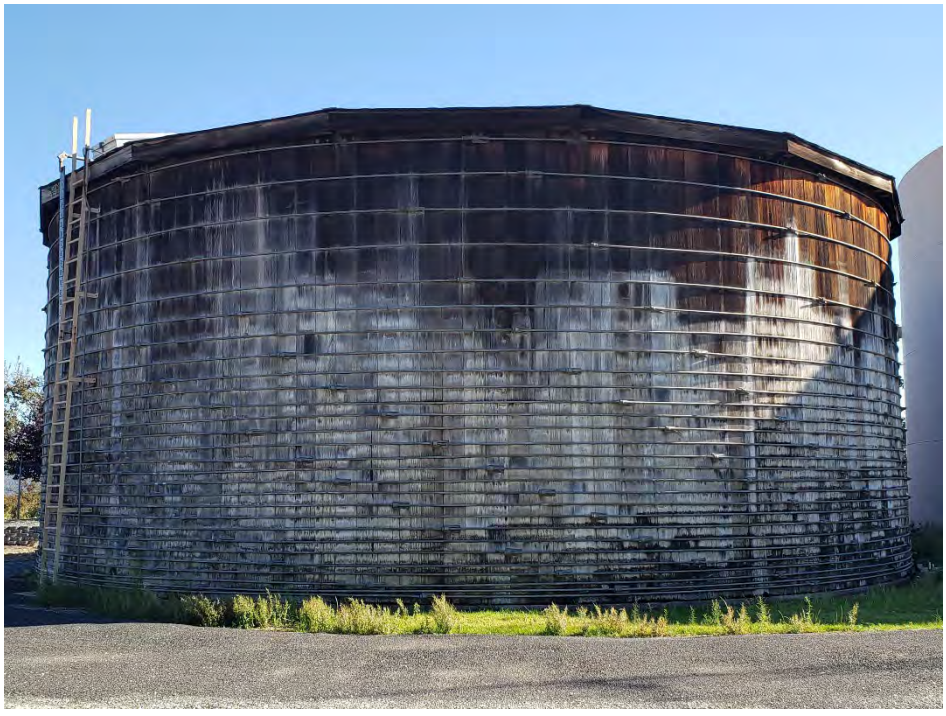
Photograph 3. View of drainage within clearwell portion of the APE, facing North.

Photograph 4. View of designed ditch which funnels the watercourse southeast, back into the developed area within the clearwell portion of APE, facing Southeast.

Photograph 5. View of developed area within clearwell portion of the APE, facing West.

Photograph 6. Overview of Tank Site B portion of APE, facing Southeast.

Photograph 7. View of fill used to create the flat surface/platform forming Tank Site B of the APE, facing Southeast.



Photograph 8. Overview of redwood water tank within Tank Site B portion of APE, facing West.

Appendix E

Completed DPR Forms

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

Page 1 **of** 12 ***Resource Name or #:** CCWD Redwood Tank

P1. Other Identifier:

***P2. Location:** ■ **Not for Publication** ☐ **Unrestricted** ***a. County:** Calaveras

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Melones Dam **Date:** 1962 **T** 1 N; **R** 12 E; **of Sec** 25 & 26; M.D. **B.M.**

c. Address: 3748 Signal Hill Trail City: Copperopolis Zip: 95228

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

From the intersection of Kiva Drive and Bayview Dr, head northwest onto Bayview Drive for 0.6 miles. At the intersection of Signal Hill Trail and Bayview Drive, turn left. Drive for another 0.2 miles, and arrive at a fenced area on the right side of the road. The water tank is ~30 ft southwest of Signal Hill Trail.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This resource consists of a redwood water tank, currently in use, but slated for demolition, by the Calaveras County Water District. The tank holds 300,000 gallons of water, and measures 14.5 m in diameter. The tank is seated on a 3 inch (7.62 cm) tall poured concrete slab, and possesses a water gauge and iron ladder on its northern side. The sides of the tank consist of redwood planks which are uniformly 11.5 inches (29.21 cm) wide and run the full height of the tank wall. These planks are held together, and presumably held watertight, by 28 metal bands approximately 1 inch (2.54 cm) in diameter which possess corkscrew planed ends on one side so they can hold metal nuts. These bands are held around the perimeter of the tank with 8 inch (20.32 cm) long fasteners, which are 3.25 inches (8.25 cm) tall x 3 (7.62 cm) inches wide. The fasteners hold the metal bands, and can tighten them, using metal hexagonal nuts (which measure 1 inch or 2.54 cm to a side) to sinch down and tighten the metal bands. See archaeological record and continuation sheet for more information.

***P3b. Resource Attributes:** (List attributes and codes) HP39 other (water storage tank)

***P4. Resources Present:** ☐Building ■ Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #)
Overview of Redwood Tank, Facing North, taken 10/10/22, Photo #133732, from Photolog BS-01

***P6. Date Constructed/Age and Sources:** ■ Historic
☐Prehistoric ☐Both
1970 (newspaper article)

***P7. Owner and Address:**
Calaveras County Water District, 120 Toma Court San Andreas, California 95249

***P8. Recorded by:** (Name, affiliation, and address)
HELIX Environmental Planning, Inc
1180 Iron Point Road, Suite 130, Folsom, CA 95630

***P9. Date Recorded:** 11/10/22

***P10. Survey Type:** (Describe)
Intensive Pedestrian Survey

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Cultural Resource Assessment Copper Cove Water System Improvements Project, Calaveras County, CA. by HELIX Environmental Planning, Inc. 2023.

***Attachments:** ☐NONE ■ Location Map ■ Sketch Map ■ Continuation Sheet ■ Building, Structure, and Object Record ■ Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) CCWD Redwood Tank

B1. Historic Name: N/A
B2. Common Name: Redwood B-Tank
B3. Original Use: Water Storage Tank for Calaveras County Water District
B4. Present Use: Same as Original Use

***B5. Architectural Style:** Vernacular

***B6. Construction History:** (Construction date, alterations, and date of alterations)
Tank was designed in 1970 in order to facilitate the water storage in association with the Calaveras County Water District's water supply for the community of Copper Cove in Copperopolis, Calaveras County, CA.

***B7. Moved?** ■ **No** ☐**Yes** ☐**Unknown** **Date:** **Original Location:**

***B8. Related Features:**
Resource is used in conjunction with the rest of the Calveras County Water District's Copper Cove Water System which includes a Steel water Tank, filtration systems, a chlorination system, piping, and ancillary structures.

