NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

PROJECT NAME: **CACWD CONSOLIDATION PHASE 2 IMPROVEMENTS**
STATE CLEARINGHOUSE #: 2020059041

Date of Preparation: January 20, 2022

Lead Agency: Cobb Area County Water District

Project Description: CACWD completed consolidation of seven small water service districts in the Cobb Mountain area in 2019. CACWD identified deficiencies in the existing water systems that need to be rectified to ensure reliable delivery of safe drinking water to Service Area residents. The CACWD Consolidation Improvements project will be funded and constructed over several years and the CEQA review process was phased. Phase 1 projects were assessed at a project level of review in 2020 and the Phase 2 projects were assessed at the program level at that time. This document reviews identified Phase 2 projects at the project level including improvements to the Bonanza Springs Water System, Cobb Area Water System, Cobb Mountain Water Company and Starview Water System.

Project Location: Cobb Area County Water District, Lake County, CA

Findings: Based on the Initial Study dated January 20, 2022, the Cobb Area County Water District has determined that:

1. This project does not have the potential to degrade the quality of the environment, nor to curtail the diversity of the environment.
2. This project will not have a detrimental effect upon either short-term or long-term environmental goals.
3. This project will not have impacts that are cumulatively considerable.
4. This project will not have environmental impacts that will cause substantial adverse effects on human beings, either directly or indirectly.

Public Review Period: January 20, 2022 through February 21, 2022

Public Review: The Initial Study is available (beginning January 20, 2022) for public review at the Cobb Area County Water District, 16320 High Road, Cobb, CA. The Initial Study can also be viewed at https://brce.sharefile.com/share/view/s2017003de37447f0a311b9c831804ac1.
All documents referenced in the Initial Study are available at the office of Brelje & Race, 475 Aviation Blvd. Suite 120, Santa Rosa. The public is invited to submit written comments regarding the environmental findings and the proposed Mitigated Negative Declaration determination to: Cobb Area County Water District, PO Box 284, Cobb, CA 95426, for receipt by 5:00 pm, Monday, February 21, 2022. Persons commenting are advised to raise all pertinent issues during the public comment period. If action taken by the Cobb Area County Water District is challenged in court, the legal challenge may be limited to those issues raised by persons during the public comment period.

Where to Submit Comments: Cobb Area County Water District
PO Box 284
Cobb, CA 95426

Contact Person: Benjamin Murphy, General Manager
ben@cobbareawater.com
(707) 928-5262

The Mitigated Negative Declaration has been prepared in compliance with the provisions of the California Environmental Quality Act.

MITIGATED NEGATIVE DECLARATION

Project Title: CACWD Consolidation Phase 2 Improvements
State Clearinghouse #: 2020059041

Date of Preparation: January 20, 2022

Lead Agency: Cobb Area County Water District

Project Description: CACWD completed consolidation of seven small water service districts in the Cobb Mountain area in 2019. CACWD identified deficiencies in the existing water systems that need to be rectified to ensure reliable delivery of safe drinking water to Service Area residents. The CACWD Consolidation Improvements project will be funded and constructed over several years and the CEQA review process was phased. Phase 1 projects were assessed at a project level of review in 2020 and the Phase 2 projects were assessed at the program level at that time. This document reviews identified Phase 2 projects at the project level including improvements to the Bonanza Springs Water System, Cobb Area Water System, Cobb Mountain Water Company and Starview Water System.

Project Location: Cobb Area County Water District, Lake County, CA

General Plan: Varies, primarily in roadways or public utility easements

Zoning: Varies, primarily in roadways or public utility easements

Findings:

1. With the incorporation of mitigation measures, this project does not have the potential to degrade the quality of the environment, nor to curtail the diversity of the environment.
2. This project will not have a detrimental effect upon either short-term or long-term environmental goals.
3. This project will not have impacts that are cumulatively considerable.
4. This project will not have environmental impacts that will cause substantial adverse effects on human beings, either directly or indirectly.

- The proposed project could not have a significant effect on the environment and a Negative Declaration will be prepared.
- Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A Mitigated Negative Declaration will be prepared.

Public Review Period: January 20, 2022 through February 21, 2022

Mitigation Measures: See Initial Study

Where to Submit Comments: Cobb Area Water District
PO Box 284
Cobb, CA 95426

Contact Person: Ben Murphy, General Manager
(707) 928-5262

Attachment: Initial Study

CACWD CONSOLIDATION PHASE 2 IMPROVEMENTS

Lake County, California

Initial Study
State Clearinghouse #: 2020059041

January 2022

Prepared for:
Cobb Area County Water District
PO Box 284
Cobb, CA 95426

Prepared by:
Brelje & Race Engineers
475 Aviation Blvd., Suite 120
Santa Rosa CA 95403
707/576-1322

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Project Data

Project Title:	CACWD Consolidation Phase 2 Improvements
Lead Agency:	Cobb Area County Water District PO Box 284 Cobb, CA 95426
Contact Person:	Ben Murphy, General Manager (707) 928-5262
Project Location:	Cobb Area County Water District, Lake County, CA
General Plan Designation:	Varies, primarily in roadways of public utility easements
Zoning:	Varies, primarily in roadways of public utility easements

INTRODUCTION

The purpose of this Initial Study is to provide the Lead Agency, the Cobb Area Water District (District), with an assessment of relevant environmental information associated with implementation of the proposed project in order to determine whether a Negative Declaration, Mitigated Negative Declaration or an Environmental Impact Report (EIR) will be required for the Cobb Area Water District Consolidation Phase 2 Improvements Project. This environmental evaluation is intended to fully inform the Lead Agency, other interested agencies and the public of the proposed plan and associated environmental impacts. This Initial Study has been prepared in conformance with the requirements of §15063 of the 2020 California Environmental Quality Act (CEQA) Guidelines.

If the Lead Agency determines that there is no substantial evidence that the project may cause a significant effect on the environment, then a Negative Declaration may be prepared. A Negative Declaration may include conditions of approval to avoid or reduce potential impacts. However, if the Initial Study determines that the project may cause an unavoidable or unknown significant effect on the environment, the Lead Agency must prepare an EIR.

The Initial Study process also enables the Lead Agency to modify a project, mitigating adverse effects before an EIR is prepared, thereby enabling the project to move forward under a Mitigated Negative Declaration. This facilitates the environmental evaluation portion of the project development process and eliminates unnecessary EIRs.

PROJECT SETTING

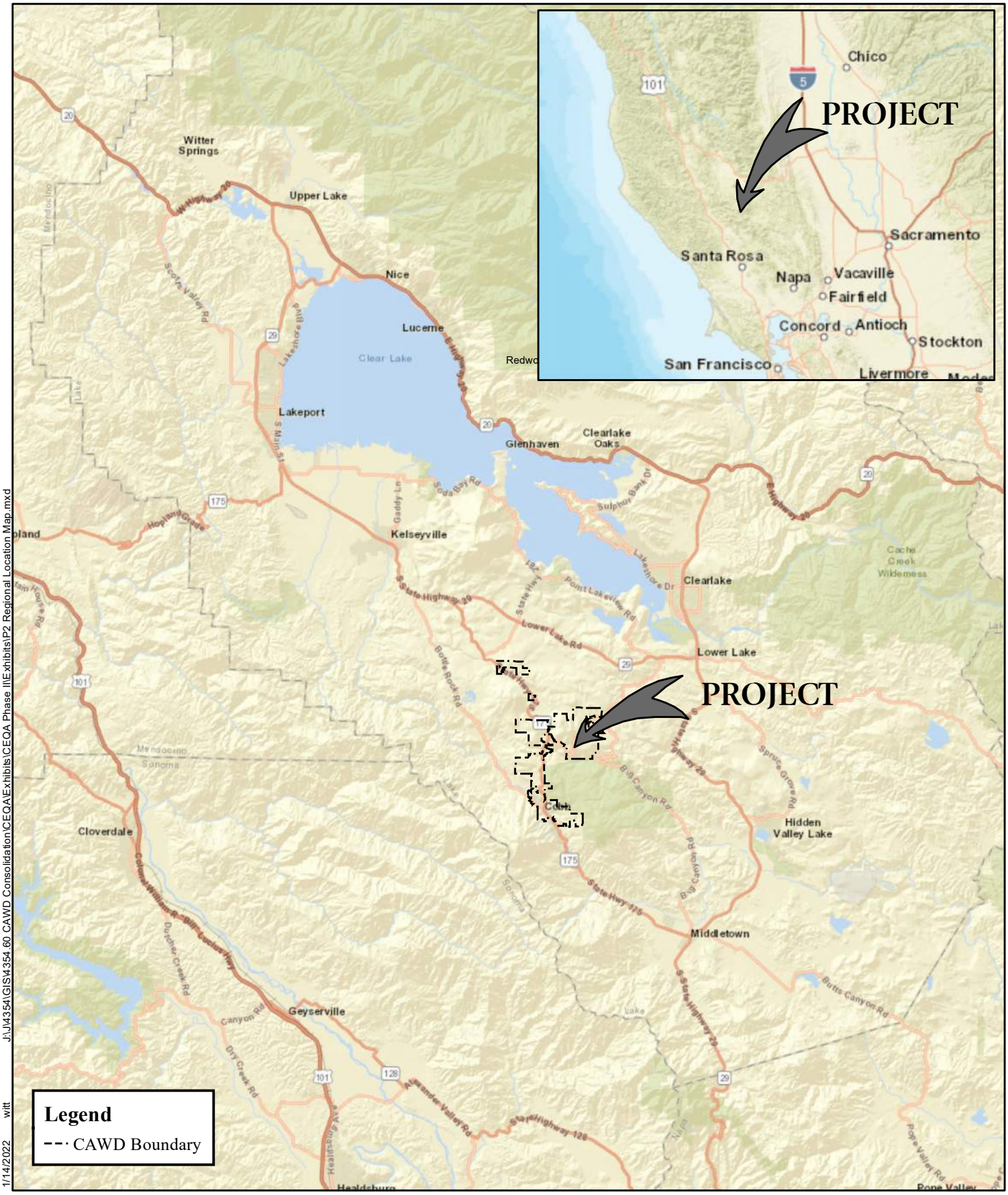
The project area is roughly bisected by Highway 175 within the rural community of Cobb Mountain, approximately midway between the communities of Middletown and Kelseyville. The project is located entirely within unincorporated Lake County. The project's regional location is shown on Figure 1 and the CACWD boundary is shown on Figure 2.

The project area is predominantly rural residential composed of a mixture of forest and chaparral vegetation groups. Surrounding land uses are agricultural or undeveloped lands with large lot sizes. The project area and its surroundings were heavily burned by the 2015 Valley Fire, as shown on Figure 2. The project locations have been cleaned up and many lots have been rebuilt or are in the process of rebuilding.

COBB AREA WATER DISTRICT

The Cobb Mountain area in Lake County is comprised of a diverse group of neighboring communities that, until recently, were served by at least twelve small water systems. In 2015, the area was severely affected by the Valley Fire. The fire caused significant damage to facilities in two of the water systems and to residences in four of the water systems.

While discussions of consolidation of the small water systems into a larger single water system had been ongoing for many years, the Valley Fire readily exposed to all, from the local property owner to State officials, the limitations and complexities of there being many small water systems managed by multiple entities during a natural disaster. The fire also highlighted the disparate levels of water service present in the Cobb Mountain area. The realization of these complexities, as exposed by the fire, provided the impetus to fund a feasibility study to consolidate the systems. The study resulted in consolidation of seven existing water systems with Cobb Area County Water District, commonly known Cobb Area Water District (CACWD).



J:\JJ4354\GIS\4354.60 CAWD Consolidation\CEQA\Exhibits\CEQA Phase II\Exhibits\P2 Regional Location Map.mxd witt 1/14/2022

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

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FIGURE 1
PROJECT LOCATION

CAWD - CONSOLIDATION PHASE 2
JANUARY 2022

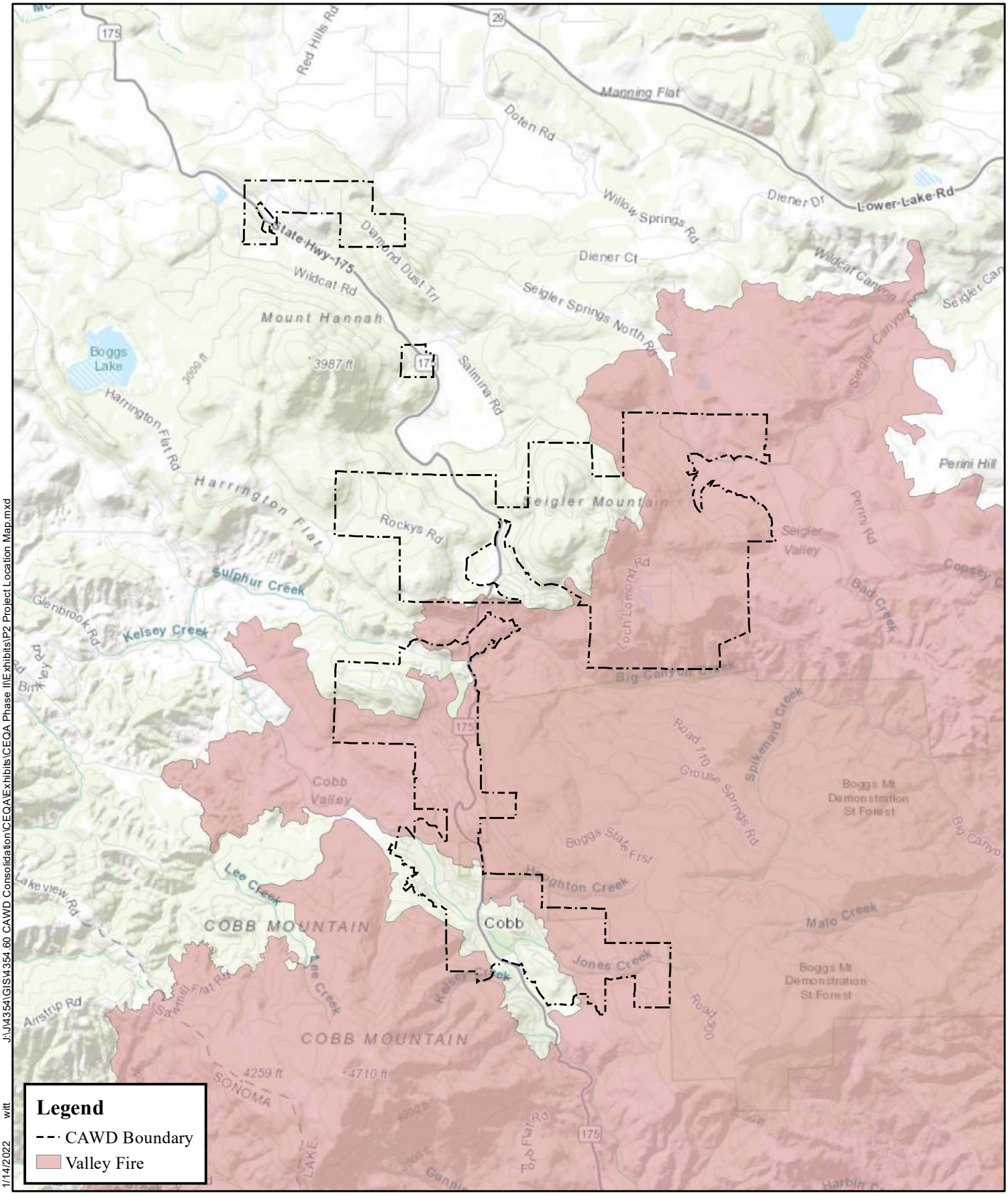

FIGURE 2
CAWD BOUNDARY

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022

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While the consolidation was primarily managerial and operational in nature, it has allowed some and will allow further physical connection of systems that are in proximity.

BACKGROUND

In 1953, the Cobb Mutual Water Company was formed to serve water to 18 rural subdivisions in the Cobb Mountain area. The Cobb Area County Water District formed on October 1, 1991, pursuant to Division 12 of the California Water Code. After CACWD formation, all assets and liabilities of the Cobb Mutual Water Company were transferred to the newly formed CACWD. While the legal name of the water district is Cobb Area County Water District, the system is known locally as Cobb Area Water District. In 2018, seven public water systems were consolidated with CACWD and one subdivision was annexed into the Service Area, resulting in CACWD as it is currently comprised, discussed in this document, and shown on Figure 3.

As a result of the recent consolidation, CACWD now owns and operates five separate water systems: Cobb Area, Bonanza Springs, Starview, Mount Hannah, and Branding Iron/Hill 9 &10 as shown on Figure 3. Each water system is a stand-alone water system, consisting of all facilities necessary to provide water. The Cobb Area water system was created by combining the former Cobb Area Water District service boundary with the service boundaries of the former Pine Grove and Adams Springs water systems. The Bonanza Springs water system consists of the former Bonanza Springs CSA-#7. The Starview water system consists of the former Starview CSA-#18 and the Alpine Meadows Subdivision. The Mount Hannah water system consists of the former Mount Hannah CSA-#22. The Branding Iron/Hill 9 & 10 Water System consists of the former Branding Iron Mutual Water Company and the Hill 9 & 10 Water Association.

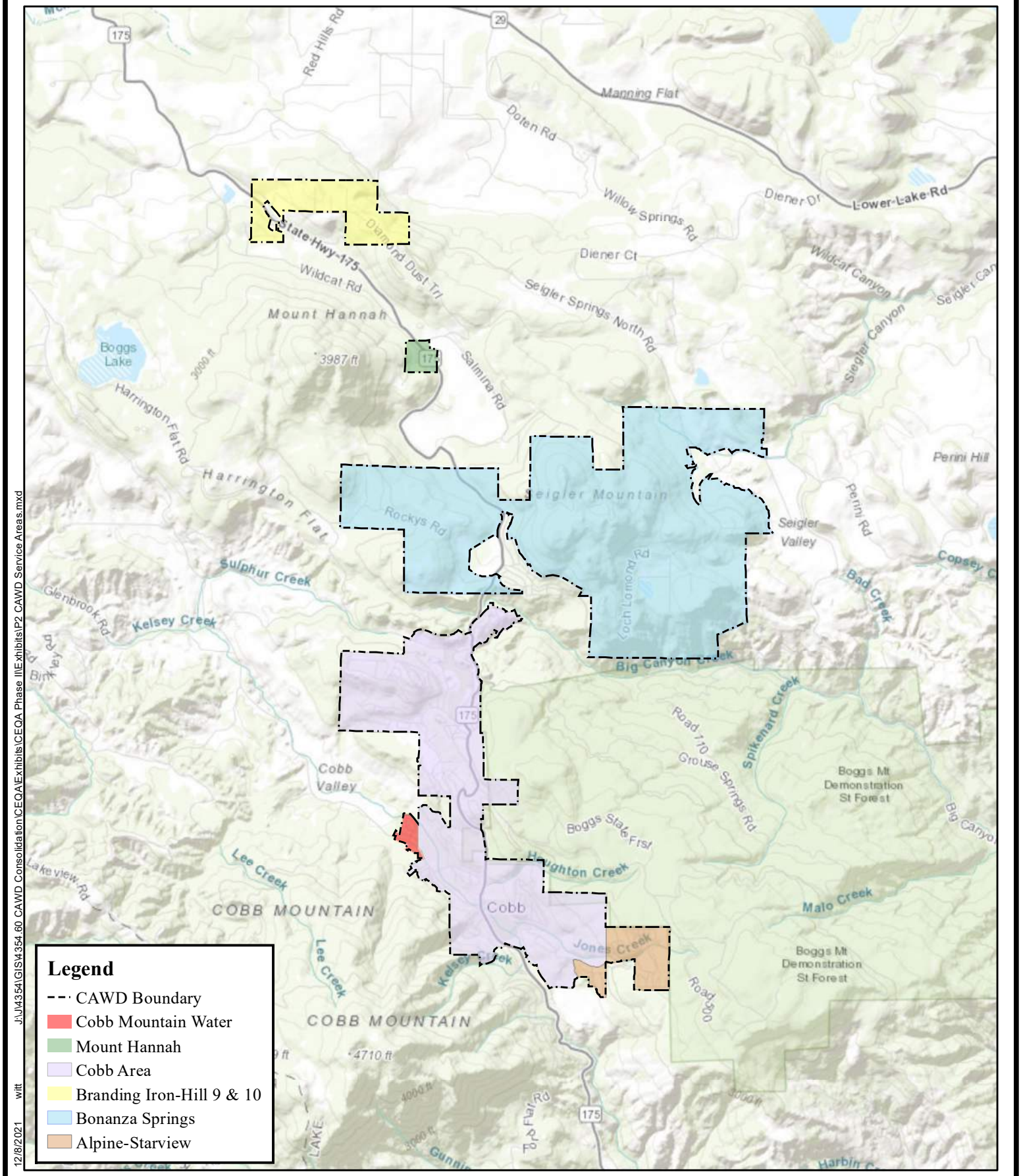
The post-consolidation CACWD service area encompasses approximately 5,700 acres. Prior to the Valley Fire, the combined systems served a population of approximately 2,953 people through 1,244 connections. The pre-fire connection total was used in the subsequent evaluations as more data is available for that condition and it is expected that the number of connections and population will return to near the pre-fire levels as the area is rebuilt. The combined systems comprising CACWD currently have 931 active connections.

CACWD is governed by a five-member Board of Directors, each a voter of the district. The Board of Directors acts via ordinances, resolutions, and motions. They are responsible for adopting rates and fees to be collected by the CACWD. The board also has the authority to appoint the general manager, secretary, and treasurer. The general manager oversees daily operations.

The following describes each of the existing water systems, now consolidated into the CACWD.

Cobb Area Water System

The Cobb Area water system service area encompasses approximately 1,485 acres. Prior to the Valley Fire, the three water systems (CACWD, Pine Grove, and Adams Springs) that now comprise the Cobb Area water system provided water to approximately 1,870 people through 845 connections. Currently, there are 631 active connections. The water system's number of connections is expected to return to its pre-fire number once rebuilding is complete.



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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

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FIGURE 3
CAWD SERVICE AREAS

CAWD - CONSOLIDATION PHASE 2
JANUARY 2022

SOURCE, TREATMENT AND STORAGE

Cobb Area's water supply is derived from five sources: Wells 1, 2 and 3, the Boggs Spring, and the Schwartz Spring. All sources are classified as groundwater sources by the State Water Resources Control Board – Division of Drinking Water (DDW). Well 3 is the only source that produces water with constituents that exceed their respective Maximum Contaminant Levels (MCLs); therefore, the water from this well must be treated before it can be delivered to the distribution system.

All sources are disinfected using NSF-60 certified liquid sodium hypochlorite (NaOCl). Disinfection ensures that the system serves water that complies with state standards regarding absence of coliform bacteria in the distribution system.

Treatment of raw water derived from Well 3 takes place at the Emerford booster station site. The Well 3 treatment facilities sustained severe damage in the Valley Fire; the facilities have since been under reconstruction and are almost complete. The treatment facilities consist of oxidation using ozone, filtration using a green sand filter, and disinfection using a chlorine solution. The ozone and filtration are used to reduce iron and manganese levels. The Emerford clearwell is an 18,000-gallon welded-steel tank. Disinfection is accomplished by injecting a sodium hypochlorite solution into the clearwell when the booster pumps are pumping water from the clearwell to the Lassen tanks.

Storage is provided by seven storage tanks located at six sites within the distribution system. The capacities and materials of each tank are shown below.

Tank Site	Number of Tanks	Year Built	Tank Type	Capacity (gallons)
Boggs Tank	1	2004	Bolted Steel	200,000
Forestry Tank	1	2018	Bolted Steel	200,000
Schwartz Tank	1	1940s; rehab in 2014	Bolted Steel	166,000
Lassen Tank Site	2	1985, 1995	Welded Steel	200,000 (Total)
Adams Springs Tank	1	1998	Bolted Steel	200,000
Horizontal Tank	1	1950s	Welded Steel	25,000
		Total Storage		991,000

DISTRIBUTION SYSTEM

The distribution system conveys water from a source or treatment facility to the customer. The existing distribution system is constructed of various piping materials including asbestos cement (ACP), polyvinyl chloride (PVC), ductile iron (DIP), galvanized steel (GSP), high density polyethylene (HDPE), and tar wrapped steel. Piping size ranges from 1.5- to 8-inch diameter. Service connections are generally ¾ inch diameter and were installed using various piping materials.

The distribution system includes four service areas that are further subdivided into twelve primary pressure zones. Multiple pressure zones have been established where necessary to accommodate elevation change and/or piping layout. Base pressure in each service area is set by the water level in the tank(s) located therein. Where lower service pressures are desired and/or necessary within a service zone, pressure reducing valves (PRV's) have been installed. Where service pressures need to be greater than is provided by the tank, a booster station is used. Because no meters have been installed at the boundaries between pressure zones, pressure zone water demands are unavailable.

The distribution system includes three booster stations: the Emerford booster station, the Big Fir booster station, and the Lassen hydro-pneumatic booster station.

The Emerford booster station is located at the intersection of State Route 175 and Emerford Drive and supplies water to the Lassen tanks. Prior to the Valley Fire, the station consisted of two pumps, one 15-HP and one 25-HP. The fire destroyed the booster station. The booster station has been rebuilt with just one 25-HP pump and accommodations for a second pump.

The Big Fir booster station is located in the Boggs service area near the intersection of Big Fir Lane and Manzanita Court. Its function is to lift water from the Schwartz service area to the Boggs service area. The booster station consists of one 10-HP pump installed in a vault. The facility does not include a second pump nor does CACWD have one on-hand in the event of pump failure.

The Lassen hydro-pneumatic station serves a hydraulically separate pressure zone. The booster station consists of one 7.5-HP booster pump and a bladder pressure tank. The facility does not include a backup pump nor does CACWD have one in stock in the event of a pump failure.

There are nine pressure reducing valve (PRV) stations installed in the distribution system. The stations are typically installed in below-grade concrete vaults and generally consist of two valves: a valve that matches the main size and a smaller valve plumbed in parallel. The smaller valve provides water for routine (domestic) demands and the larger valve should open only when higher demands, such as fire flows, are required.

The distribution system includes both wharf hydrants and fire hydrants interspersed throughout. Wharf hydrants consist of a 4-inch standpipe with one or two 2.5-inch outlets. The fire hydrants are 6-inch dry barrel hydrants. CACWD's ordinances do not guarantee the provision of fire protection.

Bonanza Springs Water System

The Bonanza Springs water system consists of the former County Service Area #7 – Bonanza Springs, which was formed in December 1971 to create a single water system to serve the customers of the previous Bonanza Springs, Seigler, and Forest Oaks Water Companies. The system served approximately 450 people through 177 connections before the Valley Fire. There are currently 143 active connections. The Bonanza Springs service area covers approximately 2,430 acres.

SOURCE, TREATMENT AND STORAGE

Bonanza Springs has one standby and two active wells. Secure source capacity is 80 gpm or 115,200 gallons per day (with the largest single source out of service). Well 2 has been designated as a standby well as it does not have an annular seal. As a standby source, state regulations limit the use of Well 2 to not more than five consecutive days and a total of 15 days per year.

The current treatment consists of disinfection using a sodium hypochlorite solution and filtration. Storage is provided by a single 100,000-gallon welded steel tank. The tank was constructed in 1989 and recoated in 2013. The tank has no mechanical hold down provisions and piping connections are rigid. Well operations are based on the storage tank water level. Tank water level is communicated to the well pump controller using a telephone-line based telemetry system.

DISTRIBUTION SYSTEM

The distribution system consists of approximately 19,700 linear feet of piping ranging in size from 1.5- to 8-inch diameter. Piping material is PVC and asbestos cement. A distribution replacement project is currently ongoing. The project includes installing 52 replacement services (1-inch) and 20 fire hydrants. The fire hydrants are being installed on mains as small as 3-inch in diameter.

The distribution system includes two pressure zones that result from a pressure reducing valve station on Loch Lomond Road between Ridge Road and Shenandoah Road. The PRV station consists of two hydraulically actuated valves: a 6-inch and a 2-inch, in parallel. The station was designed with isolation valves so either control valve can be independently removed from service for maintenance. The larger valve may have been installed at the time the pipe was installed (1971).

Starview Water System

The Starview water system consists of the former County Service Area #18 – Starview (Starview), originally formed in June 1985 to provide public ownership and operation of the previously privately-owned domestic water system the Starview subdivisions. As part of the recent consolidation, a subdivision below the Starview water system, Alpine Meadows, was annexed into CACWD. As part of this annexation, Alpine Meadows will be served by the Starview water system facilities. Alpine Meadows is not a regulated public water system and, CACWD is receiving state aid to supply bottled drinking water to homes within the subdivision, indicating that the water previously distributed in the subdivision would most likely not meet state standards.

Starview served a population of approximately 400 people through 142 connections before the Valley Fire. Currently, there are 76 active connections. The connection of Alpine Meadows to Starview would add 14 connections to Starview, bringing the total system count to 156 connections (not all are active currently). Starview's total service area covers approximately 152 acres.

SOURCE, TREATMENT AND STORAGE

Starview has one inactive and one active supply source, Well 2 and Well 3, respectively. Raw water samples from Well 3 have exceeded the secondary MCL for iron (300 ug/L) in the past, with the most recent exceedance being in April 2009. The subsequent test results (in 2012, 2015, and 2018) did not exceed the secondary MCL.

Water produced by Well 3 is disinfected using sodium hypochlorite and is treated with two magnesium oxide filters in parallel for corrosion control. Storage is provided by a 100,000-gallon welded-steel storage tank. The tank was constructed in 1989. The foundation is a gravel pad retained by a steel ring. The tank has no mechanical hold down provisions and piping connections are rigid. The tank has never been recoated. Well operation is based on the tank water level. Tank water level is communicated to the well pump controls using a telephone-line based telemetry system.

DISTRIBUTION SYSTEM

The distribution system consists of piping ranging in size from 4-inch to 8-inch in diameter. A significant portion of the distribution system and nearly 90 percent of the homes served by the system were destroyed due to the Valley Fire. The damaged distribution system has since been replaced. The distribution system was replaced in two separate capital improvement projects prior to consolidation. The first project replaced water mains in the northern section of the distribution system and installed 25 new fire hydrants throughout the

system. The second project replaced 129 water services throughout the system. The distribution system now primarily consists of 6-inch PVC main in the northern section and 4-inch AC main in the southern section.

Mount Hannah Water System

The Mount Hannah water system consists of the former County Service Area #22 – Mount Hannah. The water system was originally constructed in the early 1970s to serve the Mount Hannah subdivisions and adjacent parcels. The Mount Hannah water system serves approximately 100 people through 36 connections over approximately 38 acres. The Mount Hannah water system came under the ownership and operation of CACWD with the recent consolidation efforts. As improvements to the Mount Hannah Water System are to occur under Phase 1, this system is not discussed further in this document beyond this overview.

SOURCE, TREATMENT AND STORAGE

Water supply for the Mount Hannah system consists of two active groundwater wells and one inactive well. Operations staff reports that the static water level varies throughout the year, reflecting seasonal changes to the groundwater table. When the groundwater level is high, Well 2 can produce water at 37 gpm, the rating of the pump. During periods when the groundwater level is low, the well can become over-pumped because the well pump's capacity exceeds the ability of the well to produce water. Well 3 reportedly produces 15 gpm. The wells cannot be operated at the same time due to limitations in the power supply and controls system.

Water quality concerns with Well 2 include turbidity, aluminum, and iron. Water quality of Well 3 has not exceeded any primary or secondary standards based on a review of the well's water quality test results. Well water is disinfected with a sodium hypochlorite solution and filtered.

System storage is provided by a 97,000-gallon bolted-steel tank that was constructed in 2008. The tank connections to distribution piping are below grade. In addition, the tank is attached to the foundation by anchor bolts. The controls system turns the well pumps and chemical injection pump on and off. Well operation is based on a timer. The operators adjust the amount of time the well runs based on the tank level observed that day. Operations staff change which well is in operation via a manual switch. The building that houses the controls and treatment facilities is in disrepair.

DISTRIBUTION

The distribution system consists of piping ranging in size from 2- to 6-inch diameter. A new 6-inch diameter PVC main was installed in 2016 along Lovina Drive to replace an aging main. Except for that main segment, the larger diameter piping is "dip and wrap" steel pipe. Smaller diameter distribution and service piping is galvanized iron pipe. Water mains are located in roadways, along cross-country routes, and even in customers' backyards.

Comparison of water production and water sales records suggest that 40 to 60 percent of water produced is unaccounted for. From 2013 through 2016, annual well production ranged from 145 to 196 gallons per day per connection as compared to annual sales of 75 to 100 gallons per day per connection. Potential explanations for the high losses include system leaks, unrecorded operational uses (main flushing), theft, and inaccurate production and sales meters.

Branding Iron/Hill 9 & 10 Water System

The Branding Iron/Hill 9 & 10 water system consists of the former Branding Iron Mutual Water Company and the former Hill 9 & 10 Water Association. The Branding Iron Mutual Water Company was formed in 1967 to serve water to the Branding Iron Acres Subdivision and several adjacent parcels. The water system served approximately 90 people through 27 connections. The Hill Nine and Ten Water Association was formed in 1970 to serve water to parcels along Diamond Dust Trail.

These two systems are in the process of being interconnected as the result of a capital improvement project. Environmental review of the interconnection project was conducted in 2018 (State Clearinghouse Number 2018042066) and the project is now complete. This system is not discussed further in this document.

PHASE I PROJECTS OVERVIEW

Phase I projects underwent CEQA review in 2020. The public review period ran from May 27 through June 25, 2020. The Notice of Determination was filed with the Lake County Clerk and the State Clearinghouse on July 20, 2020. The State Clearinghouse number for the Phase I CEQA review is 2020059041. That same State Clearinghouse number will be utilized for the Phase II projects.

Phase I projects that have been reviewed under CEQA and are now either in design, pending funding or under construction. Phase I and II projects are shown on Figure 4. The Phase I projects included the following:

Adam Springs Distribution Improvements

Existing undersized and leaking water mains will be replaced with new 2-, 6- and 8-inch water main and new fire hydrants will be installed. Approximately 5,300 liner feet of main will be installed, generally within existing roadways. Disturbed water services will be transferred to the new main. A pressure reducing valve station will be installed to moderate pressure in the distribution system.

Adams Springs Tank Rehabilitation

The existing Adams Springs water tank will be refurbished, potentially including replacement of the interior and exterior coatings. Existing rigid connections will be replaced with flexible connections to resist seismic forces.

Alpine Meadows Distribution Improvements

Approximately 5,000 feet of new 6-inch water main will be constructed within existing roadways to interconnect the Alpine Meadows area to the Starview area. Disturbed water services will be transferred to the new main. A pressure reducing valve station will be installed to moderate pressure in the distribution system.

Mount Hannah Distribution Improvements

With the exception of the recently installed PVC pipe, the distribution system will be completely replaced with mains and services sized to deliver fire flows and serve residential sprinkler systems. Existing mains will be replaced with 2- and 6-inch water mains. Disturbed water services will be transferred to the new mains.

Approximately 4,900 linear feet of mains will be constructed within existing roadways except a portion along Highway 175 that will be constructed near the easterly road shoulder.

Pine View Heights Distribution Improvements

Existing mains will be replaced with 2- and 6-inch water mains. Approximately 5,100 linear feet of main will be constructed within existing roadways except a portion along Highway 175 that would be constructed near the easterly road shoulder to replace the portion of the existing main that is inaccessible. New fire hydrants would be installed.

Schwartz Tank Rehabilitation

The interior and exterior coatings will be assessed and potentially replaced. Existing rigid connections will be replaced with flexible connections to resist seismic forces.

PROJECT OBJECTIVES/PURPOSE AND NEED

The project objectives and need are unchanged from the Phase I CEQA process. Consolidation of the water districts into CACWD resulted in the CACWD operating and maintaining water systems that were in various states of repair and regulatory compliance. The Consolidation Improvements project's primary objective is to bring all the water service areas up to current regulatory standards to continue to provide residents with safe and reliable drinking water. A secondary objective is to provide additional fire hydrants where the systems can support adequate fire flows.

EVALUATION CRITERIA

As part of the consolidation project, the existing water systems were assessed using current regulatory evaluation criteria from the California Code of Regulations, Lake County Code, and industry standards. These criteria define facilities that would comprise a reliable and safe drinking water system and have been used to identify deficiencies within the existing water systems and to develop recommendations where improvements are needed. The following evaluation criteria were utilized in identifying system deficiencies.

System Component	Evaluation Criteria
Source	
Source Capacity	Must meet maximum day demand of last 10 years with highest-capacity source offline
Well Construction	50 foot annular seal
	Wellhead 18" above finished grade
	Concrete surface seal: 2 feet laterally in all directions from casing and 4 inches thick
Well Pump	Pumping capacity to deliver maximum day demand (MDD)
	Automatically controlled and remotely monitored
Treatment	
Disinfection	Negative results on bacteriological tests
Treated Water Quality	Treated water to meet current drinking water standards

Treatment Equipment	Capacity to treat MDD
	Automatically controlled and remotely monitored
Storage[1]	
Fire Storage	60,000 gallons (500 gpm for 120 min.)[2, 3]
Domestic Storage	Maximum Day Demand[3]
Distribution System	
Minimum Distribution Pressure	40 psi during normal operations
	20 psi at all times including during emergency operations
Maximum Distribution Pressure	150 psi[4]
Maximum Service Pressure	80 psi at the structure
Piping Material	HDPE, PVC, DIP; durable and corrosion-resistant
Water Main Sizes	4-inch minimum
Services	1-inch minimum service lateral and meter
Fire Flow	500 gpm[2]
Fire Hydrants	Dry barrel
Fire Hydrant Spacing	500 feet maximum; 400 feet on dead end roads 200 feet from end of road

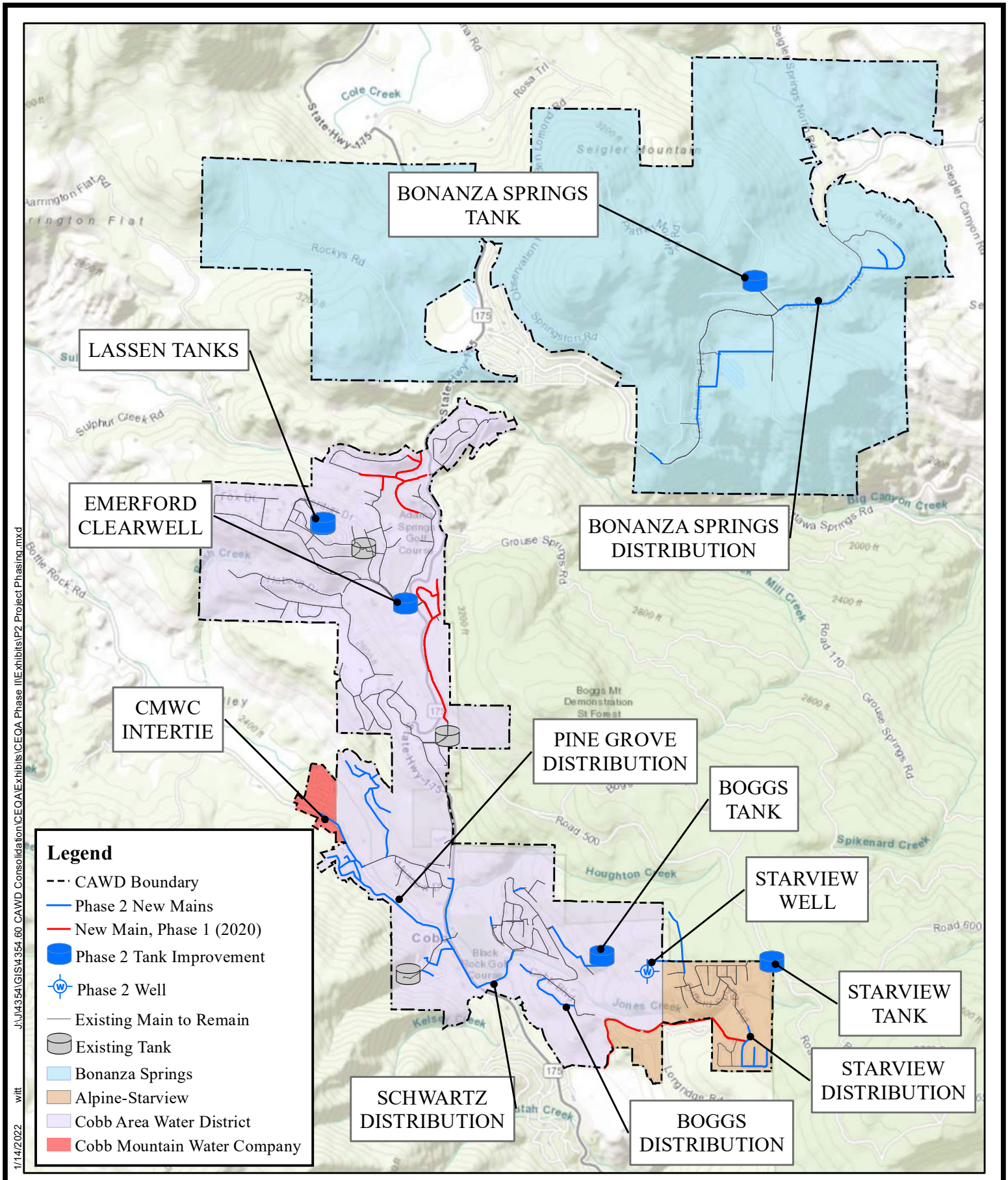
POLICY SETTING

Development in the project area is governed by the 2008 Lake County General Plan and the County's zoning code. Development in the Cobb Mountain area is also guided by the 1989 Cobb Mountain Area Plan. The CACWD is governed by a publicly elected board and is charged with operating and maintaining the water system facilities within its service areas.

PHASE 2 PROJECT DESCRIPTIONS

CACWD completed consolidation of seven small water service districts in the Cobb Mountain area in 2019. As part of the consolidation process, CACWD identified deficiencies in the existing water systems that need to be rectified to ensure reliable delivery of safe drinking water to Service Area residents. The CACWD Consolidation Improvements project will be funded and constructed over several years and the CEQA review process is also phased. Phase 1 projects were assessed at a project level of review in 2020 and the Phase 2 projects were assessed at the program level at that time. This document reviews those identified Phase 2 projects at the project level. Phase 2 projects subject to the current environmental review are shown on Figure 4. Phase 2 projects are described below.

[1] Storage requirement shall be the larger of the calculated storage volume (fire or domestic).
[2] All new houses are required to install fire sprinklers.
[3] MDD and/or fire storage available for use in each service zone.
[4] Maximum distribution pressure may be higher if pipe materials are selected to withstand higher pressures.



Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

NORTH

0 750 1,500 3,000 Feet

FIGURE 4
PHASE 2 PROJECTS

CAWD - CONSOLIDATION PHASE 2
JANUARY 2022

Brelje & Race

BONANZA SPRINGS WATER SYSTEM

Source

Bonanza Springs can readily satisfy its maximum day demand of 76,464 gallons using its Well 4. Well 4 has a capacity of 115,200 gallons. Should Well 4 be out of service, the same amount of water can be produced from Wells 2 and 3 (40 gpm from each well). Therefore, the system has supply redundancy. No source improvements are proposed.

Treatment

The disinfection system is adequate based on routine bacteriological testing results. The filtration facilities are effective in lowering finished water turbidity to acceptable levels on an as-needed basis. No treatment improvements are proposed.

Storage

Existing storage within Bonanza Springs (100,000 gallons) exceeds the system's maximum day demand and separately the recommended 60,000-gallon fire storage requirement. The tank appears to have been designed to meet the design standards applicable at the time of its construction in 1989 but does not appear to meet current design standards with respect to seismic considerations. The foundation consists of a gravel pad, inlet/outlet piping that is rigidly connected to the tank shell, and minimal freeboard. While the tank does not appear to meet current seismic requirements due to changes in the building code, if properly maintained it should remain serviceable for many more years in the absence of a significant seismic event.

Proposed Storage Improvements

Piping connections to the tank would be modified to accommodate tank movement resulting from a seismic event. Tank replacement should be considered prior to proceeding with any major tank upgrades or repairs but is not part of the proposed project. The tank location is shown on Figure 5.

Controls

The controls system is effective at automatically controlling the wells based on the tank water level. Currently, the only system status information relayed to operators are low tank level and power failure alarms.

Proposed Controls Improvements

A Supervisory Control and Data Acquisition (SCADA) system would be installed to allow operators to monitor system status remotely and receive additional alarms.

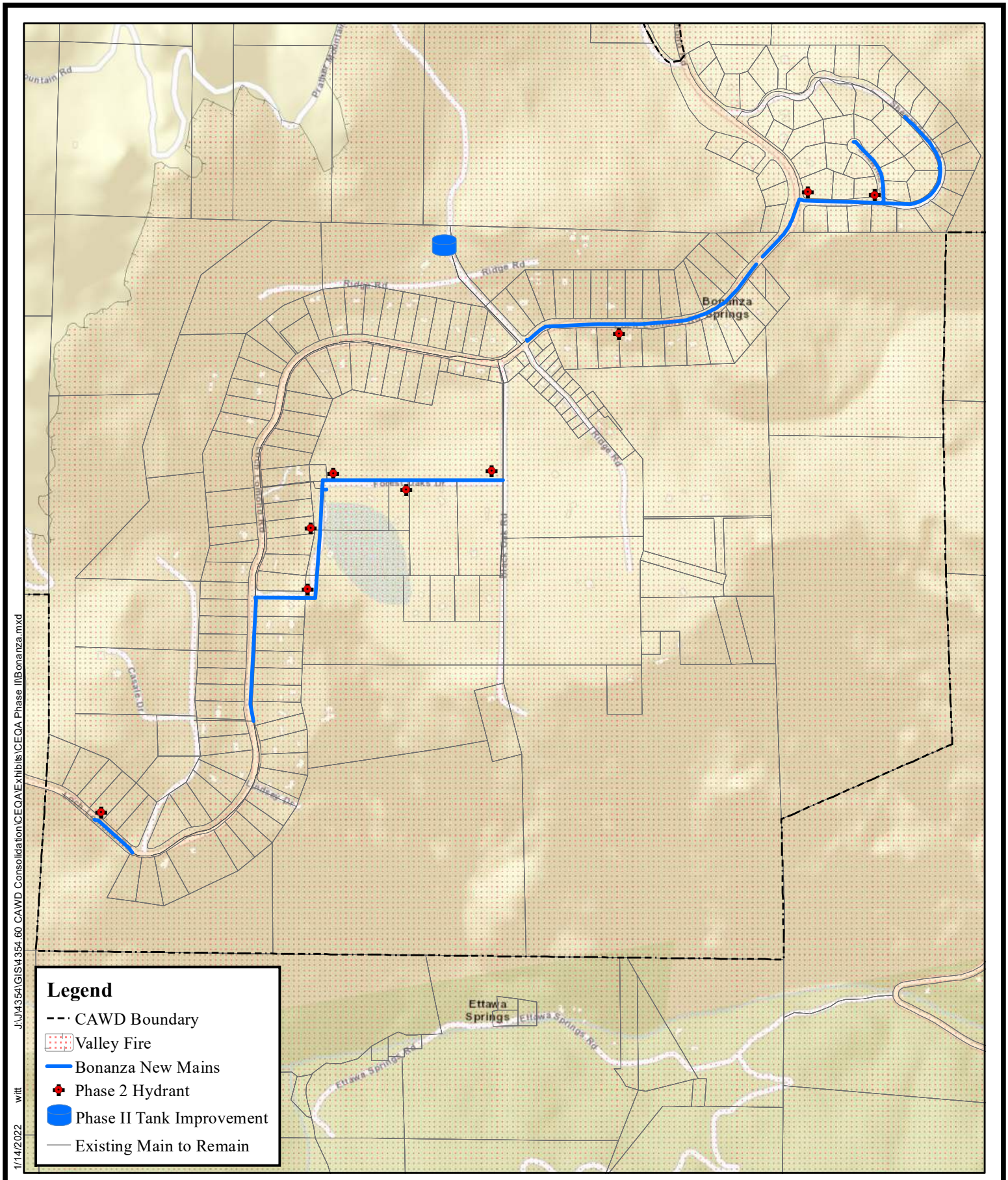


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FIGURE 5
BONANZA AREA

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022

Distribution System

The condition of the distribution system varies with location. The piping in Loch Lomond Road west of the tank pipeline is reported to be in good condition. The piping to the east, down to Shenandoah Road, is undersized. In order to maintain the minimum system pressures under fire flow conditions, various main segments need to be replaced with larger piping and additional main loops need to be created. Additionally, there are several segments of 1 ½-inch diameter piping that serve multiple homes. This piping is marginally adequate and has been leak prone. Service pressures at a group of homes located in the highest portion of the service area do not meet the minimum required during fire flows. Installing a parallel main would increase service pressures to acceptable levels during a fire event.