B9a. Architect: Haight & Weatherby, Inc
b. Builder: W. M. Lyles Company

***B10. Significance: Theme:** none **Area:**
Period of Significance: none **Property Type:** Water Tank **Applicable Criteria:** none
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

HISTORIC BACKGROUND
Early Spanish explorers and the Franciscan and Jesuit missionaries who followed them were the first Europeans to reach northern California. The interior of the Sacramento Valley, away from the easily defended and more accessible chain of coastal missions and pueblos, was left largely untouched by the Spanish and "Californios" (Hoover et al. 1990). Settlement of the Sacramento area did not begin until the late 1830s and early 1840s, when entrepreneurs such as John Sutter and Jared Sheldon obtained land grants from the Mexican government, typically in exchange for an agreement to protect Mexican interest in these remote regions. In 1839, John Sutter built the earliest Euro-American settlement within Sacramento County. Named Sutter's Fort, it was well known outpost that brought with it an increase in Euro-American trappers, hunters, and settlers to the Sacramento area. As a result of the Mexican War (1847 to 1848), California became part of the territory of the United States. In 1848, gold was discovered at Sutter's Mill in Coloma which resulted in a torrent of gold seekers flooding into the Sacramento region. See continuation sheet for more information.

B11. Additional Resource Attributes: (List attributes and codes) None.

***B12. References:**
Cultural Resource Assessment Copper Cove Water System Improvements Project, Calaveras County, CA by HELIX Environmental Planning, Inc. 2023.

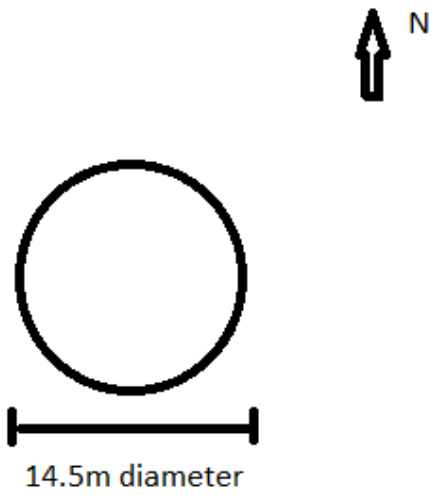
B13. Remarks:

***B14. Evaluator:** Teri Delcamp

***Date of Evaluation:** 11/10/22

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



ARCHAEOLOGICAL SITE RECORD

 ***Resource Name or #:** CCWD Redwood Tank

***A1. Dimensions: a. Length:** 14.5m **(**N/S**) × b. Width:** 14.5m **(**E/W**)**
Method of Measurement: ☐ Paced ☐ Taped ■ Visual estimate ☐Other:
Method of Determination (Check any that apply.): ☐ Artifacts ■ Features ☐ Soil ☐ Vegetation ☐ Topography
☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (Explain):

Reliability of Determination: ■ High ☐ Medium ☐ Low Explain: no artifacts encountered but resource is a built structure

Limitations (Check any that apply): ■ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined
☐ Disturbances ☐ Vegetation ☐ Other (Explain): the resource is within a fenced perimeter which is under lock and key by Calaveras County Water District

A2. Depth: ■ None ☐ Unknown Method of Determination:
***A3. Human Remains:** ☐ Present ■ Absent ☐ Possible ☐ Unknown (Explain): none observed

***A4. Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.):
Feature 1 – is the water tank itself. It rests on a flat concrete pad 3-inches (7.62 cm) in thickness. Water tank is made from redwood timbers, held together by 28 metal bands approximately 1 inch (2.54 cm) in diameter which possess corkscrew planed ends on one side so they can hold metal nuts. These bands are held around the perimeter of the tank with 8 inch (20.32cm) long fasteners, which are 3.25 inches (8.25cm) tall x 3 (7.62cm) inches wide. The fasteners hold the metal bands, and can tighten them, using metal hexagonal nuts (which measure 1 inch or 2.54 cm to a side) to sinch down and tighten the metal bands. Water tank was still in use at time of survey, though slated for demolition by CCWD to be replaced by larger water tank for upgrades in water system.

***A5. Cultural Constituents (**Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.):
No additional artifacts or ecofacts encountered in association with the water tank

***A6. Were Specimens Collected?** ■ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)

***A7. Site Condition:** ■ Good ☐ Fair ☐ Poor (Describe disturbances.): resource is still in operation, thus, still has decent integrity, however it is clear from warping and leaking that this structure is at the end of its useful life

***A8. Nearest Water** (Type, distance, and direction.)**:** site is .5 mile west of Lake Tulloch
***A9. Elevation:** 608 ft amsl
A10. Environmental Setting (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.)**:** Water tank lies within a small residential parcel, abutted to the east, west and south by residences. No trees or any vegetation is within the parcel containing the water tank. The soils within this parcel consist of 8-10ft of fill. Some road grade gravel also occupies the ground surface of the parcel.

A11. Historical Information: none

***A12. Age:** ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☐ 1914-1945
■ Post 1945 ☐ Undetermined **Describe position in regional prehistoric chronology or factual historic dates if known:**
CCWD "As-Built" schematics suggest that it was designed by Haight & Weatherby, Inc. in 1970 to hold water for a water filtration and distribution system supporting the population of Copperopolis.

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations):
Somewhere in the vicinity but not observed within the project area must be the associated hardrock mining operation

A14. Remarks:

A15. References (Documents, informants, maps, and other references): none

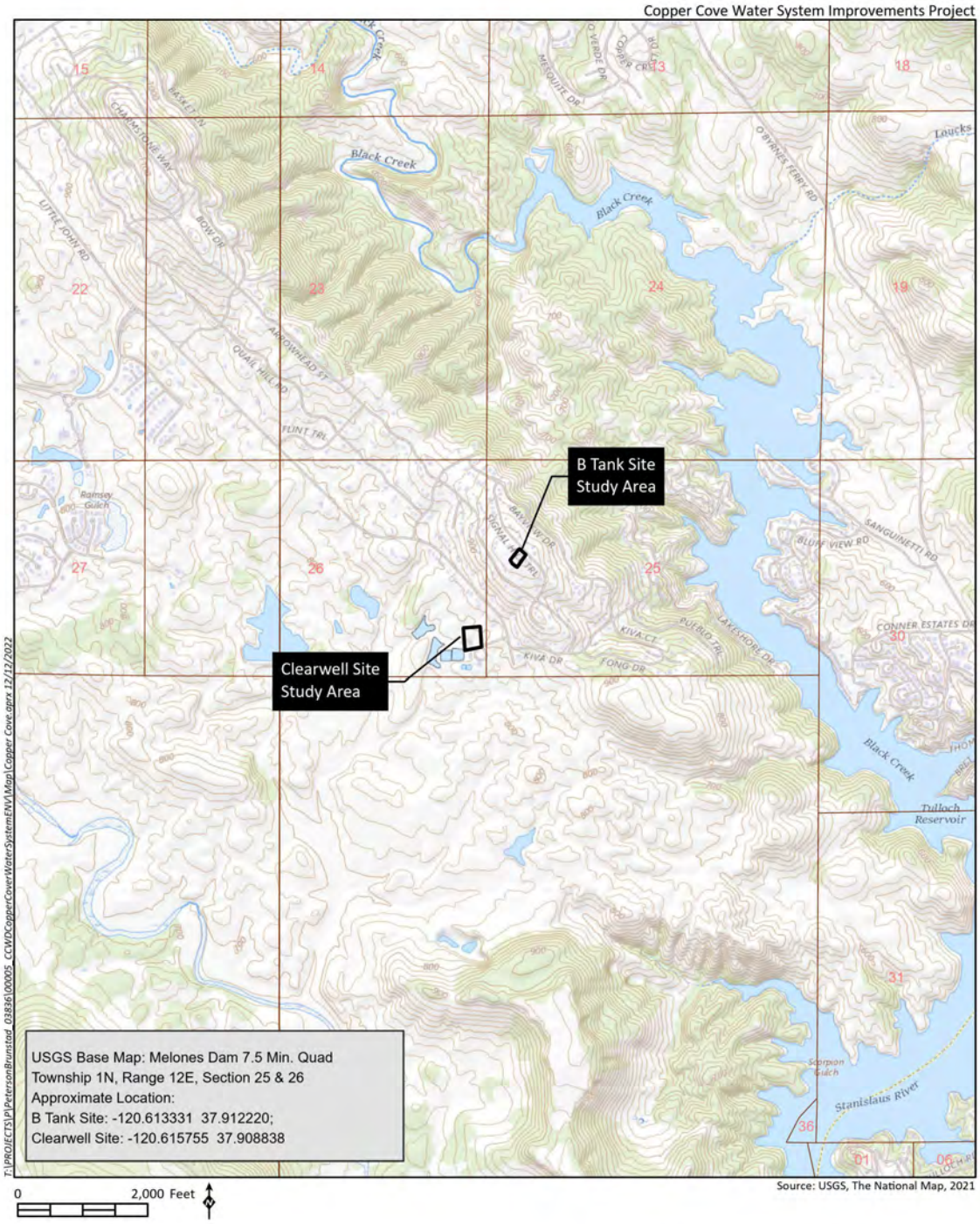
A16. Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.):
photo series BS-01 #s 111514-141814. Original Media/Negatives Kept at: HELIX Environmental Planning, Inc 1180 Iron Point Road, Suite 130, Folsom, CA 95630