Proposed Distribution Improvements

Water mains would be replaced with appropriately sized pipes. Approximately 9,500 linear feet of main and service laterals would be installed. Looping and a parallel main would be provided, as shown on Figure 5. The Bonanza distribution system improvements would likely be funded and constructed as a discrete project.

COBB AREA WATER SYSTEM

The Cobb Area Water (CAW) system is the largest service area in the District and is comprised of several pressure zones that were independent water districts prior to consolidation into the District. Proposed water distribution improvements would occur in the Pine Grove, Boggs and Schwartz systems. Tank improvements would occur at the Lassen and Schwartz tank sites. The Emerford clearwell would also be improved.

Water Source

The Schwartz service area has 193 connections, which includes the 91 connections from the former Pine Grove system. The service area is supplied water by the Schwartz Spring with a capacity of approximately 250 gpm or 360,000 gallons per day. Supply can also be obtained from both the Lassen and Forestry service areas. Combined, these two service areas can deliver more water into the Schwartz service area than the spring. Therefore, the redundant source capacity of the service area is the capacity of the spring. Source capacity exceeds the MDD requirement by approximately 253,850 gallons per day. A portion of this excess capacity is reserved to make up for the Boggs service area supply shortage.

The Boggs service area has 178 connections and is supplied water by the Boggs Spring and from the Schwartz Spring via the Big Fir booster station. The Boggs Spring has a capacity of 28,800 gallons per day and the Big Fir booster station can supply 144,000 gallons per day of excess supply from Schwartz Spring resulting in a total source capacity of 172,800 gallons per day. The estimated MDD for the Boggs service area is 97,900 gallons of which 28,800 gallons is supplied by the Boggs Spring and the remainder by the Schwartz service area. Should the largest source (Schwartz Spring) be out of service, any supply shortfall would be met from other sources in the Lassen and Forestry service areas via the Big Fir booster station. The Big Fir booster station is the key component to ensuring adequate supply is always available to this service area.

The Big Fir booster station consists of a single pump installed in a vault. Local groundwater seeps into the vault resulting in the potential to submerge the pump. A sump pump is installed in the vault to protect the booster pump by keeping the water level in the vault below the pump. Should the sump pump fail and allow the booster pump to become submerged, the supply to the Boggs service area would drop to 28,800 gallons per day.

Historically, power outages have occurred within the area during the winter, a low water use time of year. Power outages in the winter are most often due to equipment failure or storm damage and generally affect small regions within the water system. As the regional electricity provider (PG&E) implements its Public Safety Power Shutoffs (PSPS) during times of high wildfire danger during the summer and fall, which is also the high water use time of the year. Power failure during the high use time of year leaves the operators less time to react due to the increased water usage. In addition, it is expected that the PSPS outages will affect a larger area than the wintertime outages.

The CAW system does not have any backup generators. Boggs and Schwartz Springs are the only gravity sources; therefore, a system-wide loss of power would significantly reduce source capacity.

State regulations require that a system have at least two sources for redundancy and be capable of meeting the maximum day demand (MDD) with the highest-capacity source offline. The present total gross source capacity is 660 gpm with no redundancy. Even with the highest-capacity source unavailable, the system would have an excess capacity of 305,650 gallons per day. Source redundancy is also required in each service area. Since the service areas are connected, sources in one service area may function as a redundant source for another.

Proposed Source Improvements

As more power outages are now expected during the summer and fall, it is recommended that backup power generators, permanent and/or portable, be considered for installation and use within the system. The booster station at the Lassen Tank Site should be equipped with a backup power generator and automatic transfer switch as this site requires power to maintain service pressure. The generator and transfer switch would allow power to be restored almost immediately, providing uninterrupted water service. The Emerford booster site, Well 1 site, Well 2 site, and the Big Fir booster station would have at least a power transfer switch with a receptacle installed for either a portable or permanently-installed backup power generator.

The Boggs service area does not have a truly redundant supply because of deficiencies in the Big Fir booster station. The booster station would be reconstructed in a manner to provide redundant supply for the Boggs service area. The station would be reconstructed such that the pump station vault can drain or the pump station can remain in service when flooded. It is recommended that the booster station be reconstructed to have two booster pumps that are operated in a lead/lag configuration and critical component parts kept in inventory.

It is recommended that the well pumps at Well 1 and Well 3 be retrofitted with variable frequency drives (VFDs) in order to match the output of the wells to the output of the booster pump at the Emerford booster pump station. VFDs would reduce the number of stops and starts of the well pumps and gradually increase the pipe pressure, reducing the stress on the well pump and piping from the well pump to the clearwell.

The Pine Grove spring is disconnected from the system due to classification as surface water which would require surface water treatment. Therefore, it is recommended that the spring be properly abandoned.

Treatment

The primary objective of treatment is to ensure that water supplied is high quality and meets state and federal drinking water standards. Treatment of raw water derived from Wells 1 and 2 and the Schwartz and Boggs Springs has historically consisted of disinfection, which meets the state requirements for these sources. In addition to disinfection, Well 3 requires treatment for iron and manganese removal. The Well 3 treatment

system reconstruction is almost complete. The treatment process includes ozone, pressure filtration with greensand media, and disinfection using sodium hypochlorite.

The water produced by Wells 1 and 3 is disinfected by injecting a chlorine solution into the Emerford clearwell and metered based on the flow of the booster pumps. This injection location and timing leads to inconsistent disinfection, allows for a well pump to run without injection of chlorine, and could possibly result in a chlorine residual gradient from the inlet to the outlet of the clearwell.

Since the operations staff has indicated that the water from Well 1 and the Boggs Spring may be causing copper to leach from private service piping, further analysis of the water should be performed to confirm if additional treatment is required or not. Two common methods to mitigate this problem include adjusting the water chemistry or introducing a corrosion inhibitor.

Proposed Treatment Improvements

The chlorine injection point for Wells 1 and 3 in the Emerford clearwell would be replaced with two chlorine injection points, one in the inlet pipe to the clearwell for each well. Two chlorine injection pumps would be installed, one dedicated to disinfect the water from each well. The location of the Emerford clearwell is shown on Figure 4. Proposed improvements would likely be funded and constructed as a discrete project.

Abandonment of the Pine Grove treatment plant is recommended due to the poor condition of the system's treatment facility and the ability of the other system sources to meet the MDD with the largest source offline.

Storage

System storage is required to equal or exceed the system's MDD of 464,750 gallons. In addition, each service area must include storage volume equal to its MDD or have a means to draw upon excess storage in another service area. Storage in each service area and in the CAW system exceeds the MDD requirement. In addition, all service areas, except Schwartz, have an excess of 60,000 gallons that can be used for fire protection. The system can move an excess of 60,000 gallons of water from the Forestry Area to the Schwartz area if needed. The Schwartz tank is scheduled for rehabilitation as part of the Phase 1 project.

The Lassen tanks are generally in fair to good condition; however, visible rust is showing through the exterior coating and it should be recoated. One of the tanks has not had the interior inspected due to the lack of access. While the tanks do not appear to meet current seismic requirements due to changes in the building code, absent a significant seismic event they should remain serviceable for many more years with modest investment .

The Forestry tank was designed and constructed in 2016 in accordance with AWWA D103 (2009), the current design and construction standard. It has flexible connections between the below grade piping and the tank. The tank should be serviceable for many years with proper maintenance.

The Boggs tank is in good to excellent condition. The foundation is a gravel pad and the piping connections to the tank are flexible. The Boggs tank does not have any visible exterior defects.

The Adams Springs tank is scheduled for rehabilitation as part of the Phase 1 project.

The existing Pine Grove storage tanks are in poor condition.

Proposed Storage Improvements

No additional storage is needed as the current storage volume exceeds the system MDD and each service area has sufficient storage to meet or exceed the service area MDD.

All rigid piping connections to the tanks would be modified to be flexible connections for seismic resiliency. The exterior coatings of the Lassen tanks would be repaired or replaced. The condition of the structural members and coatings in all tank interiors would also be assessed using experienced certified divers. Any deficiencies discovered during the inspections would be incorporated into a repair plan developed for each tank. The Lassen tank site is shown on Figure 6 and the proposed improvements would likely be funded and constructed as a discrete project.

The Pine Grove tanks would be abandoned due to poor condition. The remaining storage in the Schwartz service area is more than adequate to meet the needs of the services within the area with the addition of the Pine Grove system.

Controls

The existing controls are effective at maintaining water levels in the tanks without operator intervention when all system components are operating normally. For the operations staff to ascertain the status of any component of the system, a site visit must be made.

Proposed Controls Improvements

The controls system would be replaced with a modern SCADA system to improve system operations, reliability, and operational efficiency. Increased operational efficiency would allow operations staff to allocate the time currently used to visit sites to instead accomplish repair and maintenance tasks. SCADA upgrades would occur as the facilities they service are improved.

Distribution System

The distribution system has areas with undersized mains and mains that are leak prone. Undersized mains range from 1 ½- to 3-inch diameter; the minimum main size is 4-inch diameter for community water systems per state regulations. Based on comparison of system production and sales records, unaccounted for water losses ranged from 11% to 40% during the three-year period ending in 2015. Because inter-area water transfers are unmetered, it has not been possible to identify with certainty which service areas are experiencing higher water losses. Operations staff reports that some areas are more leak prone than others, especially those where tar-wrapped steel pipe and/or ACP are prevalent. The following Phase 2 areas were identified as having distribution piping deficiencies.

- Schwartz service area: The area has undersized mains. The mains in the Pine Grove subdivisions have a history of leaks and are undersized for fire protection flows. The piping supplying the Big Fir pump station is undersized and has a history of leaks.
- Boggs service area: The area has undersized mains.

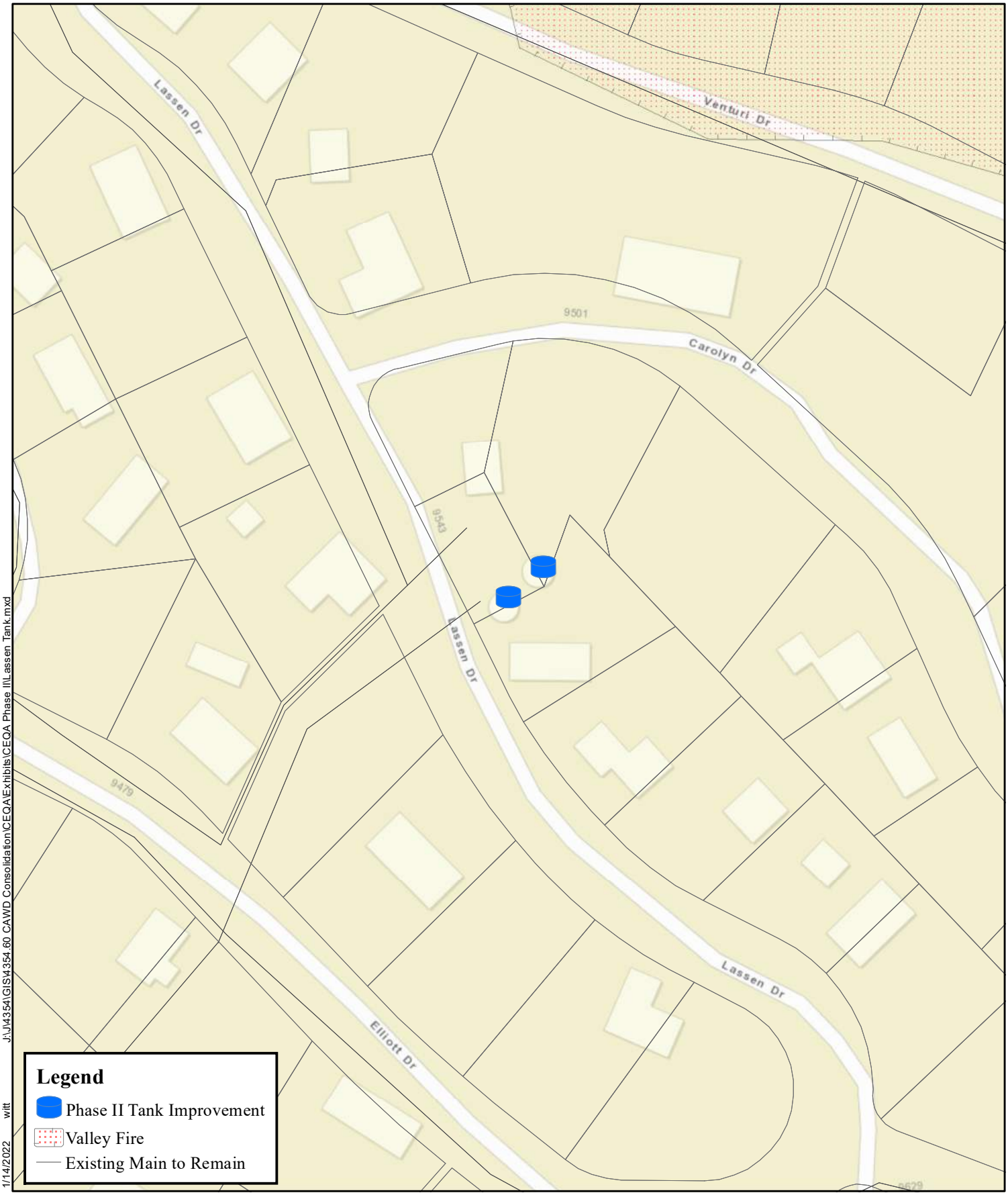

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FIGURE 6
LASSEN TANK SITE

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JANUARY 2022

Five of the eight PRV stations do not have isolation valves. Therefore, a localized portion of the distribution system must be shut down when a PRV needs maintenance or repairs, resulting in a local service interruption. Some pressure zones that are supplied by a PRV station do not include a means of relieving system pressure should a PRV fail to close. In that circumstance, the downstream pressure zone could over-pressurize, potentially resulting in main and service line breaks and/or failures in private plumbing.

The hydro-pneumatic booster station at the Lassen tank provides adequate pressure to the homes it serves. However, the storage volume in the pressure tanks is not adequate for the service area demands. The facility must always be in service to maintain proper operating pressures to these homes. Currently, a power outage or pump failure results in a service interruption.

Proposed Distribution Improvements

The locations and sizes of recommended water main replacements for the Boggs area are shown on Figure 7. Approximately 3,850 linear feet of main and service laterals would be installed in the Boggs distribution system. The Pine Grove system improvements are shown on Figure 8. Approximately 12,100 linear feet of main and service laterals would be installed in the Pine Grove distribution system. Proposed improvements for the Schwartz distribution system are shown on Figure 9. Approximately 4,620 linear feet of main and service laterals would be installed in the Schwartz distribution system. The main replacements are primarily located in areas with a history of leaks or mains that are undersized and/or generally inaccessible (e.g. located in backyards). Replacement of historically leak-prone distribution piping should significantly reduce system losses and reduce the maximum day demand. Distribution main replacements for each service area would likely be funded and constructed as discrete projects.

While CACWD does not presently guarantee fire protection, fire hydrants would be installed on all new mains at the spacing specified in the California Fire Code.

Several improvements would be made to the PRV stations. All spring actuated PRVs would be replaced with hydraulically actuated PRVs to facilitate PRV station operation and adjustment. All PRV stations would be re-plumbed to allow either PRV to be removed from service without shutting off the other PRV. PRV improvements would be made at the time of the distribution system improvements for each service area.

A pressure relief valve station would be installed in each service zone supplied through a PRV station that does not have a storage tank with a free water surface. If a PRV fails, the pressure relief valve would be set to open and discharge water before the distribution pressure exceeds the safe operating pressure for the system.

The small valves in the Middle Boggs stations would be replaced with hydraulically actuated pressure reducing valves and all four valves within the two stations be set such that each valve begins to open at a "cascading down" pressure setting, ensuring that the pressure settings are compatible with the settings of the other valves.

Meters would be installed in piping that conveys water from one service area to another. The meter data would allow operations staff to monitor service area water losses and assist in the detection of leaks.

The booster station at the Lassen tank would be upgraded to include a second booster pump and an automatic back-up power generator. It is recommended that CACWD purchase a portable backup power generator capable of powering the Big Fir booster station. These locations are shown on Figure 4.

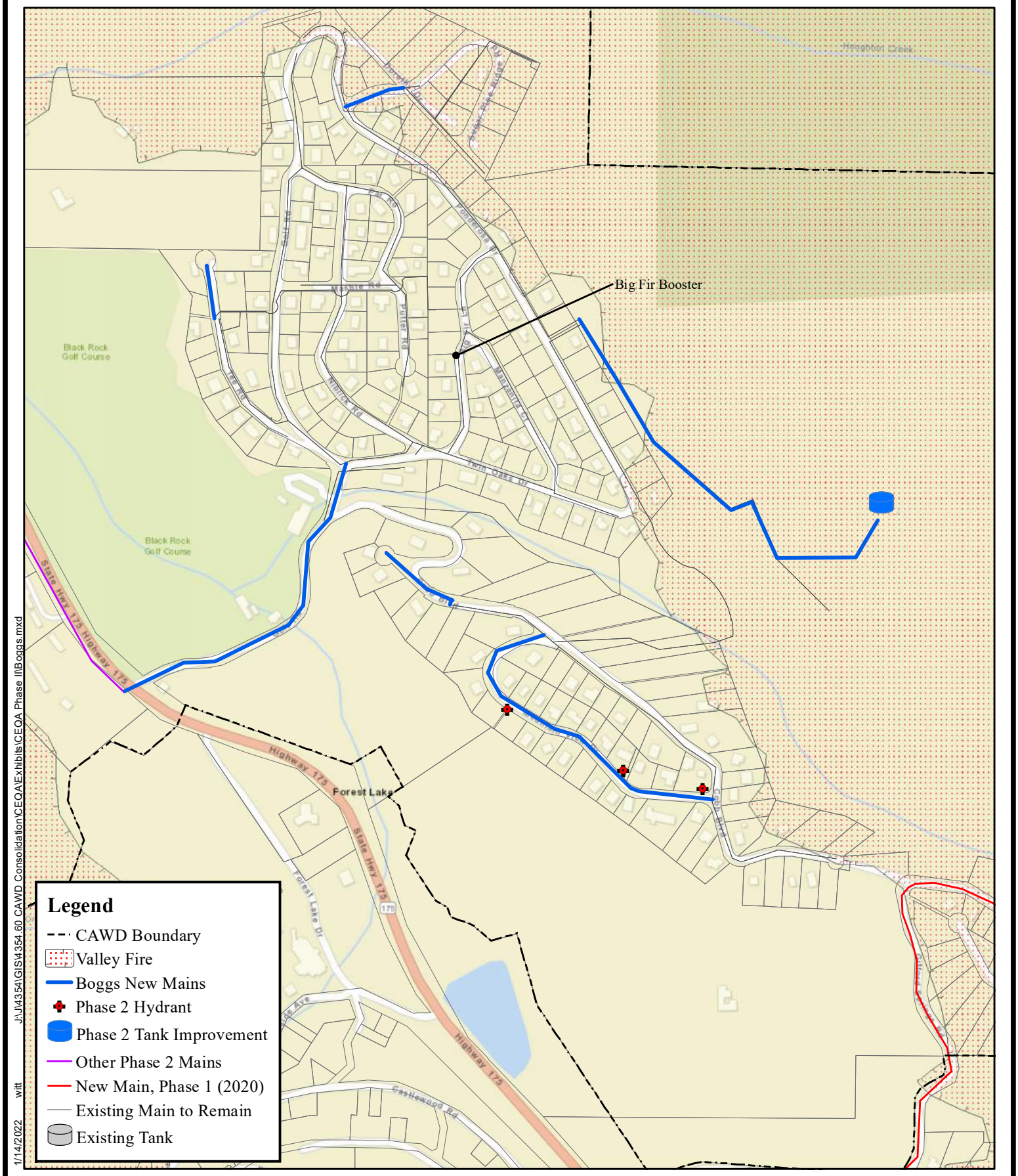

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FIGURE 7
BOGGS AREA

CAWD - CONSOLIDATION PHASE 2
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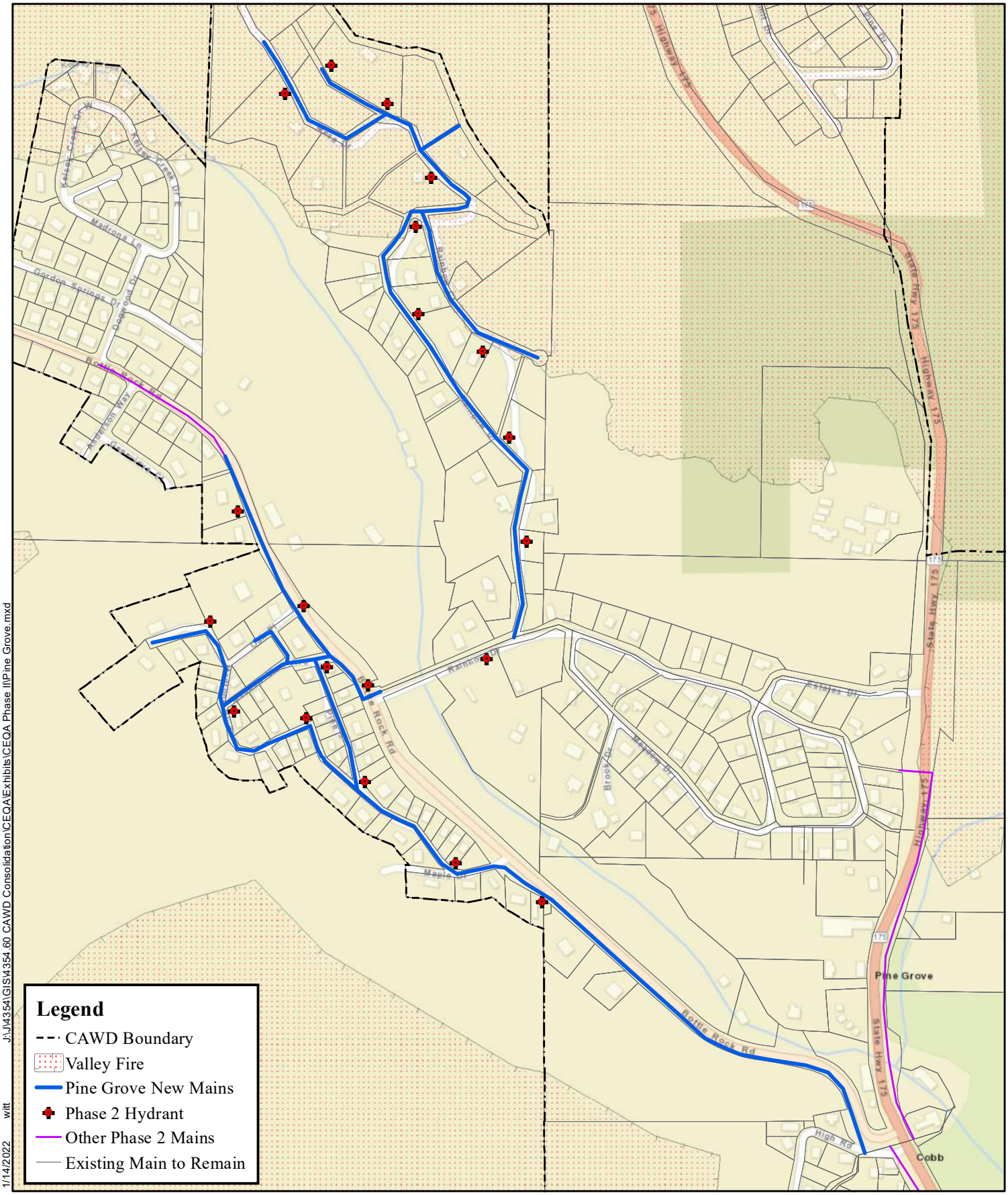

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FIGURE 8
PINE GROVE AREA

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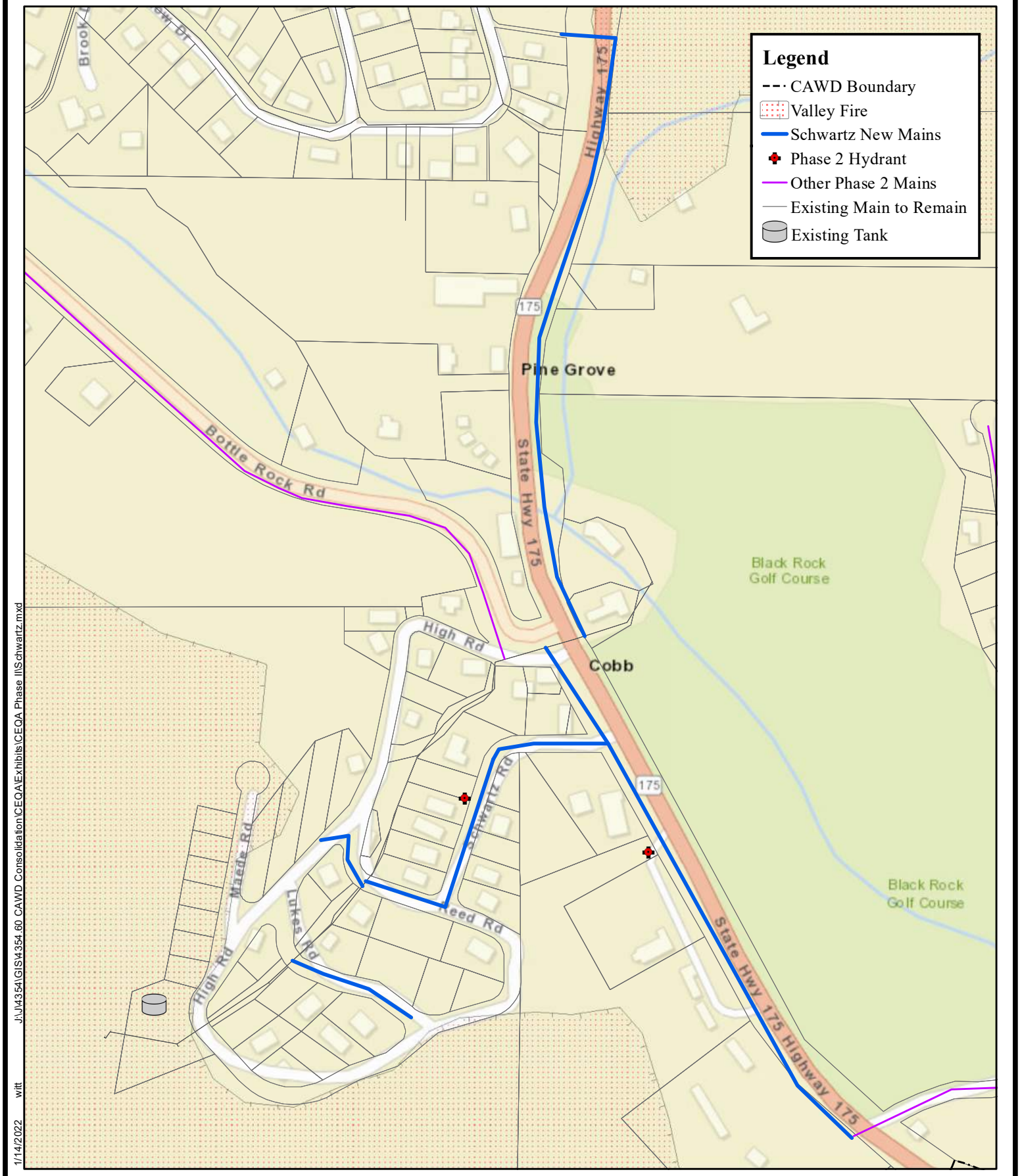

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FIGURE 9
SCHWARTZ AREA

CAWD - CONSOLIDATION PHASE 2
JANUARY 2022

COBB MOUNTAIN WATER COMPANY

The CMWC was annexed into the CACWD after the Phase 1 CEQA review. The small system would be intertied into the Cobb Area Water System via a short, approximately 1,000 linear foot water main, shown on Figure 10, to be constructed in Rock Road and provided with two fire hydrants adjacent to the new main. No other system improvements are proposed.

STARVIEW WATER SYSTEM

Source

Starview's Well 3 has a capacity of 136,800 gallons per day, which is more than twice the MDD (67,592 gallons) of the system. Well 2 is disconnected from the system as its casing is bent and its annular seal is substandard (20 ft deep). As Well 2 is disconnected, the system has no redundant supply. The system does not have a backup power supply.

Two potential options to provide a redundant supply have been identified and include a new well or a connection to the Cobb Area water system. A connection to Cobb Area would involve a booster pump station, pipeline, and right-of-way easements to span the gap of 2,200 feet and 500 feet in elevation difference between the two systems.

The capacity and quality of the existing spring source in Alpine Meadows is unknown and is presumed to be inadequate as the subdivision is currently receiving state assistance to obtain bottled drinking water. Connection of Alpine Meadows to Starview was assessed in Phase 1.

Proposed Source Improvements

A generator receptacle and transfer switch for connection to a portable backup power generator or a permanent backup power generator and transfer switch would be installed at the existing well site. As this source does not directly provide service pressure to the customers, it is not imperative that power source be automatically transferred to a permanently installed generator. However, a permanent generator with an automatic transfer switch would eliminate additional tasks to be completed during a power outage.

While this system's single source can meet the system MDD, an additional well source has been identified and would be implemented for supply redundancy purposes. The proposed well location is shown on Figure 11. The new well could be constructed as a discrete project or be included with the distribution improvements discussed below.

Well 2 would be properly abandoned.

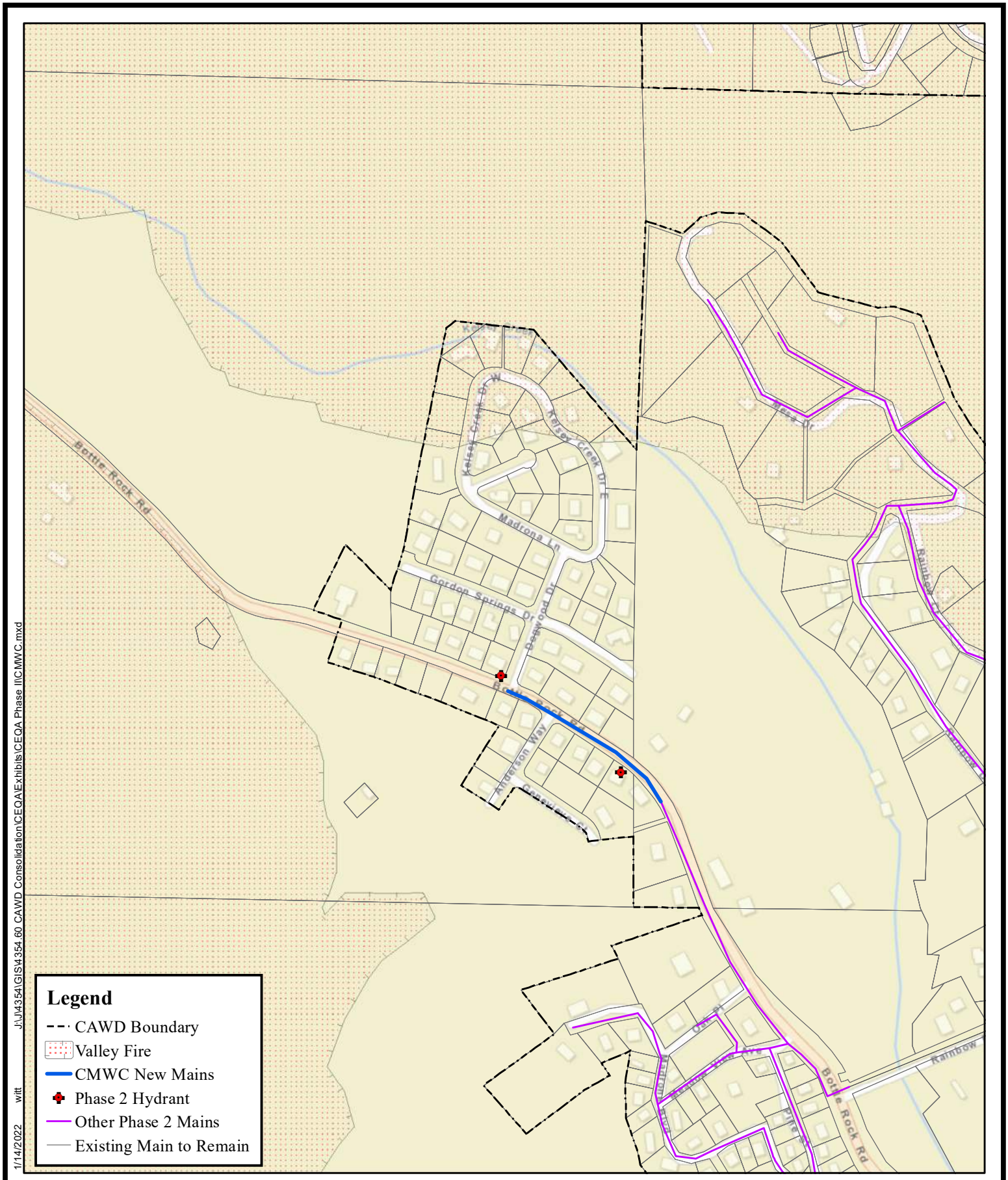

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FIGURE 10
CMWC AREA

CAWD - CONSOLIDATION PHASE 2
JANUARY 2022

Treatment

Currently, the water is disinfected using a sodium hypochlorite solution and the pH is adjusted using magnesium oxide. The pH adjustment is used to reduce corrosion issues within private piping and to keep the system's lead and copper sample results in compliance with the Lead and Copper Rule.

Triennial tests for iron taken between 2000 and 2018 at Well 3 ranged from 110 ug/L to 620 ug/L. The most recent test results (2012, 2015 and 2018) were all below the secondary MCL of 300 ug/L. As the most recent results were below the MCL, the system does not require treatment for iron removal at this time. Supply obtained from the Starview sources would require no additional treatment. It is assumed the proposed new well would similarly not require treatment. No treatment improvements are proposed.

Storage

System storage is provided by a welded-steel tank with a nominal capacity of 100,000 gallons. Its volume exceeds the maximum day demand requirement of 68,000 gallons and separately exceeds the fire protection requirement of 60,000 gallons.

The tank does not appear to meet current design standards. The tank foundation consists of a gravel pad retained by a steel ring rather than a concrete ring with anchor bolt connections to the shell, which would be required for construction of a similar tank today. Also, the inlet/outlet pipe connection to the shell is rigid. While the tank does not appear to meet current seismic requirements due to changes in the building code, if properly maintained it should remain serviceable for many more years in the absence of a significant seismic event. The tank will most likely need to be recoated as it has exceeded the typical life expectancy of a field applied tank coating of 20 to 30 years.

Proposed Storage Improvements

The condition of the structural members and interior coating of the tank would be assessed using experienced certified divers. Any deficiencies discovered during the tank assessment would be incorporated into a repair plan developed for the tank. The tank would also be analyzed by a structural engineer. It is expected that replacement may be more cost effective than upgrading the tank to current code, specifically due to changes in seismic requirements. Improvements could range from seismic upgrades and recoating to tank replacement and would likely be conducted as a discrete project. The tank location is shown on Figure 11.

Controls

The controls system is effective at automatically controlling well operations based on the tank water level. Currently, the only system status relayed to operators are low tank level and power failure alarms.

Proposed Controls Improvements

A SCADA system would be installed to allow operators to monitor system status remotely. The proposed well would be included in the SCADA system.

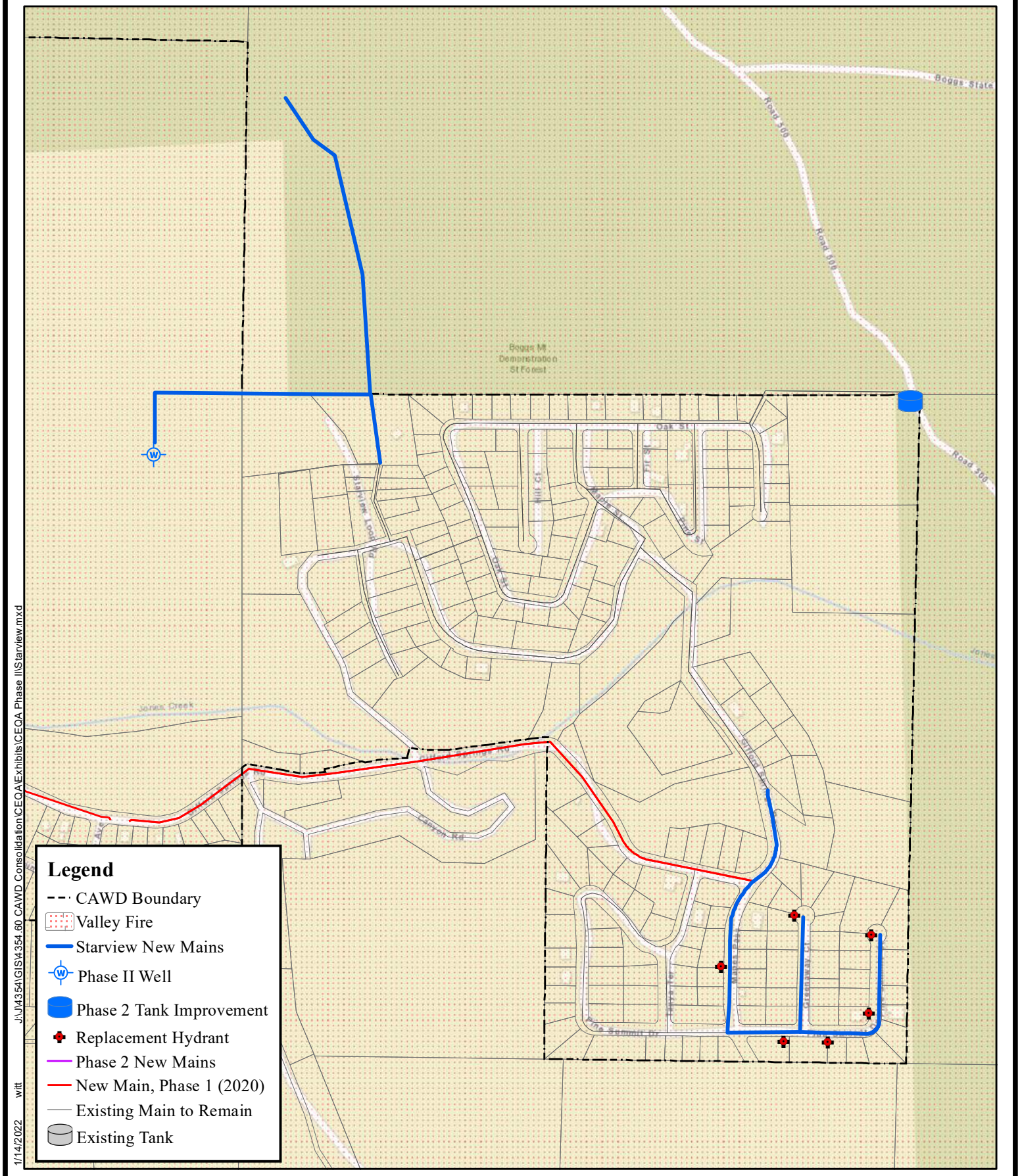

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FIGURE 11
STARVIEW AREA

CAWD - CONSOLIDATION PHASE 2
JANUARY 2022

Distribution System

The distribution mains in the northern section of the distribution system were recently replaced and additional hydrants were added in the southern section. In the southern section, pressures in the system meet the State regulations during regular operation. However, a portion of the southern section experiences low pressures during fire flows.

Proposed Distribution Improvements

Portions of the southern section of the Starview distribution system would be replaced as shown on Figure 11 to improve fire flows, including approximately 5,610 linear feet of water main and service laterals. A new main would be extended from the new well to the distributions system. A new main would be extended northerly to serve a CalFire development associated with firefighting. The water main improvements would likely be funded and constructed as a discrete project.

PHASING

As indicated above, the six Phase 1 projects are planned to proceed before Phase 2 projects. Similar to Phase 1, it is anticipated that two Phase 2 projects would be contained in each application for construction funding. Pine Grove would be the only Phase 2 project constructed as a single project in one construction season due to its size (although CMWC is scheduled to be constructed at the same time due to its very small size). One or two of the projects may be constructed each construction season depending on funding and CACWD resources to manage the construction projects.

PROJECT CONSTRUCTION

It is anticipated that most of the construction will include eight-person crew(s) working weekdays. Equipment is anticipated to include: an excavator, a loader, a dump truck, a skip loader, an air compressor, a transport truck, an earth compactor, a pavement grinder, a paving machine, a directional drill rig, a vacuum trailer, and a generator. Operations and material stockpiling will be constrained to paved areas. Each Phase 2 project under one acre would include an erosion control plan to be prepared by the contractor that would be consistent with the Construction General Permit but not subject to reporting requirements. Both the Bonanza Springs and Pine Grove projects may require coverage under the Construction General Permit. Distribution system project disturbance areas are shown below (based on preliminary engineering, final engineering may reduce the size of disturbance).

Distribution System	Approximate Pipeline Length (Linear Feet)	Approximate Disturbance Area (Acres)
Boggs	3,850	0.35
Bonanza Springs	9,500	0.87
CMWC	1,000	0.10
Pine Grove	12,100	1.11
Schwartz	4,620	0.42
Starview	5,610	0.52

Additional project construction information is provided below.

Pipeline Installation

In most areas, the pipeline would be installed using open cut trenching. It is anticipated that the pipeline would be installed within existing paved roadways and/or on road shoulders. Pipeline construction rates are expected to exceed 150 feet per day for each crew that is installing pipeline.

Construction equipment will generally be limited in size due to roadway widths in the project area. It is expected that each pipeline crew would utilize an excavator (midi or small standard size excavator), compaction equipment and loader and be supported by two axle, six-yard dump trucks or three axle, ten-yard dump trucks for handling spoils and supplying backfill materials. A large hoe-ram may be needed to complete the excavation where large boulders are encountered. The trench depths will generally be 42 inches deep and trench widths will vary from a minimum of 12 inches and likely no wider than 24 inches. It is anticipated that 30 to 60 cubic yards of material per pipeline crew would be exported from trenches per day and the same amount of material would be imported per day for backfill resulting in approximately 12 truck trips per day associated with trenching for each crew.

Where the pipeline would cross a culvert, the pipeline will be installed above the culvert where possible or below it where crossing above is not feasible. Where the pipeline crosses a culvert the culvert itself would not be modified. It is anticipated that the some of the culverts may be failing (rusted through) and will need to be repaired as part of the project. The repair would consist of reinforcement of the culvert in the area of the trench and backfilling the trench with concrete slurry at the culvert. There will be no impact to the downstream area under either circumstance. Where the pipeline would cross under a culvert the trench depth could reach six feet deep and may exceed that depth if the culvert is large. Trenches deeper than five feet will require the use of shoring to support the trench walls.

If shallow groundwater were to be encountered during construction activities, dewatering activities would be required. In the event that groundwater encountered during pipeline construction could not be contained on site or could not be pumped into tank trucks and transported to a disposal facility, the groundwater could be discharged to a surface water body. This would require obtaining a General Order for Dewatering and Other Low Threat Discharges to Surface Water Permit (National Pollutant Discharge Elimination System (NPDES) # CA0083356 from the Central Valley Regional Water Quality Control Board (CVRWQCB).

Trench Backfill

Trench backfilling would begin immediately after the pipe was installed in the trenches. Appropriate backfill materials will be used to prevent damage to the pipelines and allow adequate backfill compaction using appropriate equipment. Imported backfill would be delivered to stockpiles near the open trenching. During construction, vertical wall trenches would be temporarily closed at the end of each workday, either by covering with steel trench plates, using backfill material, or installing barricades to restrict access, depending on the conditions of the encroachment permits from Caltrans and the County. Once backfilling is complete, surfacing restoration would be completed.

Surface Restoration

Typical surface restoration within paved roadways would include compacting 18 inches of Class 2 aggregate and installing a pavement patch that extends 12 inches beyond each side of the trench over its entire length after backfilling and compaction are complete. The surface restoration crew would typically use a grinder, a

skip loader, a roller, and a paving machine. It is anticipated that the paving would produce approximately two trucks of off-haul and require three trucks of asphalt per day.

Services, Hydrants, and Combination Air Valves

It is anticipated that services, hydrants, and combination air valves would be installed in a similar manner to the pipeline. The service meter boxes, hydrants, and air valves are required to be outside the paved roadway resulting in disturbed areas in native areas. Each native area to be disturbed will be reviewed by a biologist for special status plants prior to construction. Crew size for service, hydrant, and air valve installation may be three to four people. Each service and air valve location is expected to produce a small volume of spoils (less than one cubic yard) to off haul and a similar volume of backfill material will need to be imported. The service and air valve installations will generate four total truck trips per day, two for spoils off-haul and two for imported backfill. It is anticipated that, on average, each hydrant installation will generate about one truck load of spoils and require one truck trip of imported backfill. The hydrant installation crew should install two hydrants a day resulting in four total truck trips per day.

Pressure Reducing Valve Stations

Pressure reducing valve stations will require excavation, placement of vault, and piping. Crew size will be comparable with the services crew, with three to four people for excavation and two to three people for piping. Each pressure reducing valve station will generate about six truck trips, with more material being exported than imported. Valve stations should be installed in two to four weeks.

Tank Improvements

All tank sites will require piping modifications and some coating rehabilitation. Equipment to be used will include an air compressor, a sandblaster, a pressure washer, an excavator, a loader, a dump truck, an earth compactor, a pavement grinder, and a roller. Crew sizes will vary from three to six people, depending on the work. Tank improvements duration will vary from two to 12 weeks at each site.

Stream Crossings

There are several locations where pipelines will require stream crossings. Where feasible, pipelines will be installed over existing culverts and will not impact the existing streams or culverts. Alternately, pipelines could be installed under existing culverts where there is insufficient cover above the existing culvert. Where this is not feasible, pipelines would be installed below streams using trenchless technology (directional drilling, bore and jack, etc.). No stream crossings that do not utilize existing culverts (and do not impact the stream or culvert) would occur without consultation and approval by the appropriate regulatory agencies.

Schedule

Projects contained in Phase 2 will occur over several years, dependent on funding and the CACWD's ability to manage multiple projects. Grading during the rainy season would be limited by the project's erosion control plan but construction within stabilized areas may occur during the rainy season. The anticipated schedule for each Phase 2 project follows, listed by priority.

Starview Distribution System, 2024

It is anticipated that the construction would last approximately seven months. It is assumed that there would be two crews working on different parts of the project.

Pine Grove Distribution System/ Cobb Mountain Water Company Intertie, 2025

It is anticipated that the construction would last approximately nine months. It is assumed that there would be two crews working on different parts of the project.

Branding Iron and Hill 9 and 10 (second phase), 2026

This is a Phase 1 project, see 2020 Initial Study.