***A17. Form Prepared by:** HELIX Environmental Planning, Inc **Date:** 11-10-22
Affiliation and Address: Cultural Resource Assessment Copper Cove Water System Improvements Project, Calaveras County, CA. by HELIX Environmental Planning, Inc. 2023.

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **LOCATION MAP**	Primary # HRI# Trinomial

Page 4 **of** 12 ***Resource Name or #:** CCWD Redwood Tank

***Map Name: CCWD Tank Location Map** ***Scale:** 1:24,000 ***Date of Map:** 11-10-22



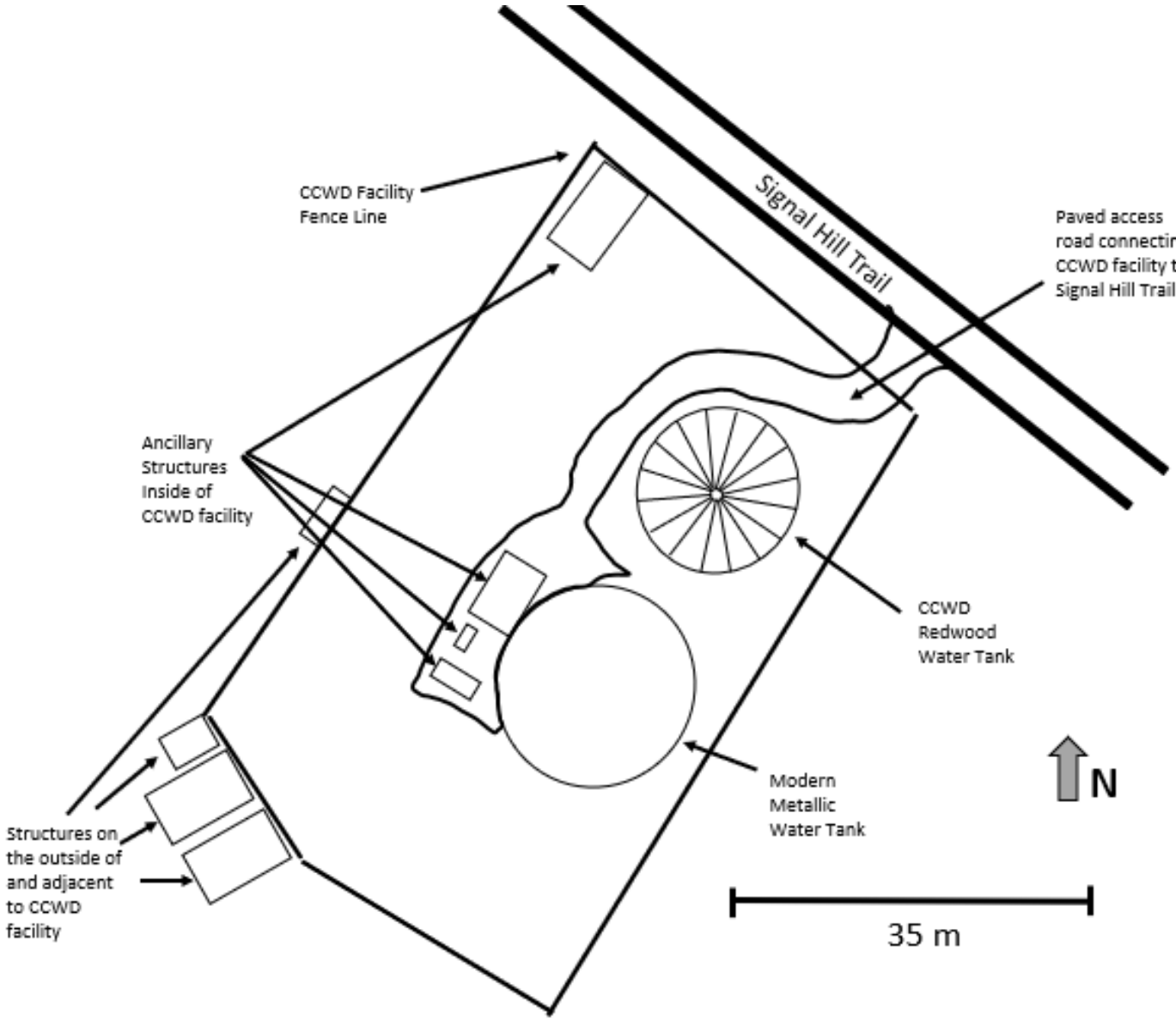
HELIX Environmental Planning

Project Location Map

Figure 2

***Drawn By:** HELIX Environmental Planning, Inc. ***Date:** 11-10-22

Copper Cove Water System Improvements Project
CCWD Redwood Water Tank Sketch Map
Ben Siegel RPA
11-10-22



***Recorded by:** HELIX Environmental Planning Inc. ***Date:** 11-10-22 ■ Continuation ☐ Update

***P3a. Description (continued):**

The roof of the tank is 16 sided and formed by a series of planks which radiate from the tank's center outward. The outer edges of these planks are fixed together by a series of 16 large planks which form the perimeter of the roof and give the roof its 16 sided shape. On top of these radiating planks the roof is covered in black, sandpaper-like shingles. At its bottom the Redwood Tank shows signs of leaking water on its southwestern side. HELIX's archaeologist found no other traces of prehistoric or historic-era materials or features within the B Tank Site portion of the APE.