Boggs Distribution System, 2027

It is anticipated that the construction would last approximately eight months. It is assumed that there would be two crews working on different parts of the project.

Bonanza Springs Distribution System, 2028

It is anticipated that the construction would last approximately eight months. It is assumed that there would be two crews working on different parts of the project.

Schwartz Distribution System, 2028

It is anticipated that the construction would last approximately five months. It is assumed that there would be two crews working on different parts of the project.

Tank Rehabilitations, constructed throughout distribution projects

It is anticipated that the construction would last approximately one to two months for each tank rehabilitation.

GROWTH INDUCEMENT POTENTIAL

The proposed project does not induce growth. The CACWD is already obligated to provide water service to parcels within its service area and the project does not expand the service area. The project provides infrastructure improvements to existing water systems to meet current regulatory standards. Any growth within the water service areas would be according to relevant General Plan and zoning designations currently planned for by the County.

OTHER PUBLIC AGENCY APPROVALS

The project is under CACWD review authority. The project may require additional permitting approvals from the following agencies:

County of Lake

All work within the County of Lake right-of-way would require encroachment permits.

Central Valley Regional Water Quality Control Board

CVRWQCB has discretionary authority regarding the following permits and approvals:

- NPDES permit. The U.S. Environmental Protection Agency (EPA) has delegated responsibility for issuance of Clean Water Act (CWA) NPDES permits to the Regional Water Quality Control Boards within California. These permits are required to ensure protection of surface waters from construction and other land-disturbing activity.
- 401 Water Quality Certification. If impacts to wetlands occur, a 401 Water Quality Certification would be required.

State of California Water Resources Control Board, Division of Drinking Water (DDW)

DDW may require an amendment to the existing domestic water supply permits to recognize the interties.

U.S. Fish and Wildlife Service (FWS) and the California Department of Fish and Wildlife (CDFW)

Consultation is required with these agencies if a project has the potential to take or otherwise harm federally listed or state-protected wildlife and plant species. Portions of the project that would occur within streams or associated riparian habitat would require a streambed alteration agreement from CDFW.

US Army Corps of Engineers (USACE)

A USACE permit would be required for the project if it results in fill of wetlands or impacts streams below ordinary high water.

California Department of Fish and Wildlife (CDFW)

Any work within a stream or lake would require consultation with CDFW and generally require permit coverage. Any activity that could result in take of a California-listed threatened or endangered species would require consultation and generally require an incidental take permit.

Caltrans

Any work within Highway 175 would require an encroachment permit from Caltrans. Any work within the right-of-way would be subject to Caltrans permit requirements.

ENVIRONMENTAL SIGNIFICANCE CHECKLIST:

The following list of questions is provided by Appendix G of the CEQA Guidelines, in order to determine a project's environmental impacts. The checklist utilized herein was significantly updated by the State of California in 2019.

Based on the project description, answers to the questions fall into one of four categories:

- Potentially Significant Impact
- Less Than Significant Impact with Mitigation Incorporation
- Less Than Significant Impact
- No Impact

With regard to the checklist, a "No Impact" response indicates that no impact would result from implementation of the project. A "Less Than Significant Impact" response indicates that an impact would occur, but the level of impact would be less than significant. A "Less Than Significant with Mitigation Incorporation" response indicates that an impact is involved, and, with implementation of the identified mitigation measure, such impact would be less than significant. A "Potentially Significant Impact" response indicates that there is substantial evidence that impacts may be significant if mitigation measures are unknown, infeasible, or not proposed. Each response is discussed at a level of detail commensurate with the potential for adverse environmental effect.

The discussion following each checklist item consists of an *Analysis* section, a *Cumulative Impacts* discussion, and a section for identification of *Mitigation Measures*, as necessary. The *Analysis* section includes a discussion addressing whether the project would result in potential adverse environmental impacts. All potential impacts have been considered, including on-site and off-site impacts, direct and indirect impacts, construction and operation-related effects, as well as cumulative effects. The recently updated 2019 CEQA Guidelines contain revised regulations relative to the project's potential for contributing to cumulative effects[5]. The *Cumulative Impacts* section presents information regarding the project's potential cumulative impacts and is included in this section. If an impact(s) has been identified and mitigation is identified to reduce the impact to a less than significant level, then such measures are contained in the *Mitigation Measures* sections.

[5] California Environmental Quality Act Guidelines, §15064(i).

I AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Have a substantial adverse effect on a scenic vista?	□	□	□	■
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	□	□	□	■
c. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	□	□	□	■
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	□	□	□	■

Environmental Setting

The project is primarily located in an unincorporated rural community of Cobb Mountain in southwest Lake County, California. Portions of the CACWD extend to the north of Cobb Mountain along Highway 175. The terrain consists of gently sloping hills and steep ridges with small intermittent valleys. The project area is rural in nature and residential development is generally clustered within the water service areas. The major sources of light and glare in the project vicinity are from residential development and State Highway 175 vehicular traffic. Although there are potentially eligible state designated scenic highways in Lake County, Highway 175 is not designated as eligible by Caltrans[6]. There are no other designated scenic highways in the project area. The project area was significantly burned by the Valley Fire and much of the project area continues to have the visual character of a community recovering from disaster.

Analysis

a. Would the project have a substantial adverse effect on a scenic vista?

A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. Although the project area is not considered to be a scenic vista for the purposes of this environmental analysis, the site does have characteristics that most people would consider aesthetically pleasing and a positive visual resource. Most of the project locations are surrounded by rural residential development and occur in existing roadways or easements.

The proposed project would not result in the disturbance or elimination of open space areas or remove an object of aesthetic value. The project would not result in long-term physical adverse changes to the height or bulk of structures or view blockages within the view shed of the project area or along State

[6] https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways

Highway 175. Portions of the Pine Grove distribution system improvements would occur within or adjacent to Highway 175. Because those areas would be limited to below-ground water distribution pipelines, they would not be visible once construction is complete. Work at tank site locations would include refurbishment of existing tanks and would not alter site aesthetics in any substantial way. Therefore, obstruction of scenic views will be avoided.

Construction activities associated with water main installation would create dust, expose soil from grading, and create soil piles from trenching and excavation. Those short-term construction related activities would cease after construction is complete and existing surfaces would be restored. Similarly, visual impacts at tank sites proposed for rehabilitation would be limited to the construction window. Short-term construction impacts associated with the project would not have a significant impact on any scenic vista. The project would not result in long-term impacts since the water mains would be below ground with existing surfaces restored and tanks to be refurbished already exist.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The 1989 Cobb Area Plan identifies Highway 175 as having the potential to be a County-designated scenic roadway through the entire plan area, though it was never officially designated. All Phase 2 pipelines would be installed below grade where they would intertie with the existing water distribution system in Highway 175 and within existing road rights-of-way. No trees are anticipated to be removed in association with any of the Phase 2 projects and the County does not have a tree preservation ordinance. Any visual impacts would be short term and limited to the construction phase of the proposed project. None of the tank sites proposed for Phase 2 rehabilitation would be visible from Highway 175. As such, the proposed Phase 2 projects would not introduce features that would adversely affect the future use of Highway 175 as a scenic roadway and would have no impact.

c. In nonurbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The project will not significantly degrade the existing visual character of the project area. Many structures and trees in the project vicinity were destroyed during the Valley Fire and the overall project area continues to have the visual character of a fire recovery area. The new and replacement Phase 2 pipelines would be underground, and the ground surface would be restored upon completion of construction. Homes that have been and are currently being rebuilt are in accordance with current zoning and building codes and any new homes that would be served by the Phase 2 projects would similarly be built consistent with zoning and building codes. The Phase 2 projects would not substantially degrade the existing visual character of the project sites or project area.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The Phase 2 projects would not create a new substantial source of light or glare. Replacement mains and appurtenances would be constructed below grade with surfaces restored. No lighting is proposed by the project.

Cumulative Impacts

There are no adverse cumulative environmental impacts to aesthetic resources resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to aesthetic resources have been identified; therefore, no mitigation is required.

II AGRICULTURAL & FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	□	□	□	■
b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	□	□	□	■
c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	□	□	□	■
d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?	□	□	□	■
e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	□	□	□	■

Environmental Setting

Land uses in the project area include rural residential uses, agriculture and various transportation corridors, including Highway 175. The Valley Fire burned large portions of the communities in and surrounding the CACWD. None of the land in the project area subject to disturbance by the project is currently in agricultural use, although some agricultural use occurs in the project vicinity. Similar to Phase 1, Phase 2 projects will occur almost entirely in existing roadways, on existing tank sites or otherwise disturbed areas.

Project area zoning includes the following designations (shown on Figures XI-1 and XI-2 in the Land Use & Planning section):

Zoning Designation	Agricultural Uses Allowed
Agricultural Preserve District (APZ)	Yes
Agricultural District (A)	Yes
Timberland Preserve District (TPZ)	Limited
Rural Lands District (RL)	Yes
Rural Residential District (RR)	Yes
Suburban Reserve District (SR)	Yes
Single-Family Residential District (R1)	No
Planned Development Residential District (PDR)	Limited
Planned Development Commercial District (PDC)	No
Highway Commercial District (CH)	No
Resort Commercial District (CR)	No
Local Commercial District (C1)	No
Community Commercial District (C2)	No
Service Commercial District (C3)	No
Open Space District (O)	Yes

Regulatory Setting

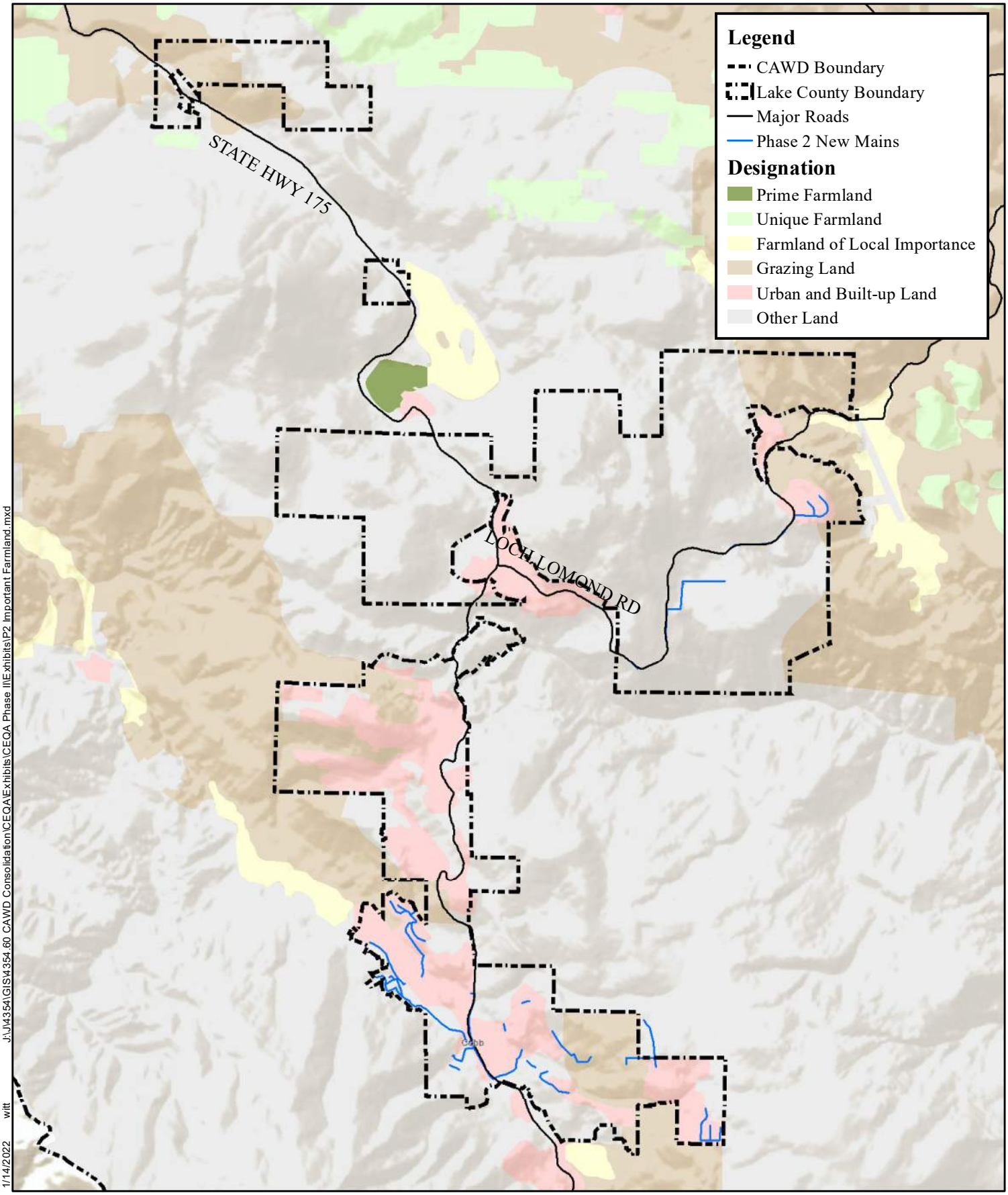
FARMLAND MAPPING AND MONITORING PROGRAM

Agricultural lands within the state of California are rated according to soil quality and irrigation status by the Farmland Mapping and Monitoring Program (FMMP). The FMMP produces maps and statistical data used for analyzing impacts on California's agricultural resources. The best quality land is called Prime Farmland, followed by Unique Farmland, Farmland of Statewide Importance, and so on, in decreasing order of importance. The maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance.

The project area is primarily designated as Urban and Built-up Land and Other Land with minor areas of Grazing Land, as shown on Figure II-1.

WILLIAMSON ACT

Agricultural land in the project area may also be subject to the California Land Conservation Act of 1965, more commonly referred to as the Williamson Act. The Williamson Act enables local governments to enter contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are lower than normal because they are based on farming and open space uses as opposed to full market value. None of the project locations are under contract under the Williamson Act.



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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US
Data Source Information:
California Department of Conservation (2016)

NORTH

0 1,000 2,000 4,000 Feet

Brelje & Race

FIGURE II-1
IMPORTANT FARMLAND

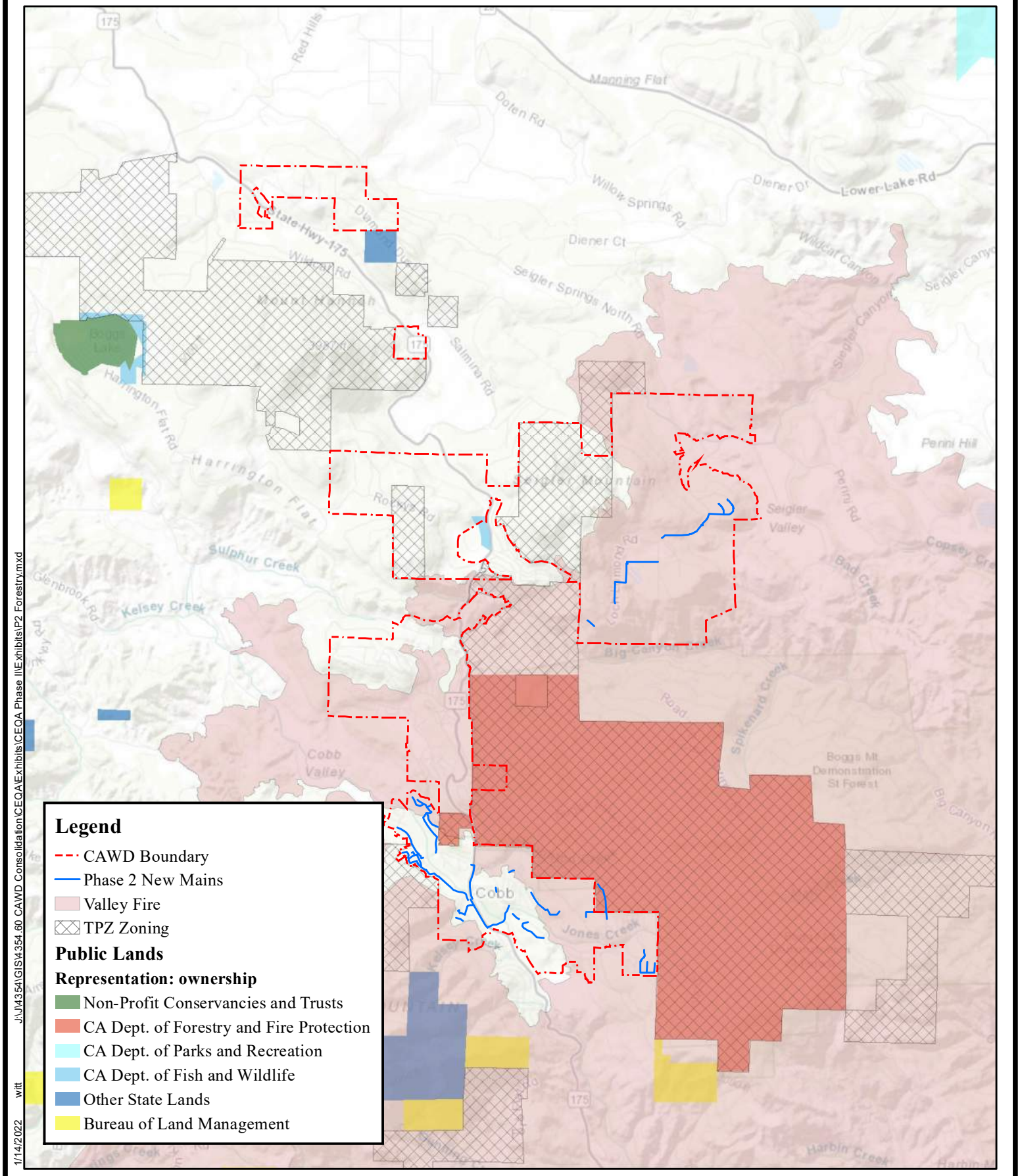
CAWD - CONSOLIDATION PHASE 2
JANUARY 2022

FOREST RESOURCES

The entire project area and its surroundings could generically be considered forest. The state defines Timberland, Timber Production Zones and Forest Land for use in local zoning code. The terms are defined as follows:

- Government Code, Title 5, Section 51104(f): "Timberland" means privately owned land, or land acquired for state forest purposes, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre.
- Government Code, Title 5, Section 51104(g) "Timberland production zone" or "TPZ" means an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h). With respect to the general plans of cities and counties, "timberland preserve zone" means "timberland production zone."
- Public Resources Code, Division 10.5, Section 12220(g): "Forest land is land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."

As shown on Figure II-2, there are several public areas that could support Timberland and Forest Land. The County has also zoned a large portion of project area as TPZ, although very little of that area is within the CACWD service area.



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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Public Lands: CalFire (2017)

Brelje & Race

FIGURE II-2

FORESTRY RESOURCES

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022

Analysis

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

As shown on Figure II-1, the Farmland Mapping system shown project areas designated as Urban and Built-up Land and Other Land with minor areas of Grazing Land Urban. Phase 2 project components would generally be located within developed roadways, roadway shoulders or already developed areas that do not currently support farmland. Because the Phase 2 projects would not extent outside of those developed areas, the project would not convert Farmland to non-agricultural uses.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The Phase 2 project locations are in existing roadways, roadway shoulders or already developed with water infrastructure and would not interfere with any Williamson Act contract. While some of the zoning designations within the water service areas do allow agricultural uses, any existing agricultural use would not be impacted by implementation of the Phase 2 water system improvements.

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

Forest land, as defined by the U.S. Forest Service, includes land at least ten percent of which is stocked by trees of any size, or land formerly having had such tree cover that would be naturally or artificially regenerated. Forest land includes transition zones, such as areas between heavily forested and non-forested lands that are at least ten percent stocked with forest trees and forest areas adjacent to urban and built-up lands.

The project area meets the definition of forest land as most of the project area includes more than ten percent tree cover (although large areas were burned down in the Valley Fire). As shown on Figure II-2, large areas in the project vicinity are zoned TPZ. However, the Phase 2 projects do not propose any activities related to timber harvest nor would they result in the conversion of forest land to non-forest uses. As such, there would be no impact to forest land or conversion of designated land to non-forest uses due to Phase 2 implementation. All project areas are currently developed (or rebuilding) as rural residential.

d. Result in the loss of forest land or conversion of forest land to non-forest use?

While the project area supports forest land, the Phase 2 project locations do not support forest land and would occur within existing roadways and easements of developed sites. The proposed project would not result in any impact to forest land.

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Because the Phase 2 projects would be located primarily in existing roadways or public utility easements and in areas that do not currently support Farmland or forest land, the projects would not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Cumulative Impacts

There are no adverse cumulative environmental impacts to agricultural and forestry resources resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to agricultural and forestry resources have been identified; therefore, no mitigation is required.

III AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations:	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project conflict with or obstruct implementation of the applicable air quality plan?	□	□	□	■
b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	□	■	□	□
c. Would the project expose sensitive receptors to substantial pollutant concentrations?	□	■	□	□
d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	□	□	□	■

Environmental Setting

The project is located within the Lake County Air Basin. The Lake County Air Quality Management District (LCAQMD)monitors and manages air quality in Lake County.

LAKE COUNTY AIR BASIN

The project area is in the Lake County Air Basin (LCAB), which is contiguous with the boundaries of Lake County and the local air quality agency, the LCAQMD. The LCAB is located within the northern Coast Ranges of California. This mountain system consists of long, parallel ridges which trend from the south to the north. In Lake County, the mountain pattern is conspicuously interrupted by the Clear Lake Basin. Clear Lake occupies this basin in approximately the middle one-third of the county. The northern third of the county is largely unoccupied, much of it lying within the Mendocino National Forest. Mountains are also predominant in the southern one-third of Lake County. The topography ranges from a low of approximately 1,100 feet in elevation to over 7,000 feet at the peaks of the surrounding coastal range.

REGIONAL CLIMATE AND METEOROLOGY

Lake County climate, like much of California, is Mediterranean in nature. Summers are warm and dry, and winters are cool and moist. Much local variation is standard in Lake County, reflective of its mountainous character. Lake County is near the edge of a more transitional climatic zone, which is influenced more by the Pacific Ocean. Its proximity to the oceanic influence, elevation, and mountainous terrain combine to create a local climate that is somewhat more severe than many other parts of California. Rainfall predominantly occurs during the months of November through March. The normal historic rainfall average is approximately 31 inches annually. Winds are generally light due to the sheltering effect of surrounding mountains, with predominant winds from the northwest, particularly in the summer months. Wind during the winter months tends to be more variable in direction. Average predominant wind speeds throughout the year are typically less than five miles per hour.

Regulatory Setting

Air quality in the project vicinity is regulated by several jurisdictions, including EPA, ARB, and LCAQMD. These entities, described below, develop rules, regulations, and policies to attain the goals or directives imposed upon them through legislation.

FEDERAL REGULATIONS

The Clean Air Act

The Federal Clean Air Act (FCAA) required the US EPA to establish National Ambient Air Quality Standards (NAAQS) and set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The US EPA has responsibility to review all state SIPs to determine conformance to the mandates of the CAA, and the amendments thereof, and determine if implementation would achieve air quality goals. If the US EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Federal Conformity Requirements

The CAA Amendments of 1990 require that all federally funded projects come from a plan or program that conforms to the appropriate State Implementation Plan (SIP). Federal actions are subject to either the Transportation Conformity Rule (40 Code of Federal Regulations [CFR] 51[T]), which applies to federal highway or transit projects, or the General Conformity Rule (40 CFR 51[W]), which applies to all other federal actions.

STATE REGULATIONS

California Clean Air Act

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act of 1988. The California Clean Air Act (CCAA) requires that all air districts in the state endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for ozone, CO, sulfur dioxide (SO2), and nitrogen dioxide (NO2) by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors, or (2) provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

LOCAL REGULATIONS

Lake County Air Quality Management District (LCAQMD)

The LCAQMD is designated by law to adopt and enforce regulations to achieve and maintain ambient air quality standards. The LCAQMD is a regional agency created by the state that regulates stationary sources of air pollution within the LCAB. The District also regulates open burning and is delegated a variety of other programs such as state Air Toxic Control Measures (ATCMs) and federal New Source Performance Standards (NSPSs). The main purpose of the LCAQMD is to enforce local, state, and federal air quality laws, rules, and regulations to maintain the ambient air quality standards (AAQSs) and protect the public from air toxics through local, CARB ATCM, and federal EPA NESHAP specific control regulations. Because Lake County is an attainment area (or is unclassified) for all criteria pollutants, both federal and state, it is not required to prepare air quality attainment/management plans.

CRITERIA POLLUTANTS

Pollutants subject to federal ambient standards are referred to as "criteria" pollutants because the United States Environmental Protection Agency (US EPA) publishes criteria documents to justify the choice of standards. The federal and California ambient air quality standards are defined below for criteria pollutants. The federal and state ambient standards were developed independently with differing purposes and methods, although both federal and state standards are intended to avoid health related effects.

Federal

- Nonattainment: any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.
- Attainment: any area (other than an area identified in clause (i)) that meets the national primary or secondary ambient air quality standard for the pollutant.
- Unclassifiable: any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

State

- Unclassified: a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- Attainment: a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a three-year period.
- Nonattainment: a pollutant is designated nonattainment if there was at least one violation of a State standard for that pollutant in the area.
- Nonattainment / Transitional: is a subcategory of the nonattainment designation. An area is designated nonattainment / transitional to signify that the area is close to attaining the standard for that pollutant.

Current California and Federal standards for certain types of pollutants are shown below.

Pollutant	Averaging Time	State Standard	Federal Primary Standard
Ozone	1-Hour 8-Hour	0.09 ppm 0.07 ppm	-- 0.070 ppm
PM10	Annual 24-Hour	20 ug/m^3 50 ug/m^3	-- 150 ug/m^3
PM2.5	Annual 24-Hour	12 ug/m^3 ---	12 ug/m^3 35 ug/m^3
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 20.0 ppm	9.0 ppm 35.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.03 ppm 0.18 ppm	.053 ppm 100 ppb
Sulfur Dioxide	24-Hour 3-Hour 1-Hour	0.04 ppm -- 0.25 ppm	.14ppm -- 75 ppb
Lead	30-Day Avg. Calendar Quarter 3-Month Avg.	1.5 ug/m^3 -- --	-- 1.5 ug/m^3 0.15 ug/m^3

ppm = parts per million

ppb = parts per billion

ug/m^3 = Micrograms per Cubic Meter

MONITORING STATION DATA

Ambient air quality measurements are routinely conducted at nearby air quality monitoring stations. LCAQMD maintains four monitoring stations and is designated as attainment or unclassified for all state and federal standards. Because the county is an attainment area (or is unclassified) for all criteria pollutants it is not required to prepare air quality attainment/management plans.

Both the California Air Resources Board (CARB) and the US EPA use this type of monitoring data to designate areas according to attainment status for criteria air pollutants established by the agencies. The purpose of these designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvements. The three basic designation categories are nonattainment, attainment, and unclassified, as defined above.

The LCAB is currently designated either attainment or unclassified/attainment for all state and national ambient air quality standards. For this reason, the LCAQMD has not been required to prepare ambient air quality attainment plans for the basin (CARB, 2020).

Analysis

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The project is located within the LCAQMD. The LCAQMD is designated to be in attainment or unclassified for all federal and state constituents (see b., below). The LCAQMD does not have an applicable air quality plan as air quality meets attainment standards. Because the Phase 2 projects make improvements to existing water systems, they would not result in population growth or long-term emissions. The Phase 2 projects would not impact air quality plans.

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The LCAQMD is responsible for monitoring and reporting air quality data for the Lake County air basin. Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels that avoid specific adverse health effects associated with each pollutant, termed criteria pollutants.

As shown in the table below, the LCAQMD is designated to be in attainment or unclassified for all federal constituents (last updated in 2018) and in attainment or unclassified for all state constituents (last updated in 2019) [7]. The LCAQMD does not have any management plans as air quality meets attainment standards.

Standard	2019 State Status	2018 Federal Status
Ozone 8-Hour	Attainment	Unclassified/Attainment
Ozone 1-Hour	Attainment	N/A
PM2.5	Attainment	Unclassified/Attainment
PM10	Attainment	Unclassified
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	N/A
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Attainment	N/A
Visibility Reducing Particles	Attainment	N/A

The LCAQMD has not adopted its own thresholds of significance for project-related emissions. For air quality impacts, the Bay Area Air Quality Management District (BAAQMD) provides useful guidance in assessing project impacts on attainment status. The BAAQMD's 2017 Air Quality Guidelines[8] establish recommended thresholds of significance for criteria pollutants for project construction and operation for CEQA analysis. The Air Quality Guidelines do not provide screening levels for this type of project, so it is necessary to conduct an analysis using the Road Construction Emissions Model (RoadMod), Version 8.1.0, per Air Quality Guidelines recommendations for linear pipeline projects.

The BAAQMD's thresholds are presented below with a comparison to modeled project construction-related emissions generated utilizing the RoadMod model. Emissions shown below and modeled for Phase 1 assumed non mitigated emissions with up to two Phase 1 projects per year with an approximately five-month concurrent construction period. The model was based on construction parameters associated with the Pine View Heights project (including approximately 23,000 lf of pipeline), the worst-case project with regard to construction-related emissions based on its scale.

[7] http://www.arb.ca.gov/desig/adm/adm.htm

[8] *California Environmental Quality Act Air Quality Guidelines*. Bay Area Air Quality Management District. May 2017.

BAAQMD Thresholds of Significance		Project RoadMod Construction Emission Estimates (lb/day)	
Criteria Air Pollutants & Precursors	**Construction-related Average Daily Emissions (lb/day)**	**Pine View Heights Only**	**Pine View Heights + Additional Distribution Project**
Reactive Organic Gases (ROG)	54	1.57	3.14
Nitrous Oxides (NOx)	54	14.51	29.02
Particulate Matter (PM10)	82 (exhaust only)	0.91	1.82
Particulate Matter (PM2.5)	54 (exhaust only)	0.72	1.44

As shown in the table above, the worse-case Phase 1 project's (Pine View Heights) construction-related emissions are modeled to be considerably lower than the BAAQMD's thresholds of significance. The largest Phase 2 project is the Pine Grove project that includes approximately 12,100 lf of pipeline (approximately half the size of the Phase 1 Pine View Heights improvements). CACWD could coordinate up to two Phase 2 construction projects at the same time, as described in the schedule presented in the Project Description. Using the Phase 1 Pine View Heights project's worst-case projections, any two Phase 2 projects could be constructed in the same year with emissions still considerably below BAAQMD thresholds.

Based on the above, emissions associated with Phase 2 project construction are less than significant. Long-term project operational emissions associated with Phase 2 projects would be essentially unchanged due to the replacement and improvement nature of the projects.

Construction activities associated with the project have the potential to create localized short-term dust impacts (PM10 and PM2.5). Mitigation Measure AQ1 includes feasible control measures and reduces such impacts to a less than significant level, as recommended by the BAAQMD's Basic Construction Mitigation Measures.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

As a water infrastructure improvement project for existing water systems, ongoing operation of the Phase 2 water systems would not alter air quality in any appreciable way and would not expose sensitive receptors to substantial pollutant concentrations. During the construction of the Phase 2 projects, generation of dust and equipment exhaust can be expected to increase. A portion of this dust would contain PM10 and PM2.5, which are criteria air pollutants regulated at both the federal and state levels. Diesel particulate matter would be emitted by construction equipment and trucks. Equipment operation and trucks also emit nitrogen oxides during construction that contribute to regional ozone levels.

Although demolition, grading and construction activities associated with Phase 2 would be temporary, they would have the potential to cause both nuisance and health air quality impacts. PM10 is the pollutant of greatest concern associated with dust. If uncontrolled, PM10 levels downwind of actively disturbed areas could possibly exceed state standards. Phase 2 construction activities in the project area could impact residents within and adjacent to the community. Based on the linear nature of the projects, construction in any one vicinity would only be for a short duration, limited to a few days, to excavate a trench, install the water main, and backfill the trench. Despite the limited duration, implementation of BAAQMD Basic Construction Mitigation Measures contained in mitigation measure AQ1 will mitigate air quality impacts associated with exposing sensitive receptors to substantial pollutant concentrations to less than significant levels.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people??

The Phase 2 projects would not create objectionable odors or other emissions. The projects include replacement water distribution pipelines and other water system infrastructure that are not associated with creation of odors.

Cumulative Impacts

There are no adverse cumulative environmental impacts to air quality resulting from implementation of the proposed project.

Mitigation Measures

AQ1

The following Feasible Control Measures, as described by the Bay Area Air Quality Management District, shall be implemented during construction to minimize fugitive dust and emissions:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day or be covered.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed or stabilized as soon as possible. Building slabs shall be poured as soon as possible after grading unless seeding or soil binders are used to stabilize the pad.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- A publicly visible sign shall be posted with the telephone number and person to contact at the CACWD regarding dust complaints. This person shall respond and take corrective action within 48 hours. The LCAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

IV BIOLOGICAL RESOURCES

Sol Ecology, Inc. prepared a biological resources report for the project. The purpose of the biological assessment is to review the project in sufficient detail to determine to what extent the proposed action may affect any endangered or threatened species or designated critical habitats and to gather information necessary to complete a review of potential biological resource impacts from development of the proposed project, under CEQA. The Sol Ecology report describes the results of the site survey and assessment of the project site for the presence of sensitive biological resources protected by local, state, and federal laws and regulations. Excerpts of the report are contained in this section[9].

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	□	■	□	□
b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	□	■	□	□
c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	□	■	□	□
d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	□	□	□	■
e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	□	□	□	■
f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	□	□	□	■

[9] *Biological Resources Report, Cobb Mountain Water District System Improvements Project, Phase 2, Lake County, CA*. Sol Ecology, Inc. October 12, 2021.

Overview

On December 17, 2019 and January 30, 2020, Sol Ecology, Inc. (Sol Ecology) performed a biological resources assessment and surveys of the Phase 1 projects. A survey of Phase 2 projects was conducted on August 9 and August 31, 2021. The report includes information necessary to complete a review of potential biological resource impacts from development of the proposed project under CEQA. This report was prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (ESA) 50 CFR 402; 16 U.S.C. 1536 (c) and follows the standards established in the National Environmental Policy Act (NEPA) guidance and ESA guidance provided by the United States Fish and Wildlife Service (USFWS). It describes the results of the site survey and assessment of the project sites for the presence of sensitive biological resources protected by local, state, and federal laws and regulations.

METHODS

On August 10, and August 31, 2021, the Project Area was traversed on foot to determine the presence of (1) plant communities both sensitive and non-sensitive, (2) special status plant and wildlife species, (3) presence of essential habitat elements for any special status plant or wildlife species, and (4) the presence and extent of wetland and non-wetland waters.

Literature Review

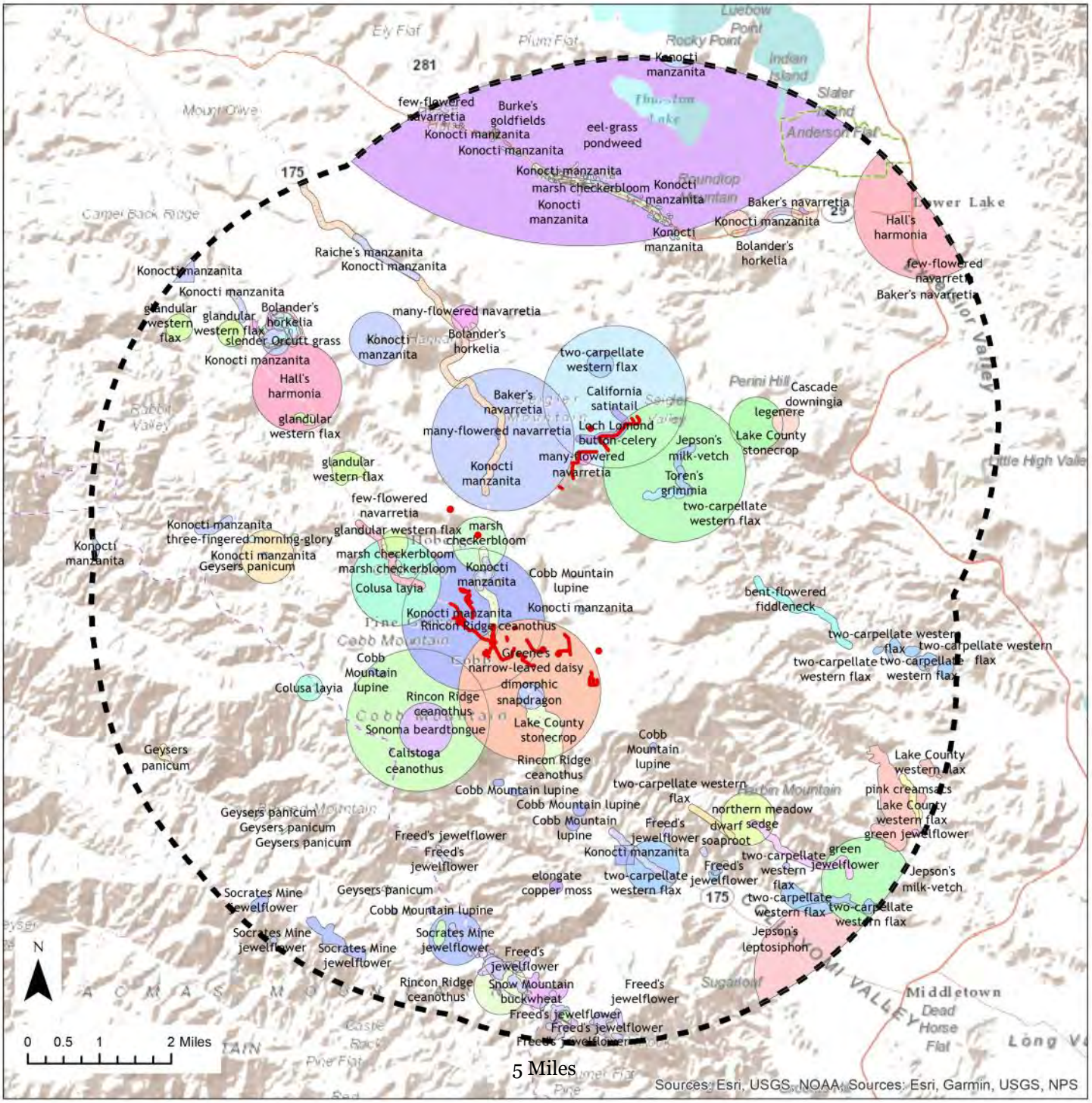
To evaluate whether special-status species or other sensitive biological resources (e.g., wetlands) could occur in the project area and vicinity, Sol Ecology biologists reviewed the following:

- California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Plants of California search for U.S. Geological Survey (USGS) 7.5-minute Whispering Pines quadrangle and eight adjacent quadrangles (CNPS 2021a);
- California Natural Diversity Database (CNDDB) records search for USGS 7.5-minute Whispering Pines quadrangle and eight adjacent quadrangles (California Department of Fish and Wildlife [CDFW] 2021);
- U.S. Fish and Wildlife Service (USFWS) list of threatened and endangered species for the Project Site (USFWS 2021a);
- California Department of Fish and Game (CDFG) publication "California's Wildlife,
- Volumes I-III" (Zeiner et al. 1990);
- CDFG publication California Bird Species of Special Concern (Shuford and Gardali 2008);
- CDFW and University of California Press publication California Amphibian and Reptile Species of Special Concern (Thomson et al. 2016);
- USFWS National Wetlands Inventory, Wetlands Mapper (USFWS 2021b);
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey (USDA 2021).

Based on information from the above sources, Sol Ecology developed lists of special-status species and natural communities of special concern that could be present in the project vicinity. Figure IV-1 presents special-status plant species and Figure IV-2 presents special-status animal species from the results of a 5-mile CNDDB record search around the project area. All biological resources were evaluated for their potential to occur within the project area.

Fig IV-1 **Special Status Plant Species within 5 Miles of the Project Sites**

Cobb Mountain Water District System Improvements Project, Lake County, CA



Date: 4-21-2020
Data: Sol Ecology Inc., Lake Co., CDFW

Base: ESRI
GIS: AJG

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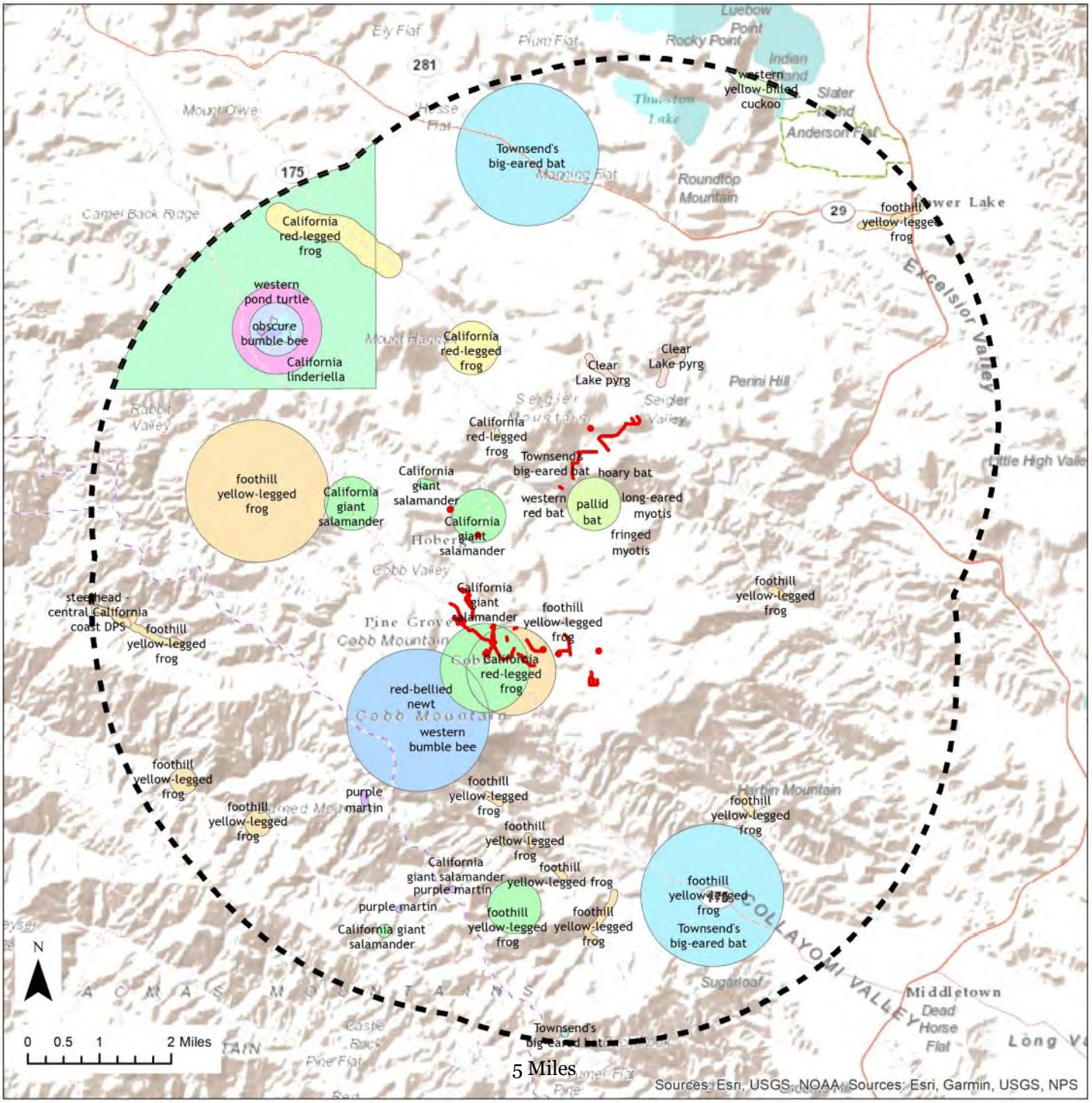
Fig IV-1 Special Status Animal Species within 5 Miles of the Project Sites

Cobb Mountain Water District System Improvements Project, Lake County, CA



Date: 4-21-2020
Data: Sol Ecology Inc., Lake Co., CDFW

Base: ESRI
GIS: AJG

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Field Survey

Sol Ecology biologists conducted biological resources surveys on August 10, and August 31, 2021. Biologists walked through accessible portions of the project area identifying all plant and wildlife species encountered and mapping vegetation communities. Plant species were recorded and identified to a taxonomic level sufficient to determine rarity using the second edition of the Jepson Manual (Baldwin et al. 2012). Vegetation communities were identified using the online version of A Manual of California Vegetation (CNPS 2021b). Dispersal habitat, foraging habitat, refugia or estivation habitat, and breeding (or nesting habitat) were noted for wildlife species.

In cases where little information is known about species occurrences and habitat requirements, the species evaluation was based on best professional judgment of Sol Ecology biologists with experience working with the species and habitats. If a special status species was observed during the site visit, its presence is recorded and discussed. For some threatened and endangered species, a site survey at the level conducted for this report may not be sufficient to determine presence or absence of a species to the specifications of regulatory agencies.

Concurrently with the botanical and wildlife surveys, biologists identified wetland and non-wetland waters potentially subject to regulation by the federal government (U.S. Army Corps of Engineers [USACE]) and the state of California (Regional Water Quality Control Board [RWQCB] and CDFW). The delineation of wetland boundaries was based on the presence/absence of indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. The boundaries of non- wetland waters were identified by locating the ordinary high-water mark (OHWM).

EXISTING CONDITIONS AND GENERAL WILDLIFE USE

Elevations in the project area range from approximately 2,500 to 3,200 feet (750 – 1,000 meters). The project sites include seven soil map units identified by the USDA, NRCS (USDA 2021):

- Collayomi-Aiken-Whispering complex, 5 to 30 percent slopes: This complex is well drained and occurs in mountains and backslopes. The Collayomi, Aiken, and Whispering series parent material is residuum weathered from andesite.
- Collayomi-Aiken-Whispering complex, 30 to 50 percent slopes: This complex is similar to Collayomi-Aiken-Whispering complex, 5 to 30 percent slopes including its geomorphic position and series parent material.
- Collayomi-Whispering complex, 30 to 50 percent slopes: This complex is similar to Collayomi-Aiken-Whispering complex, 5 to 30 percent slopes including its geomorphic position and series parent material.
- Collayomi complex, 50 to 75 percent slopes: This complex is similar to Collayomi-Aiken- Whispering complex, 5 to 30 percent slopes including its geomorphic position and series parent material.
- Maymen-Hopland-Mayacama complex, 9 to 30 percent slopes: This complex is well drained to somewhat excessively drained and occurs in mountains and backslopes. The Maymen and Hopland

series parent material is residuum weathered from sandstone and shale. The Mayacama series parent material is residuum weathered from sandstone.

- Still gravelly loam: This soil is well drained and occurs in alluvial flats, backslopes, and depressions. The Still series parent material is alluvium derived from sandstone and shale.
- Whispering-Collayomi complex, 50 to 75 percent slopes: This complex is well drained and occurs in mountains and backslopes. The Whispering and Collayomi series parent material is the same as those above.

Communities Present

Vegetation communities present in the project area were classified using the online version of *A Manual of California Vegetation* (CNPS 2021b). However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Vegetation communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

Figures IV-3 and IV-4 show generalized mapped vegetation communities.