Close-up of metal fastners which hold redwood tank's metal bands, facing east, taken 11/10/22, Photo #133756, from Photolog BS-01.

Overview showing series of metal bands and fastners of redwood tank as well as obvious signs of leaking on tank's southeast side, facing east, taken 11/10/22, Photo #134610, from Photolog BS-01.

Close up #1 of redwood tank roof construction, showing wooden planks radiating outward from center of rool, and wooden planks which form the perimeter of the structure, taken 11/10/22, Photo #135202, from Photolog BS-01.

Close up #2 of redwood tank roof, showing small superstructure for ventilation and shingles, taken 11/10/22, Photo #135453, from Photolog BS-01.

View of redwood tank wall, showing overall integrity, spacing of metal bands and fastners, and interface with concrete platform underneath, taken 11/10/22, Photo #1135810, from Photolog BS-01.

***B10. Significance (continued):**

As the population soared and the gold decreased, many of the settlers who decided to stay turned to alternative vocations, particularly agriculture. Many found that the local land was relatively cheap and provided good crops. Raising grain, livestock, and produce to sell to the thousands of miners heading to the gold fields proved a profitable venture. These combined events hastened the settlement of the area and the development of Sacramento as an economic and transportation center. The designation of Sacramento as the state capital, in 1854, also resulted in the area's increase in socio-political importance.

Copperopolis History

Miners flooding into the Sierra foothills during the gold rush represent the first non-indigenous settlement of the Project vicinity. Located on El Dorado Creek, the "El Dorado camp" was among the first mining camps established in Calaveras County. In August 1851, it was noted as located in Township 7, when the County Townships were fixed (*Calaveras Chronicle,* 18 October 1851). The name of the camp was changed from El Dorado to Mountain Ranch when a post office was established in 1858, as there was already an established town of El Dorado in Placer County. Within a few short years, the camp had become a trading center for quartz and drift miners in the area. By 1858-59, six properties were assessed in El Dorado; locally, but in tents or habitations too simple to be assessed. By 1871, the camp was noted as a decayed mining town, but with promising quartz ledges nearby. By 1876 one quartz mill had been erected, and in 1899 four stamp mills and one Tuster mill were operating (Gudde 1975:228).

Whiskey Slide camp was another early Euro-American settlement in the region. The first mention of the camp was in 1853, when it was reported as "Venetian Slide," "the name given to a new camp just springing into existence near Jesus Maria. The extent of the mining ground is small though extremely rich; some claims paying $1 to the pan" (*San Joaquin Republican,* July 26, 1853). In June 1854, the camp was noted in the *Alta*, as a place where miners regularly washed two dollars to the pan (Daily *Alta*, June 8, 1854). By 1857, it was the seat of the Whiskey Slide Canal Company (Old Italian Ditch) (Gudde 1975). In 1865 the Whiskey Slide Quartz Mill and Whiskey Slide Ditch were assessed. By 1880, there were no longer any assessments for property at Whiskey Slide Camp.

Copperopolis was founded by W. K. Reed and Thomas McCarty in 1860 after they discovered vast copper deposits in the area. In the same year, Hiram Hughes also discovered copper and several extensive copper mines were established in what would come to be known as the Coppern Canon Mining District. These copper discoveries came on the heels of the end of the California gold rush, and consequently the local mines became the main focus of mining efforts in Calaveras County in the 1860s. William Reed and Thomas McCarty soon founded the Union Copper Mine (and later the Keystone and Empire Mines), while other mines in the area included the Napoleon Mine and the Calaveras Claim. The town adopted the name "Copperopolis" in 1861. In 1862, Reed sold his interests in the mines and built a toll road, named "Reeds Turnpike" which spanned from Copperopolis to Telegraph City. The road also connected with a route to Stockton. This road remained a toll road through 1865.

The mines in the area were heavily used during the Civil War during which time they were the most significant copper producing mines in the US. This sparked the rapid development and industrialization of the area as copper was needed for munitions and shell casings during the war. So great was the boom caused by the war that by 1865, the number of businesses in the Copperopolis region had increased to 90, from 28 just 4 years prior. Copper mined in the area was sent to Stockton and then to San Francisco, where it was shipped to smelters on the East Coast via shipping lanes around Cape Horn.

Copperopolis was a very pro-Union town during the War, a fact which is reflected in the street names within the town including Union (now Main Street), Lincoln, Grant, and Sherman. Several establishments in the region also adopted supportive names including the Union Hotel, Union Mine, and the Union Bridge. In 1867 however, the town of Copperopolis was largely destroyed by a catastrophic fire and was never rebuilt. This was in part due to a steep drop off in demand for copper at the end of the Civil War. Investors from Boston purchased the mines in the 1880s, and some production did continue through the early 20th century. The town also saw upticks in business, productivity, and population growth during boom times caused by the first and second world wars. During World War II the Keystone Mine even briefly reopened until it closed for the last time in 1945. When the mines finally did close, the U.S. Bureau of mines reported that those in Copperopolis had produced 72,598,883 lbs of copper, worth over $12 million, which adjusted for inflation amounts to roughly $160 million worth of copper.

The community of Copperopolis also contains four buildings that are listed on the National Register of Historic Places including: the Copperopolis Armory, the Copperopolis Congregational Church, the Honigsberger Store, and Reeds Store and also features several sites that have had historical markers and or placards installed to commemorate their significance to the community including the Calaveras Telephone Company Building, The Old Corner Saloon, the Copperopolis Historical Plaza, and the Copperopolis Cemetery. The cemetery also features a marker for Thomas McCarty, one of the original founders of the town.

In more recent times the town has been redesigned to welcome visitors and tourists. The town square has been refinished with timeless architecture and covered walkways and now features specialty boutique shops, restaurants, and residential lofts. The community also continues to grow with a population of 3,671 recorded for the 2010 census up from the 2,363 listed in the 2000 census.

Copper Cove

The Tulloch Reservoir is located approximately four miles southeast of Copperopolis. The Reservoir had two developments on its shores in the 1970s, Copper Cove and The Shores. The Copper Cove development was built by the I.C. Deal Development Corporation of Hayward, CA and Dallas, TX, on 4,800 acres of a total 5,000 acres previously owned by Clifford Mitchell around the north end of the Tulloch Reservoir. Mitchell had owned and operated the Black Creek Lodge on the reservoir for many years. The overall development consisted of 2,200 single family parcels for homes and cabins ranging from one-half to nine acres in size and a 200+ space mobile home park, with miles of waterfront on Tulloch Reservoir. I.C. Deal Development was renamed Great Lakes Development Corporation, and by the end of 1970 it had merged with and become a subsidiary of Centex Corporation.