Non-Sensitive Natural Communities

Lower Montane Coniferous Forests

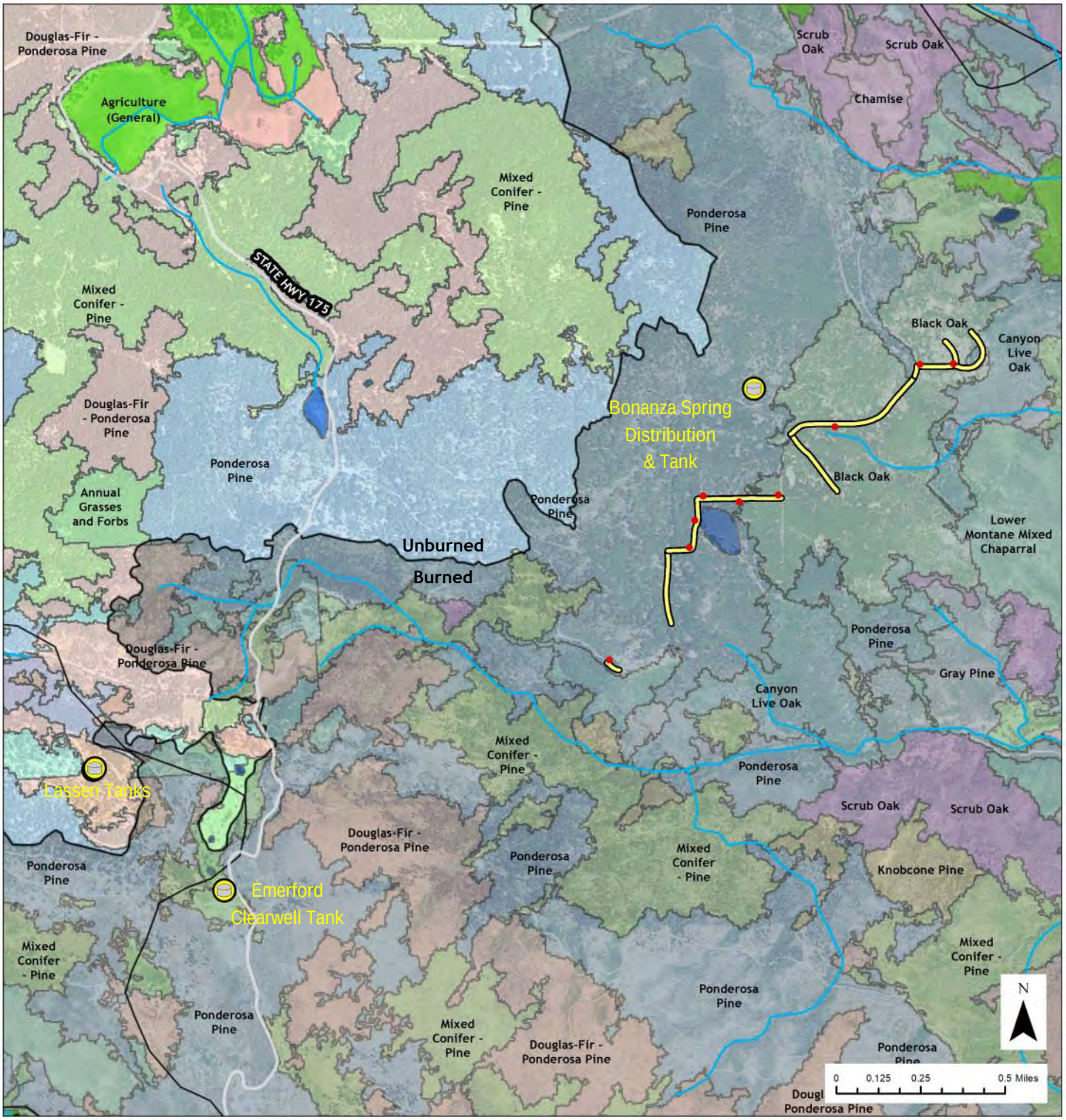
Lower montane coniferous forests are dominated by trees greater than 75 meters tall. This vegetation community occurs in uplands typically associated with raised stream benches, terraces, slopes, and ridges of all aspects. The canopy is mostly continuous with sparse shrub and herbaceous layers. Within the project area, lower montane coniferous forests include the Ponderosa pine (*Pinus ponderosa*) – Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*) forest alliance [S4, G4] and Ponderosa pine forest alliance [S4, G5]. Other tree species noted in the canopy include California black oak (*Quercus kellogii*), gray pine (*Pinus sabiniana*), incense cedar (*Calocedrus decurrens*), and Pacific madrone (*Arbutus menziesii*).

Burned

Vegetation communities that burned during wildfires were observed at the Starview water tank, Starview well, and Starview waterline distribution improvements, and the Emerford clearwell tank and at the Lassen tank improvements. Burned areas were also observed in the Bonanza Springs Water System improvement areas. These areas were vegetated with lower montane coniferous forests prior to the wildfires. Current plant species composition is mostly non-native herbaceous species including bristly dogtail grass (*Cynosurus echinatus*), brome (*Bromus* sp.), oats (*Avena* sp.), nit grass (*Gastridium phleoides*), Spanish broom (*Spartium junceum*), woolly mullein (*Verbascum thapsus*), and yellow star-thistle (*Centaurea solstitialis*). Coyote brush (*Baccharis pilularis*) and manzanita (*Arctostaphylos* sp.) are native species noted within the burned areas. Other sparse shrubs and herbaceous vegetation indicative of lower montane mixed chaparral vegetation communities, including ceanothus, western vervain (*Verbena lasiostachys*), and goldenbanner (*Thermopsis macrophylla*) also occur in previously burned forest.

Fig IV-3 Vegetation Communities (Bonanza Springs Area)

Cobb Mountain Water District System Improvements Project, Lake County, CA



Phase 2 Areas
- Bonanza Springs Distribution
- Hydrant
- Bonanza Springs Tank
- Roads

Vegetation Type
- Agriculture (General)
- Annual Grasses and Forbs
- Black Oak
- Blue Oak
- Canyon Live Oak
- Chamise
- Douglas-Fir - Ponderosa Pine
- Gray Pine
- Interior Live Oak
- Interior Mixed Hardwood
- Intermittent Lake or Pond
- Knobcone Pine
- Lower Montane Mixed Chaparral
- Madrone
- Mixed Conifer - Pine
- Pacific Douglas-Fir
- Pastures and Crop Agriculture
- Perennial Lake or Pond
- Ponderosa Pine
- Scrub Oak
- Tanoak (Madrone)
- Upper Montane Mixed Chaparral
- Urban-related Bare Soil
- Roads
- Streams
- Valley Fire Perimeter (2015)

Date: 4-21-2020
Datum: NAD 83
Data: Sol Ecology Inc., Lake Co., USDA/CALVEG, CalFire

Base: ESRI
GIS: AJG 1806-2

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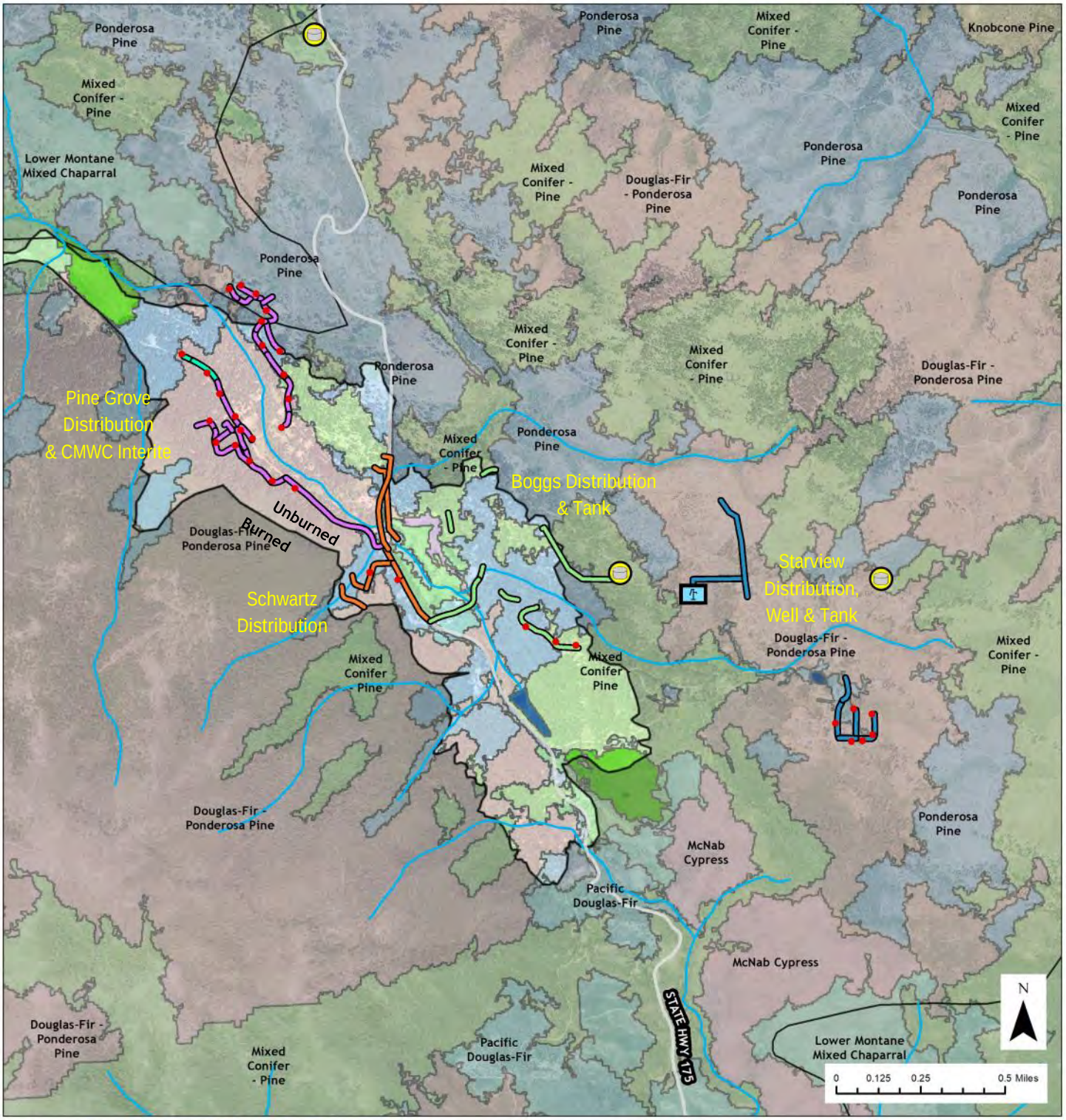
Fig IV-4 Vegetation Communities (Adams Spring & Pineview Heights Areas)

Cobb Mountain Water District System Improvements Project, Lake County, CA



Date: 4-21-2020
Datum: NAD 83
Data: Sol Ecology Inc., Lake Co., USDA/CALVEG, CalFire

Base: ESRI
GIS: AJG 1806-2

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Developed

Developed areas within the project area mainly consist of roads, residential housing, and Black Rock Golf Course. These areas are associated with non-native herbaceous species, ornamental landscaping, and turf.

Sensitive Natural Communities

Sensitive natural communities in the project area consist of seasonal wetlands, ponds and creeks. These are shown on Figures IV-5 through IV-8 and described below.

Seasonal Wetland

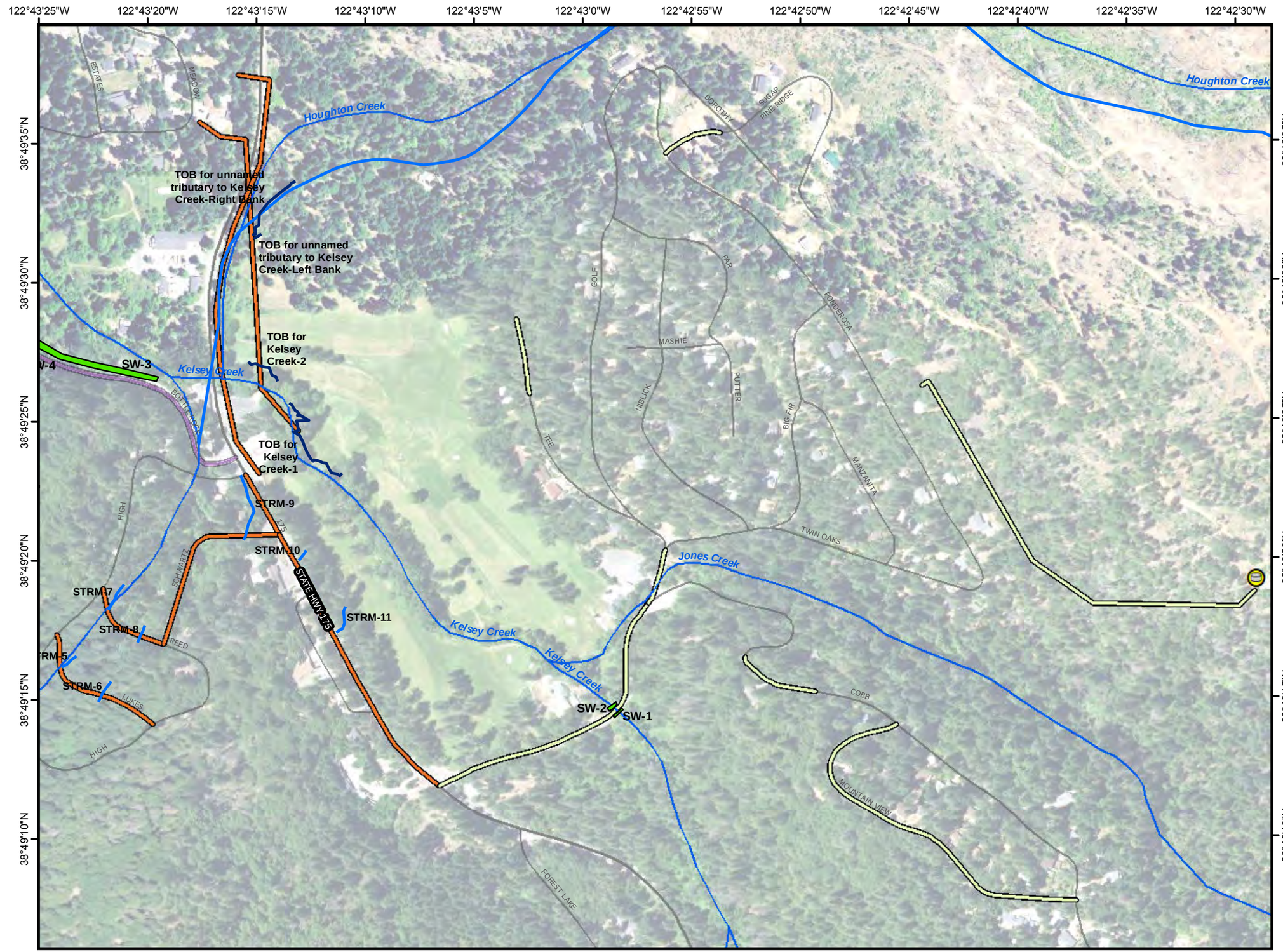
Seasonal wetlands occur along both sides of Golf Rd. (SR 129) in the Boggs waterline distribution area (Figure IV-5); along both sides of Bottle Rock Rd. near its eastern terminus at SR 175 in the Pine Grove waterline distribution area (Figure IV-6); and within select areas associated with creek crossings along Rainbow Rd. and Mesa Dr., also in the Pine Grove waterline distribution area (Figure IV-6). The seasonal wetlands in the Cobb Area Water District Water System improvement areas are hydrologically connected to Kelsey Creek and qualify as either palustrine emergent or scrub shrub wetlands, with predominately grassy, grass-like and herbaceous wetland vegetation, including Italian ryegrass (Festuca perennis), sedges (Carex barbarae), rushes (Juncus sp.), and horsetail (Equisetum sp.). Willow thickets occur in association with emergent wetland vegetation along portions of Rainbow Rd. in the northern portion of the Pine Grove waterline distribution area (Figure IV-6). Seasonal wetlands also occur in the vicinity of the Bonanza Springs waterline distribution improvements (Figure IV-7). Seasonal wetlands in the Bonanza Springs Water System improvement areas are associated with a large vernal playa located east and south of Forest Oaks Dr. The large vernal playa feature appears to be hydrologically connected to Big Canyon Creek (Figure IV-7). Big Canyon Creek is a tributary to Putah Creek which flows to the Yolo Bypass and ultimately, the Sacramento River.

Non-wetland Waters of the United States

Potentially jurisdictional tributaries to Kelsey Creek and its tributaries, including Jones Creek and Houghton Creek, occur within or adjacent to the project area (Figure VI-5 to VI-9). These non-wetland waters of the United States and their associated riparian vegetation communities are considered sensitive natural communities. Riparian plant species observed within the project area include big-leaf maple (*Acer macrophyllum*), California blackberry (*Rubus ursinus*), ferns, western poison oak (*Toxicodendron diversilobum*), and willow (*Salix* sp.).

The Starview well is proposed in upland forest upslope of an unnamed seasonal tributary to Jones Creek (Figure IV-8). The Schwartz waterline distribution improvements will occur at two locations on Jones Creek and Kelsey Creek, along Golf Rd., just south of the Black Rock Golf Course (Figure IV-5). Jones Creek is a tributary of Kelsey Creek. Other smaller seasonal tributaries to Jones Creek cross SR 175 from west to east, just west of the golf course. Stream crossings are also located where improvements are proposed along Lukes Rd. and Reed Rd. in the Schwartz waterline distribution improvement area (Figure IV-5). These unnamed tributaries were observed in dense forest with flowing water during the site inspection conducted on August 31, 2021. Lastly, seasonal tributaries also occur within the Pine Grove waterline distribution improvements area (Figure IV-6), along Meadow View Ave., draining east toward Bottle Rock Rd.; and along Rainbow Dr. and Mesa Dr, draining west toward Kelsey Creek.

Fig IV-5 Preliminary Stream & Riparian Delineation and Sensitive Communities Map



Cobb Mountain Water District System Improvements Project Phase 2

Schwartz & Boggs Dist. Area

Preliminary Stream & Riparian Delineation and Sensitive Communities Map

Potential Jurisdictional Waters

- Stream
- Top of Bank
- Potential Seasonal Wetland

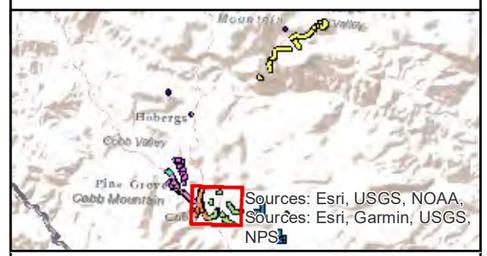
Other Features

- Tank
- Schwartz Distribution
- Boggs Distribution
- Roads

N

0 125 250 500
Feet

1 inch = 350 feet



Coordinate System: NAD 1983 UTM Zone 10N
Projection: Universal Transverse Mercator
Datum: North American 1983
Base: Sonoma Co. 2018

Delineator: Mark Kalnins
Date: 9-1-2021
Data: Sol Ecology Inc., Sonoma Co.
GIS: AG2153

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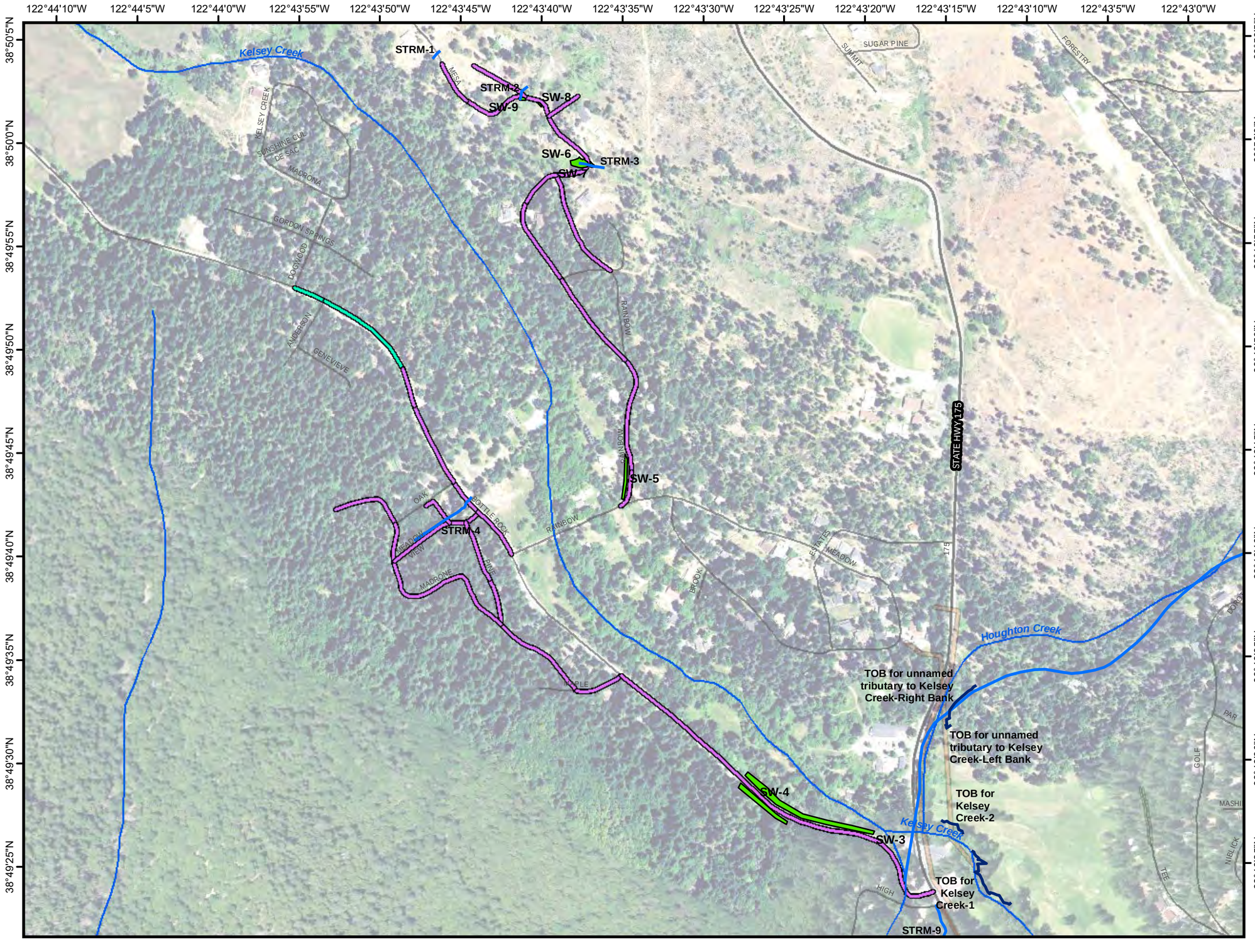
Fig IV-6 Preliminary Stream & Riparian Delineation and Sensitive Communities Map



Cobb Mountain Water District System Improvements Project Phase 2

Pine Grove Dist. Area

Preliminary Stream & Riparian Delineation and Sensitive Communities Map

Potential Jurisdictional Waters

- Stream
- Top of Bank
- Potential Seasonal Wetland

Other Features

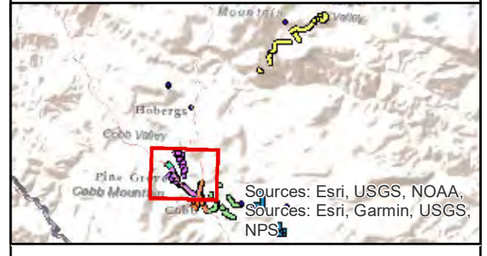
- Pine Grove
- CMWC Intertie
- Roads

N

0 195 390 780

Feet

1 inch = 466 feet



Coordinate System: NAD 1983 UTM Zone 10N
Projection: Universal Transverse Mercator
Datum: North American 1983
Base: Sonoma Co. 2018

Delineator: Mark Kalnins
Date: 9-1-2021
Data: Sol Ecology Inc., Sonoma Co.
GIS: AG2153