In May 1969, the Calaveras County Board of Supervisors approved the first Copper Cove subdivision (Units 1 and 2) consisting of 870 acres with 660 developable lots ranging from one-half to five acres in size in the Black Creek area of Tulloch Reservoir. The first subdivision proposed included 14 miles of roads, a water system, a new homeowners' lodge, residential mobile-home park, commercial area and a community area with boat docks with a value of $21 million. The lodge was to be remodeled, expanded, and renamed as the Copper Cove Lodge. Potable water would be provided by the Calaveras County Water District (CCWD) and the water system serving the development would meet county standards. The water source was initially Tulloch Reservoir, with up to 2,000 acre-feet to be sold annually to CCWD by the South San Joaquin and Oakdale Irrigation Districts. The water source would eventually be changed to the Bureau of Reclamation's New Melones Reservoir once the new dam was completed. The CCWD was to install a pump and water treatment facilities. The Copper Cove development was to be the first in the county to be on a sewage disposal system for the waterfront lots, with the rest of the lots on septic tanks. The developer anticipated completion of Units 1 and 2 within two years, with roads already under construction by May 1969, the homeowner's lodge to be built first (completed in October 1969), and home lots to go on the market by June of that year.

Copper Cove Units 3 through 7 totaling over 2,200 acres with about 1600 lots were approved in July 1969. Quarter- to full-page ads were taken out by the developer in August promoting Copper Cove in the *Oakland Tribune, Modesto Bee* and *San Francisco Examiner* newspapers, and again in March 1970 in other bay area newspapers. Ads would continue in bay area papers in the following years during development of Copper Cove. Unit 8 was approved in January 1970 with 429 lots on 1,040 acres. In September 1971, a 45-acre mixed use expansion of Copper Cove (Unit 8A) was approved for another mobilehome park, 10 rental duplexes, four-acre commercial site, recreation area, and sites for a school and fire station, all to be on county water. The development of Copper Cove was apparently complete by May 1974.

By March 1970, a contract was awarded for construction of Copper Cove Unit 7. The development's roads were constructed by the George Reed Construction Company, and the water and sewer systems were constructed by W.M. Lyles Company. A March 1971 article on the construction progress for the water and sewer system noted that Unit 7's 704 lots would be the first to benefit from the system. The water and sewer systems were taken over by CCWD in February 1973. The sewer system serves only Unit 7 of Copper Cove, while the water system serves Units 1, 2 and 7. Water was pumped from Tulloch Reservoir initially (later New Melones Reservoir) to a tank and booster station, then treated before being pumped to the 300,000-gallon Redwood Water Tank that serves as storage for the Unit 7 homes. A different pumping station sends water to a different 400,000-gallon water tank to provide storage for Units 1 and 2.

Significance Evaluation

The Redwood Water Tank was given the temporary field name CCWD Redwood Tank, located within the Tank Site B portion of the APE. To determine if this resource should be identified as a historic property (for purposes of Section 106 of the NHPA) or a historical resource (for purposes of CEQA), HELIX evaluated the CCWD Redwood Tank against the criteria of eligibility for listing on the NRHP or CRHR. Each NRHP/CRHR criterion is addressed individually below.

Criterion A/1. The Redwood Tank does not qualify as a historic property or historical resource under Criterion A/1 (association with events that have made a significant contribution to the broad patterns of our history). The Redwood Tank was built circa 1971 to support the new Copper Cove Community (CCWD 1970). Copper Cove was a 4,800-acre water-oriented subdivision project developed by I. C. Deal Development Corporation, later named Great Lakes Development Corporation. The community was one of many in the Copperopolis area of Calaveras County that were being developed in the 1960s and 1970s, and one of two near Tulloch Reservoir southeast of Copperopolis. According to reports, development in the Sierra Foothills area was booming at the time "spurred primarily by the Bay Area and Peninsula families who like the mountains for a second home or for retirement."[1] Although a portion of Copper Cove homes were the first in the county to be on a sewer system instead of septic tanks, there is no evidence that the Copper Cove Community played any major role in the overall development history of the area. While the Redwood Tank was integral to the overall development of the Copper Cove Community, its construction and use did not substantially shape local, state, or national history. Likewise, there is no evidence to suggest that the tank is associated with events that have made a significant contribution to the broad patterns of our history.

Criterion B/2. The Redwood Tank does not qualify as a historic property or historical resource under Criterion B/2 (association with the lives of significant persons in our past). There is no evidence to suggest that construction or operation of the tank is associated with any person considered important in history. Designed by Haight & Weatherby, Inc. this firm was involved in a variety of local development projects. The water system was built by W.M. Lyles Construction Company which was active in Northern California from the 1950s through the 1970s, but the water system for Unit 7 of Copper Cove is a minor project that does not represent the company's overall larger body of work.

Little information is available in the historic record regarding Richard Haight, other than society listings. He was employed as a surveyor in the San Andreas area by at least 1955 through 1965 (Stockton Daily Evening Record 1955, 1965a). He served as the surveyor for a new camping/trailer park project in the San Andreas area in 1965 (Stockton Daily Evening Record 1965b).

Gene Weatherby grew up in Calaveras County, California, earned his civil engineering degree from UC Berkeley and worked for the US Forest Service and some private firms before receiving his civil engineers license and starting his own engineering firm in 1964. During the 1970s, Weatherby was a director with the Mokelumne Hill Fire Department and the Sanitary District. Weatherby served for a time on the Local Agency Formation Committee in Calaveras County, and on the boards of the Consulting Engineers and Land Surveyors of California and the American Council of Engineering Companies. He also served as the consulting engineer for the public works departments of Calaveras and Alpine Counties (Calaveras Enterprise 2013). He was named Engineer of the Year by the San Joaquin Engineers Council in 2009 (The Record 2009).

Weatherby partnered with land surveyor Richard Haight to form Haight & Weatherby, based in San Andreas, California. Richard Haight served as president and Gene Weatherby served as vice-president of the company. In 1969, Haight & Weatherby participated with the Calaveras County High School and the Operating Engineers Local Union No. 3 to establish a pilot engineering apprentice and journeyman training program in Calaveras County (Engineers News 1968). By 1969, Haight & Weatherby Inc. had merged with PMT Associations Inc. of Sacramento under the corporate name of TEVCO. PMT Associations was reportedly "one of the largest professional engineering and land surveying firms in California"[2] at the time. The new company continued to have a San Andreas office that still operated under the Haight & Weatherby name, under the direction of Richard Haight.

[1] Elizabeth Chapman McKnight, "The Back Road," *Stockton Daily Evening Record*, August 10, 1969, 12.
[2] Mike Womack, "Survey Notes," *Engineers News*, Vol. 28, No. 8, August 1969, 7.

The available evidence in the historical record indicates that Haight & Weatherby's influence was limited, the Copper Cove water system is not representative of W.M. Lyle Company's overall larger body of work, and neither company appears to be associated with a prominent figure in local, state, or national history.

Criterion C/3. The redwood tank does not qualify as a historic property or historical resource under Criterion C/3 (embodiment of 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). The CCWD Redwood Tank was built circa 1971 as part of the Copper Cove Community water infrastructure. Pressure for hasty development of settlements began with the California Gold Rush in 1849. Water was needed to support those settlements. The most readily available and significant source of material for building both shelter and water storage was the massive and numerous redwood trees. Through the end of the 1800s and early 1900s, redwood water tanks were built throughout the state and are ubiquitous in Northern California. The generic materials used in their construction have no unique or distinguishing characteristics or features. Furthermore, by the 1960s and 1970s, many water storage facilities were being built of metal rather than the outdated and less efficient wood planks. There is no evidence that Haight & Weatherby, Inc., and their principals were recognized as master engineers. Likewise, there is no evidence that W.M. Lyle Company were recognized as master builders nor is the tank representative of their overall body of work. Therefore, the redwood tank does not embody distinctive characteristics of a type, period or method of construction, does not possess significant and distinguishable design elements or high artistic values, and does not represent the work of a master.

Criterion D/4. The redwood tank does not qualify as a historic property or historical resource under Criterion D/4 (has yielded or may be likely to yield, information important in history or prehistory). Generic in materials and construction, the tank does not have the potential to add to our understanding of local, state, or national history.

Conclusion

The CCWD Redwood Water Tank does not meet Criterion A/1 because it is not associated with events that have made a significant contribution to the broader patterns of local, state, or national history. It does not meet Criterion B/2 because there is no evidence to suggest that the construction or operation of the tank is associated with any person considered important in local, state, or national history. The tank does not meet Criterion C/3 because it does not embody distinctive characteristics of a type, period, or method of construction, nor does it represent the work of a master or possess high artistic values. Finally, the tank does not meet Criterion D/4 as it is unlikely to yield information important to local, state, or national history. As a result, HELIX recommends that the CCWD Redwood Tank is not eligible for inclusion in either the NRHP or CRHR and it has therefore been assigned a status code of 6Z.

Agenda Item

DATE: September 21, 2023

TO: Engineering Committee, Calaveras County Water District
Michael Minkler, General Manager

FROM: Kevin Williams, Senior Civil Engineer

RE: AMI/AMR Project Completion

SUMMARY

The Advanced Metering Infrastructure Project (AMI) is nearly complete. Mueller and Subcontractor Keystone are finishing punchlist items and network mitigation. This Project has been through challenges that were unforeseen including Pandemic driven delays and shortages with meter microchips, plastics lid manufacturing, and electronic components for data collectors. Lead times went from a couple of weeks to several months overnight, drastically affecting the progress of the Project.

The Project built a Districtwide wireless network of 44 network collectors and 126 pole mounted repeaters. The repeaters provide a bridge between the network collectors and meters, increasing the maximum distance between the collectors. The network normally collects hourly meter on a data daily. On-demand read can be made, offering true two-way communication between the user and all meters in the network.

Muellers online portal Sentryx can be used by staff to see hourly consumption and alerts. Meters can be grouped using the Distribution Map (DMA) to see daily usage within different areas of the District. Sentryx can push meter consumption and alert information to other applications such as Mobile MMS using built in API. The data that is pushed to Mobile MMS can be manipulated to track water usage trends and create service requests from the alerts.

Sentryx was a new application to Mueller when the Project started and replaced long standing reliable software. There are a lot of additional benefits to the new software, but it came with bugs that caused issues when billing time came around. Mueller's software team was continually updating the software to fix the bugs and improve functionality. All the serious issues have been fixed and Sentryx is running as designed.

Agenda Item

DATE: September 21, 2023

TO: Engineering Committee, Calaveras County Water District
Michael Minkler, General Manager

FROM: Engineering Department

RE: Capital Improvement Project Updates

AMI / AMR Project (CIP 11096)
Mueller Systems is nearly complete, and all meter locations have been revisited and checked. The District is now comfortable with the quality of work complete in the field, the meter read success rates have improved and issues with the Sentryx online Portal have been corrected. We anticipate the Project will be ready for issuance of final completion within the next month and data should be scrubbed and ready. Then Engineering would hand over the Project to Operations/Customer Services to start the Customer Portal.

Jenny Lind Water System A-B Water Transmission Pipeline (CIP 11088)
This project includes replacing 20,000-ft of water transmission pipeline to improve conveyance from the Tank A to Tank B sites. The pipeline will be aligned along Hartvickson, Baldwin, Usher and Wind River Court. It consists of approximately 13,400-ft of 14-inch diameter pipe and 6,500-ft of 12-inch diameter pipe. The piping material will be ductile iron. The consultant, Coleman Engineering, is designing the project. Coleman will complete the 100% design deliverable pending additional data from a utility potholing effort. Also, ECORP consulting has completed a draft environmental document (IS/MND) for CEQA compliance, which is ready for filing a notice of intent (NOI) with the State. Mozingo Construction potholed along the proposed alignment, B-Tank site and A-Tank site and surveyor collected data on utilities present. The project is anticipated to go to bid this fall, and construction to start early 2024 and finish in FY 2024-2025.

West Point Water Supply Reliability Improvements (CIP 11106)
CCWD received Prop 1 Grant funds through UMRWA and DWR to supplement the cost of purchasing and installing a backup water filter at the West Point Water Treatment Plant. K.W. Emerson (KWE) mobilized to the site in July 2022 and since then finished installing the Water filter and metal building along with all the appurtenances. Gold Electric is on site working on getting the new filter connected to existing Motor Control Units at the Water Treatment Plant. Westech is scheduled to be on site in October to oversee the filter media installation and provide training to staff on the new unit.

West Point and Wilseyville Wastewater Consolidation Project (CIP 15091)
The Water Board staff completed the Final Budget Approval (FBA), which was then executed by the General Manager. Staff continue to review and approve material submittals. K.W. Emerson (KWE) completed the sludge drying beds, installation of wet well between sludge basins along with all the site piping. Earthwork is expected to be wrapped up within the month of October for Sludge Basins. Construction will continue through the end of this year.

Copper Cove Lift Stations 6, 8, 15 & 16 and Lift Stations 12 & 13 Force Main Bypass Project (CIP 15076/15080)
Mozingo Construction is currently working on construction of Lift Station 15 on Lakeshore and Lift Station 18 on Kiva. There have been delays in materials procurement for this Project including the delivery of polymer concrete wet wells, piping/valves, and the electrical/control components. Mozingo has been diligently working on the Project with a small crew to complete the work available. Tesco Controls has been the main supplier of Electrical on Motor Control Center (MCC) equipment for the District and many other municipalities on the West Coast. Tesco recently went through corporate changes which has affected the procurement of the equipment. The District may need to look for an alternative supplier to Tesco for future Projects.

Mozingo Construction has submitted an updated CPM Schedule based on the equipment deliveries, work at Lift Station 6 and 8 is scheduled to start once the MCC arrives in January and Project should be complete by May 2024.

Copper Cove Wastewater Treatment Plant Tertiary Treatment Improvements and Facilities Plan (CIP 15094)
CCWD has made significant progress with USACE on the Section 219 Letter Report and Project Partnership Agreement (PPA). CCWD has retained HydroScience Engineers for engineering and design services and Dewberry for environmental services for CEQA and NEPA compliance. The project includes adding Dissolved Air Floatation (DAF) units and making tertiary filter improvements. CCWD's is working with USACE to sign-off an initial increment of $2 million to complete design, environmental and pre-purchase of the DAF equipment. Funds are not authorized until after USACE signs the Letter Report and PPA, which is expected to occur by November 2023; until then the project design is on-hold.

Copper Cove Wastewater Treatment Plant – Pond 6 Dam and Effluent Storage Reservoir Enlargement Project (CIP 15112)
This project is being coordinated with the tertiary treatment plant improvements through the Letter Report/Agreement between CCWD and USACE. The project will raise the dam by 10 feet and increase the capacity of the effluent storage reservoir (Pond 6) from 205 AF to 442 AF. Also, the project includes relocating a 10-inch raw water line, 8-inch sewer force main, pumps and other existing facilities in conflict with raising the dam. The estimated construction cost is $11 million. The consultant, Wagner & Bonsignore, is designing the dam and has resubmitted a project application to the Division of Safety of Dams (DSOD). DSOD is starting its review. HydroScience Engineers is providing the

design for relocating the existing pipelines, pumps and other facilities. Dewberry is providing environmental services for CEQA and NEPA. An updated version of the 2009 Environmental Impact Report (EIR) will likely be relied upon for the project. In May, staff met with an adjacent property owner regarding a prospective borrow site for material (earth) to raise the dam.

Copper Cove Water System Improvements Project (CIP 11111)
Peterson Brustad Inc. (PBI) was awarded a contract at the May 11, 2022 Board meeting. Since that time PBI has worked to complete multiple preliminary design memos for staff's review and comment. Phase 1 and 2 improvements include rehabilitating the existing clearwell and existing steel Tank-B, adding a new second clearwell, and replacing the existing redwood Tank-B. PBI has completed the construction bid package, which has been posted on our website (ccwd.org) as of June 15, 2023. The bid opening was held on August 10, 2023 at 2:00PM. Further details are provided in Agenda Item 4a. Copper Cove Tank Project. Staff anticipates the contractor will complete construction by December 2024. Also, PBI is currently working with staff evaluating alternatives for a critical project to replace the main pump station and transmission pipeline conveying treated water from the WTP to Tank C. This is a substantial project including construction of 12,000-ft of new 16 or 20-inch transmission pipeline, new high horsepower pumps and electrical upgrades.

Ebbetts Pass Hunters Raw Water Intake Pumps (CIP 11103)
This project is a Hazard Mitigation Grant Project (HMGP) partly grant funded by Cal-OES/FEMA. CCWD with its consultant, Blackwater, has completed the Phase 1 portion of the design which included the 60% Design and the initial Environmental Studies. The Phase 1 Design has been under FEMA NEPA environmental review since April 2022. Since completion of the Phase 1 design, Blackwater Engineers has completed the 90% design. Blackwater is currently on hold until we receive comments back on the NEPA Environmental review. Cal-OES/FEMA tentatively expects to have the NEPA review completed by end of October 2023, this process has extended past the original schedule. Upon approval Blackwater will complete the bid ready Construction Plans, and the District will advertise the Construction Contract.

Ebbetts Pass Redwood Tanks Hardening (CIP 11095)
This project is receiving significant hazard mitigation grant program (HMGP) funding from Cal-OES/FEMA. Construction is substantially completed and all the new tanks are online. Remaining work includes abandonment of the valves at Larkspur, installation of new level controls, and repairing damaged paint on spiral staircases. The District was recently notified by Cal-OES that additional funds requested in the amount of $990,000 are available to be issued by FEMA for this Hazard Declaration. The District is waiting to hear back from Cal-OES/FEMA on the final approval of these funds for our Project.

Forest Meadows Wastewater Plant / UV System Replacement (CIP 15106)
Cole Tiscornia Construction has completed construction of the UV channel and installation of the new Lamps. District electrical staff is now working on electrical and control wiring for the UV Lamps and Sensors. The UV System is extremely sensitive to

voltage fluctuations in the power grid. These fluctuations can damage the UV Lights in a short period of time, new backup batteries are being installed as part of this Project to prevent premature failure of the system. Startup and testing of the new UV disinfection system is scheduled for November. Forest Meadows Golf Course has not been taking any recycled water for the golf course during this project, the District has been diverting the filtered sewage to our leach fields.

Arnold Wastewater Secondary Clarifier Improvements Project (CIP 15095)
The project will provide upgrades to the Arnold Wastewater Treatment Plant. It will add a new secondary clarifier, RAS/WAS pump station, two additional aerobic digesters, and replace the plant's electrical motor controls, backup generator, PLC and SCADA systems. Staff requested to add air blowers and extend air piping for the new aerobic digesters (versus mechanical aerators). The estimated construction cost is $6.5 million. Staff have progress meetings with the design consultant, HydroScience, on a bi-weekly basis. HydroScience has completed the 100% design plans. Staff has submitted a pre-application to the State Water Board for possible grant funding of this project. As of June 7, 2023, the pre-application is being actively reviewed by State Water Board staff to evaluate eligibility for grants. The schedule for bidding for construction will be contingent upon the project's ultimate funding source.

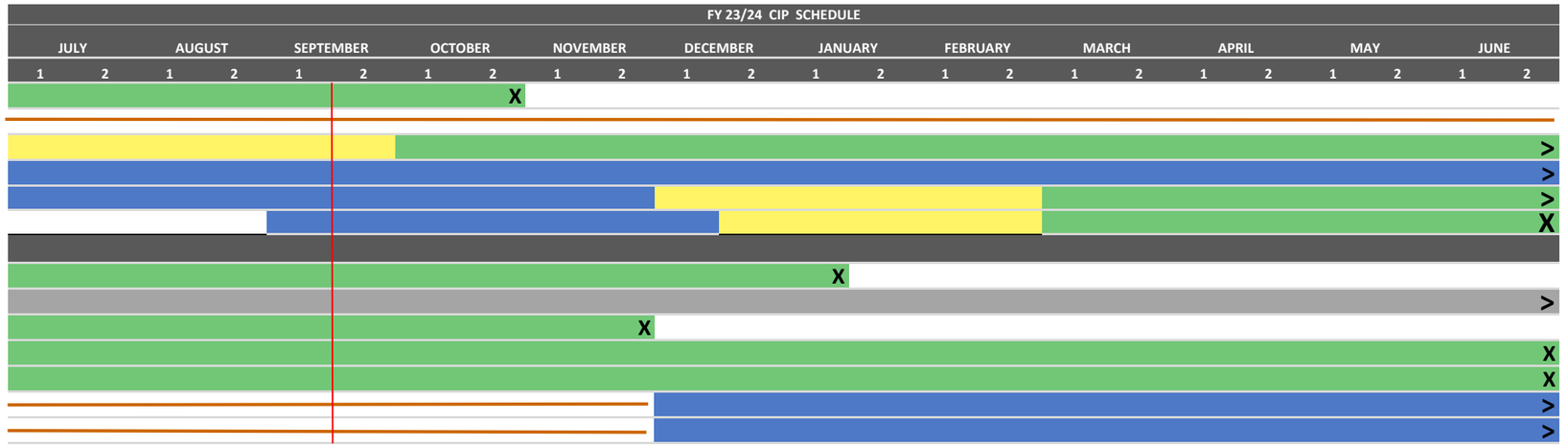
CALAVERAS COUNTY WATER DISTRICT CAPITAL IMPROVEMENT PROGRAM (CIP) SCHEDULE FOR FY23/24

LEGEND

- Scoping
- Planning/Funding
- Design/Permit/Environmental
- Bid
- Construction/Procurement
- Shovel Ready/Awaiting Funds

- Project Delay
- **X** Construction Complete and/or Notice of Completion
- **>** Goes into next Fiscal Year
- ~~Text~~ Completed Project
- Gantt Chart Revision Date

		WATER PROJECTS	EST TOTAL PROJECT COST	FUNDS ALLOCATED THIS FY	PROJECT LEAD	FY23/24 OBJECTIVE
1	11106	West Point Backup Filter	$2.38M	22%	SS/JG/JK	Construct
2	11103	Hunters Raw Water Pumps (Hazard Mitigation)	$2.4M	83%	KW	Construct
3	11083C	Copper Cove Tank B/Clearwell	$8.6M	58%	CP	Construct
4	11122	Copper Cove B-C Transmission Pipeline & Pump Station	$9M	33%	CP	Design & Construct
5	11088	Jenny Lind A-B Transmission Main	$13.5M	59%	CP/SS	Design & Construct
6	11083J	Jenny Lind Clearwell #2	$350k	100%	KW	Design & Construct
		WASTEWATER PROJECTS				
7	15091	West Point/Wilseyville Consolidation Project	$10M	50%	CP/JG/JK	Construct
8	15095	Arnold Secondary Clarifier/WWTP Improvements	$8M	28%	CP	Construct
9	15106	Forest Meadows UV Disinfection System Replacement	$500K	60%	KW/JG/JK	Construct
10	15076	Copper Cove Lift Stations 6, 8 & Force Main Bypass	$5.5M	45%	KW/JG/JK	Construct
11	15080	Copper Cove Lift Stations 15 & 16 Rehab/Replacement	$3.6M	72%	KW/JG/JK	Construct
12	15094	Copper Cove Tertiary, DAF, & UV Improvements (CCWD Share)	$1.8M	39%	CP	Design
13	15112	Copper Cove Pond 6 Dam Raise (CCWD Share)	$4.38M	8%	CP	Design



Printed on 9/19/2023

Agenda Item

DATE: September 21, 2023

TO: Engineering Committee, Calaveras County Water District
Michael Minkler, General Manager

FROM: Engineering Department

RE: Other Updates

Copper Valley Town Square
Staff continue to work with CV Development Partners LLC on key issues and proposed development. These include planned redevelopment of the Copper Valley Square complex. The discussion includes requirements for off-site facility improvements including a permanent sewer force main and new lift station on Little John Road to serve Copper Valley Square (convey sewer to the wastewater plant) as well as rehabilitation of the existing lift station within Town Square. Also, the pre-existing water booster pump station serving the Copperopolis Zone has never been upgraded and is limited to 100-gpm. A new water booster pump station is needed to increase potable water delivery to Copper Town Square. These required off-site improvements are part of the original facilities agreement approved for Copper Town Square.

CCWD issued a letter on July 20, 2023 approving the "Copper Town Square Condominium Project, Preliminary Design Report for Wastewater Permanent Collection System." As of September 1, 2023, WGA submitted to CCWD the Copper Valley Force Main, 50% Phase 1 Plans, which CCWD is currently reviewing and will be returning comments this month. The schedule for completion will depend upon when WGA completes the next deliverables (90% and 100%) including adding electrical drawings to the plan set. CV will be petitioning CCWD to obtain financing through the Bond Opportunities for Land Development (BOLD) program to help finance the infrastructure.

An application for retail Building 11/12 was submitted by CV on May 2023. After asking for various clarifications, CCWD issued a concept approval on September 12, 2023.

On May 4, 2023, the County made an initial routing for the Copper Valley Town Square Townhomes Phase A, application for land use development (TSTM 2023-008), which in response CCWD stated that a new concept review application and facilities agreement are needed for the project to be served by CCWD. CCWD received an application for concept review this project on August 30, 2023 and it is under review by staff.

CV has requested that fire hydrant meters to fill water trucks and serve third parties are no longer place on hydrants within the Copper Valley Town Square commercial area.

Gold Creek Subdivision Unit 3
The owner was notified on October 19th by letter with a list of outstanding punchlist items prior to project acceptance by CCWD. Punchlist items include furnishing of a 2-year warranty bond and resolution of a cost share for offsite improvements to increase the capacity of the Huckleberry Lift Station. Staff has estimated $1,123,000 in necessary improvements to Huckleberry Lift Station with a cost share to Gold Creek Unit 3 of $140,474. Since no activity has occurred to resolve outstanding punchlist items and bring the project to final completion and acceptance, CCWD will need to notify the Owner that the water and sewer system will be disconnected from CCWD's system.

Jenny Lind Elementary School Force Main Project
This project includes a 20,000-ft sewer force main from the Jenny Lind Elementary School to a connection point with CCWD existing sewer system near Vista Del Lago. The project is being funded by the Clean Water State Revolving Fund (CWSRF) and CCWD has entered into a prior Letter Agreement with the School Board. Staff and KASL continue to discuss the design of the sewer force main, primary lift station at the Jenny Lind Elementary School and possible locations for a secondary/intermediate lift station near Berkesey Drive and Silver Rapids Road. Properly locating the secondary lift station along the alignment is a key issue. The School District's representative, Hugh Logan, KASL and CCWD will continue to coordinate to ensure an effective project. The new facilities will provide a future ability to provide sewer service to some lots along Berkesey Lane. CCWD has reviewed and returned comments on the 100% drawings to KASL. CCWD is currently reviewing the project specifications.

North Vista Plaza / LGI Homes
LGI Homes completed a sewer shed analysis as requested by the District. CCWD provided comments on design elements of LGI's plans and LGI completed amendments to those plans. Staff are reviewing the resubmitted plans and will be returning final comments. LGI Homes has retained Coleman Engineering to provide final design of the sewer lift stations. Staff discussed CCWD's design requirements with Coleman Engineering. The Water and Wastewater Facilities Agreement was approved by the Board at the December 14th meeting. At the March 22nd meeting, the Board authorized the District to participate in the Bond Opportunities for Land Development (BOLD) program, which will help facilitate new development including this project. Staff and LGI are evaluating alternatives solutions to correcting a bottleneck in the gravity sewer collection system near Vista Del Lago and Hwy 26, which must be resolved to serve the buildout of LGI's project.