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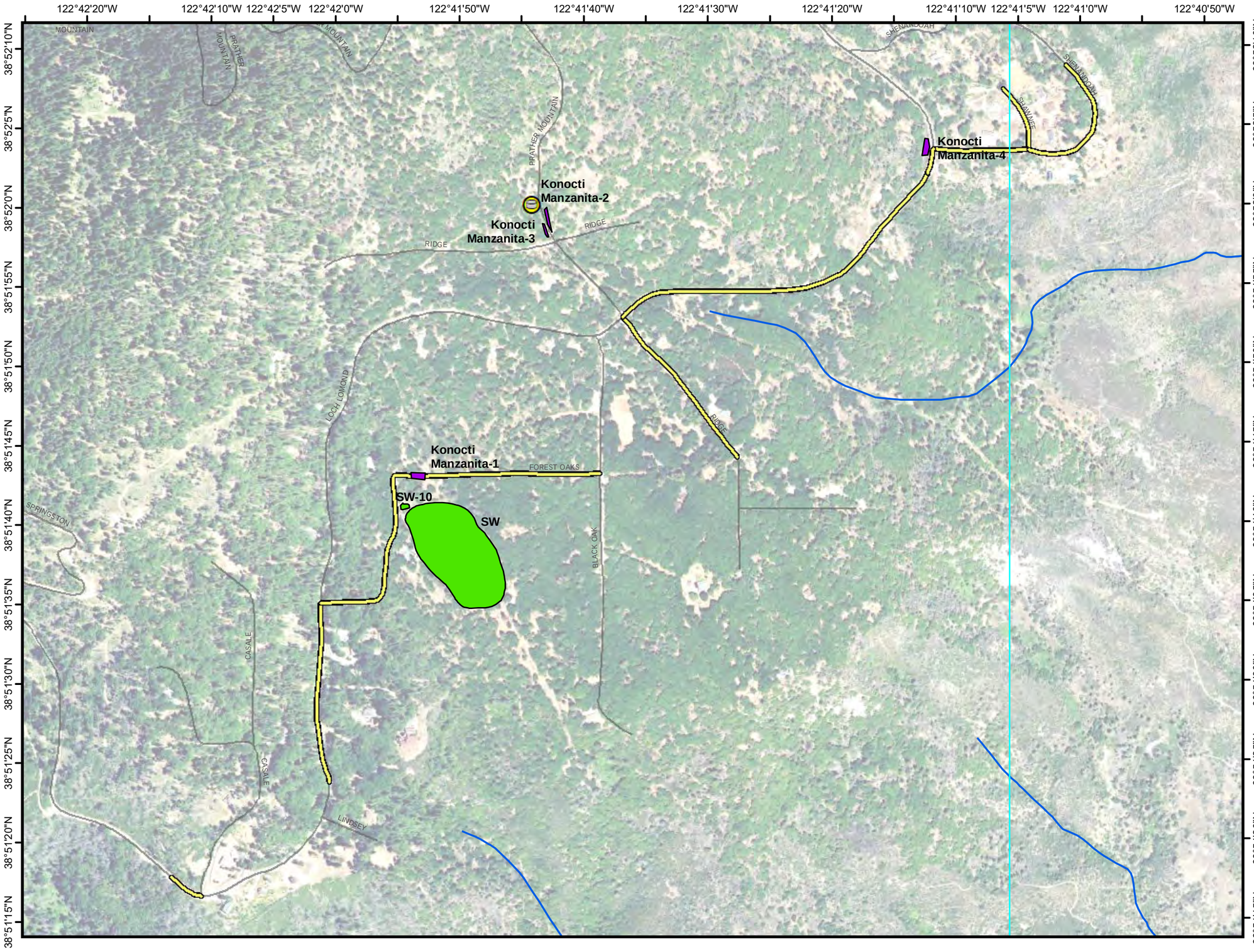
Fig IV-7 Preliminary Stream & Riparian Delineation and Sensitive Communities Map



Cobb Mountain Water District System Improvements Project Phase 2

Bonanza Springs

Preliminary Stream & Riparian Delineation and Sensitive Communities Map

Potential Jurisdictional Waters

- Potential Seasonal Wetland
- Streams

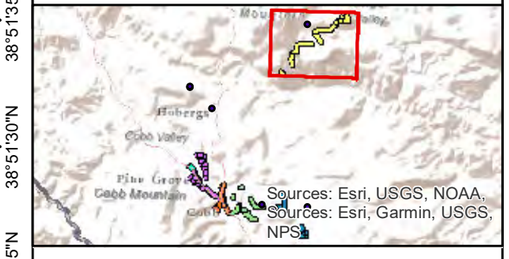
Other Features

- Sensitive Species Occurrence
- Bonanza Springs Distribution
- Tank
- Roads

N

0 250 500 1,000
Feet

1 inch = 606 feet



Coordinate System: NAD 1983 UTM Zone 10N
Projection: Universal Transverse Mercator
Datum: North American 1983
Base: ESRI

Delineator: Mark Kalnins
Date: 10-6-2021
Data: Sol Ecology Inc., Lake Co.
GIS: AG1806-2

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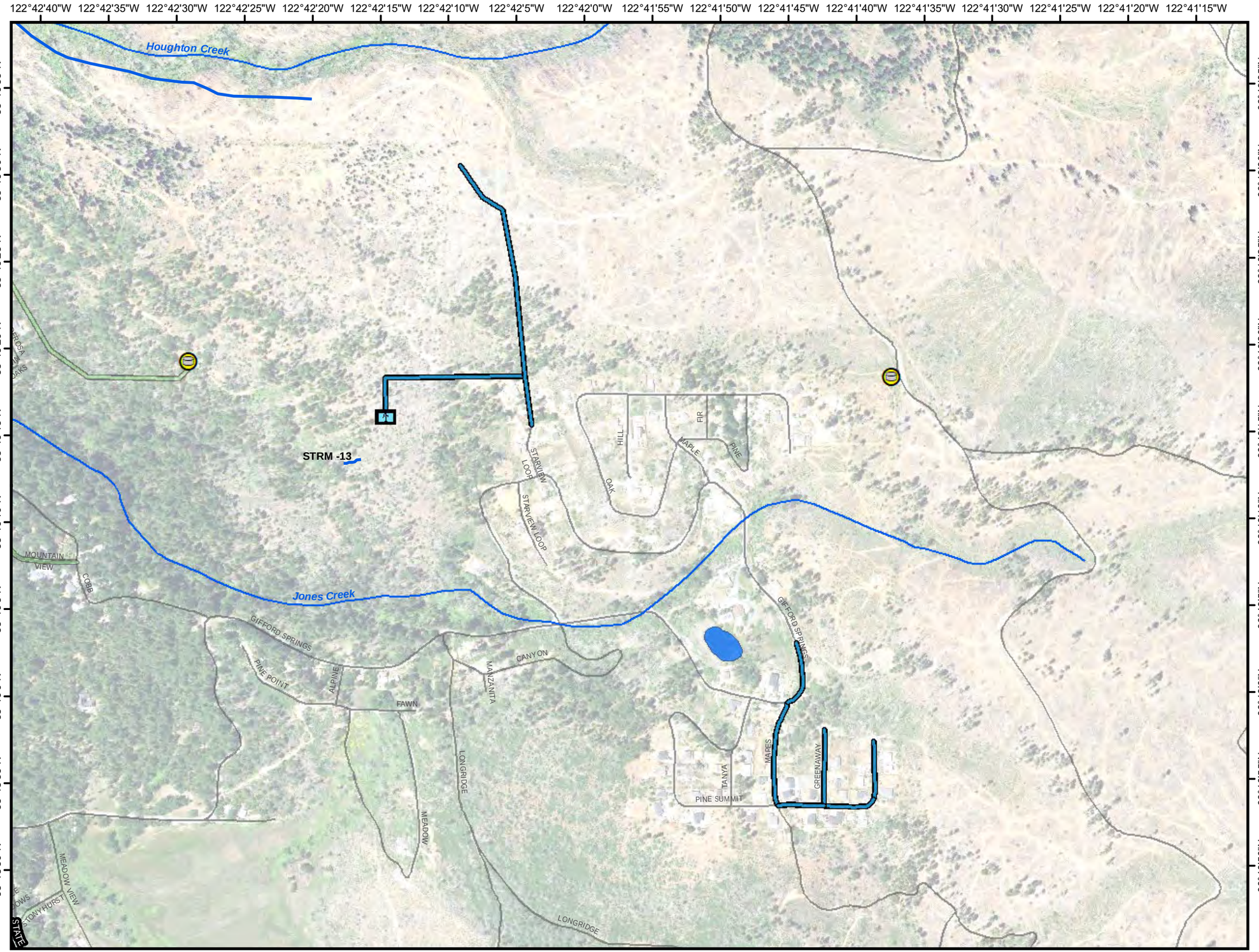
Fig IV-8 Preliminary Stream & Riparian Delineation and Sensitive Communities Map



Cobb Mountain Water District System Improvements Project Phase 2

Starview Dist. Area

Preliminary Stream & Riparian Delineation and Sensitive Communities Map

Potential Jurisdictional Waters

- Stream
- Lakes

Other Features

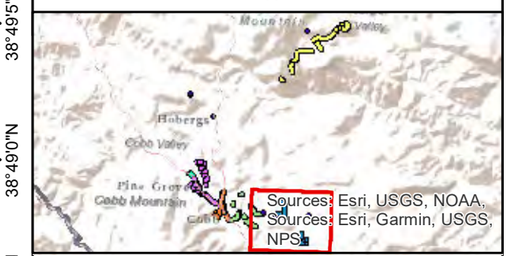
- Starview Distribution
- Tank
- Well
- Roads

N

0 165 330 660

Feet

1 inch = 561 feet



Coordinate System: NAD 1983 UTM Zone 10N
Projection: Universal Transverse Mercator
Datum: North American 1983
Base: Sonoma Co. 2018

Delineator: Mark Kalnins
Date: 9-1-2021
Data: Sol Ecology Inc., Sonoma Co.
GIS: AG2153

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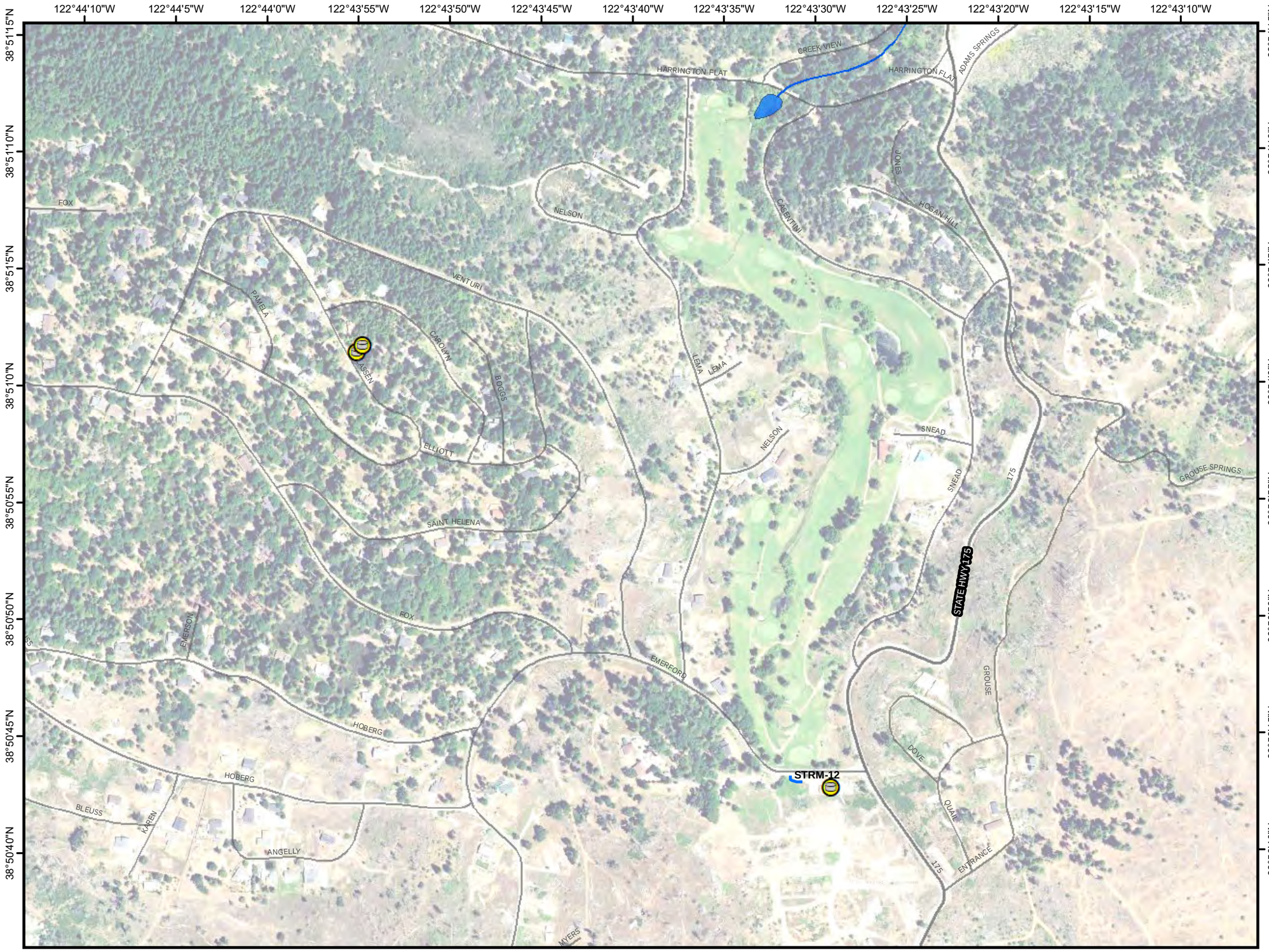
Fig IV-9 Preliminary Stream & Riparian Delineation and Sensitive Communities Map



Cobb Mountain Water District System Improvements Project Phase 2

Lassen & Emerford Clearwell Tanks

Preliminary Stream & Riparian Delineation and Sensitive Communities Map

Potential Jurisdictional Waters

- Stream
- Lakes

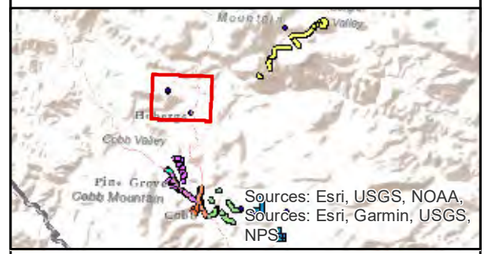
Other Features

- Tank
- Roads

N

0 125 250 500
Feet

1 inch = 417 feet



Coordinate System: NAD 1983 UTM Zone 10N
Projection: Universal Transverse Mercator
Datum: North American 1983
Base: Sonoma Co. 2018

Delineator: Mark Kalnins
Date: 9-1-2021
Data: Sol Ecology Inc., Sonoma Co.
GIS: AG2153

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Special-Status Plants

Special status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal ESA or California Endangered Species Act (CESA). These acts afford protection to both listed species and those that are formal candidates for listing. Plant species on the CNPS Rare and Endangered Plant Inventory with California Rare Plant Ranks of 1 and 2 are also considered special status plant species and must be considered under CEQA. California Rare Plant Ranks 3 and 4 are evaluated within this report to ensure locally important plant species are evaluated for impact significance.

Based upon a review of the resources and databases, 64 special-status plant species have been documented within a 9-quad search of the project area (Figure IV-1). Fifty-three (53) special status plant species are documented in the region and can be found in lower montane coniferous forest, pine/oak woodland, vernal pools, and streams and associated riparian habitat, shown on the table below. Other special status plant species documented in the area are unlikely or have no potential to occur for one or more of the following reasons:

- Edaphic (soil) conditions (e.g. sandy soils) necessary to support the special status plants do not exist on site;
- Topographic conditions (e.g. slopes) necessary to support the special status plants do not exist on site;
- Unique pH conditions (e.g. serpentine) necessary to support the special status plant species are not present on the Project Site.

During the August 31, 2021, site visit, Konocti manzanita (*Arctostaphylos manzanita* subsp. *elegans*) was observed at the Bonanza Springs waterline distribution improvements site (Figure IV-7). While Konocti manzanita is suspected to be present, this species shares diagnostic characteristics with other manzanita species, including sticky whiteleaf manzanita (*Arctostaphylos viscida ssp. pulchella*), which is common, and native to California. Rare plant surveys prior to construction are recommended during the blooming season for manzanitas to confirm if Konocti manzanita is present. Approximately twenty (20) individuals of Konocti manzanita occur north and south of Forest Oaks Dr., approximately five (5) individuals occur west of Loch Lomond Rd. at its intersection with Shenandoah Rd., and approximately five (5) individuals occur along both sides of Ridge Rd. approaching the Bonanza Springs tank.

Special Status Plants Potentially Present in the Project Area

Scientific Name/ Common Name	Status[1]	Habitat	Elevation (feet)	Flowering Period
Amorpha californica var. napensis Napa false indigo	1B.2	Chaparral, cismontane woodland	<2,600	May-July
Amsinckia lunaris Bent-flowered fiddleneck	1B.2	Gravelly slopes, grassland, openings in woodland, serpentine	16-2,600	Mar-Jun
Arctostaphylos manzanita subsp. *elegans* Konocti manzanita	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest; volcanic soils.	70-6,000	Feb-May
Arctostaphylos stanfordiana ssp. Raichei	1B.1	Chaparral	1,300-3,100	Feb-Apr

Astragalus rattanii var. jepsonianus Jepson's milk-vetch	1B.2	Grasslands, grassy openings in woodland and chaparral, vertic clay, serpentine	500-2,300	Apr-Jun
Brasenia schreberi Watershield	2B.3	Ponds, slow streams	<7,200	Apr-Oct
Brodiaea leptandra Narrow-anthered brodiaea	1B.2	Open mixed-evergreen forest, chaparral, gravelly soil	130-4,000	May-Jul
Calystegia collina ssp. oxyphylla Mt. Saint Helena morning-glory	4.2	Open grassy or rocky places, oak/pine woodland, serpentine	<1,970	Apr-Jun
Calystegia collina ssp. tridactylosa Three-fingered morning-glory	1B.2	Open grassy or rocky places, oak/pine woodland, serpentine	<1,970	Apr-Jun
Carex praticola Northern meadow sedge	4.2	Moist to wet meadows, riparian edges, open forest	1,640-10,500	May-Jul
Castilleja rubicundula var. rubicundula Pink creamsacs	1B.2	Open grassland	<2,900	Apr-Jun
Ceanothus confusus Rincon Ridge ceanothus	1B.1	Volcanic slopes, chaparral, pine/oak woodland	250-3,610	Feb-Apr
Ceanothus divergens Calistoga ceanothus	1B.2	Volcanic slopes, chaparral, pine/oak woodland	490-3,120	Feb-Apr
Ceanothus purpureus Holly-leaved ceanothus	1B.2	Volcanic substrates, slopes, chaparral	475-2,200	Feb-Apr
Ceanothus sonomensis Sonoma ceanothus	1B.2	Serpentine or volcanic substrates, chaparral	460-1,970	Mar-Apr
Downingia willamettensis Cascade downingia	2B.2	Edges of lakes, ponds, vernal pools	<2,130	Jun-Jul
Eriastrum brandegeeae Bradegee's eriastrum	1B.1	Open flats of volcanic soils, shales	1,310-3,280	May-Aug
Erigeron greenei Greene's narrow-leaved daisy	1B.2	Generally, on serpentine, sometimes rocky alluvium, chaparral, woodland, conifer forest		May-Sep
Eryngium constancei Loch Lomond button-celery	1B.1, FE, SE	Vernal pools	1,520-2,800	Apr-Jun
Fritillaria pluriflora Adobe-lily	1B.2	Adobe, generally serpentine of interior foothills	<2,950	Feb-Apr
Gratiola heterosepala Boggs Lake hedge-hyssop	1B.2, SE	Clay. Marshes and swamps.	1,800-2,790	Apr-Aug
Grimmia torenii Toren's grimmia	1B.3	Epilithic on volcanic pillow basalts	1,065-3,805	N/A
Hemizonia congesta ssp. congesta Congested-headed hayfield	1B.2	Grassy sites, marsh edges	<330	May-Nov
Hesperolinon didymocarpum Lake County western flax	1B.2, SE	Serpentinite. Chaparral, cismontane woodland, valley and foothill grassland.	1,080-1,300	May-Jul

Horkelia bolanderi Bolander's horkelia	1B.2	Edges of vernally wet places in pine forest	1,480-3,610	May-Sep
Imperata brevifolia California satintail	2B.1	Wet springs, meadows, streambanks, floodplains	<1,640	Sep-May
Lasthenia burkei Burke's goldfields	1B.1, FE, SE	Meadows and seeps (mesic), vernal pools.	170-1,900	Apr-Jun
Layia septentrionalis Layia septentrionalis Colusa layia	1B.2	Serpentine or sandy soils	330-2,950	Apr-Jun
Legenere limosa Legenere	1B.1	Wet areas, vernal pools, ponds	<3,120	May-Jun
Leptosiphon jepsonii Jepson's leptosiphon	1B.2	Open or partially shaded grassy slopes	<1,640	Apr-May
Limnanthes loccose ssp. loccose Wooly meadowfoam	4.2	Vernal pool edges	<1,970	Mar-May
Limnanthes vinculans Sebastopol meadowfoam	1B.1, FE, SE	Meadows and seeps (mesic), valley and foothill grassland, vernal pools.	380	Apr-May
Lupinus sericatus Cobb mountain lupine	1B.2	Open wooded slopes, broadleaf upland forest, chaparral, lower montane conifer forest	900-5,000	Mar-Jun
Mielichhoferia elongata Elongate copper moss	4.3	Epilithic, soil and substrates enriched with heavy metals	Low to high	N/A
Navarretia leucocephala ssp. bakeri Baker's navarretia	1B.1	Vernal pools	<5,580	Apr-Jul
Navarretia leucocephala ssp. pauciflora Few-flowered navarretia	1B.1, FE, ST	Vernal pools (volcanic ash flow).	1,600-2,800	May-Jun
Navarretia leucocephala ssp. plieantha Many-flowered navarretia	1B.2, FE, SE	Vernal pools	2,625-3,610	May-Jun
Navarretia myersii ssp. deminuta Small pincushion navarretia	1B.1	Vernal pools	65-230	Apr-May
Orcuttia tenuis Slender Orcutt grass	1B.3, FT, SE	Often gravelly. Vernal pools.	280-1,840	May-Sep
Panicum acuminatum var. thermale Geysers panicum	1B.1, SE	Geothermally-altered soil, sometimes stream sides. Closed-cone coniferous forest, riparian forest, valley and foothill grassland.	1,500-2,700	Jun-Aug
Penstemon newberryi var. sonomensis Sonoma beardtongue	1B.3	Outcrops, talus	1,640-7,875	Jun-Aug
Potamogeton zosteriformis Eel-grass pondweed	2B.2	Ponds, lakes, streams	<4,265	Jun-Jul

Sedalla leiocarpa Lake County stonecrop	1B.1, FE, SE	Vernally mesic depressions in volcanic outcrops. Cismontane woodland, valley and foothill grassland, vernal pools.	1,700-2,100	Apr-May
Sidalcea oregana ssp. hydrophila Marsh checkerbloom	1B.2	Wet soil of streambanks, meadows	1,440-7,545	Jul-Sep
Sidalcea oregana ssp. valida Kenwood Marsh checkerbloom	1B.1, FE, SE	Marshes and swamps (freshwater).	380	Jun-Sep
Streptanthus brachiatus ssp. brachiatus Socrates Mine jewelflower	1B.2	Serpentine barrens, open chaparral, woodland	1,970-3,120	Jun-Jul
Streptanthus brachiatus ssp. hoffmanii Freed's jewelflower	1B.2	Serpentine barrens, open chaparral, woodland	1,970-3,120	Jun-Jul
Streptanthus hesperidis Green jewelflower	1B.2	Serpentine barrens, associated openings in chaparral/oak woodland, cypress woodland	820-1,970	May-Jul
Streptanthus morrisonii ssp. elatus Three Peaks jewelflower	1B.2	Serpentine barrens, chaparral, cypress/knobcone-pine woodland	490-3,610	May-Sep
Streptanthus vernalis Early jewelflower	1B.2	Serpentine talus, gravel	1,970-2,950	Mar-May
Stuckenia filiformis ssp. alpina Northern slender pondweed	2B.2	Shallow, clear water of lakes, drainage channels	985-7,050	May-Jul
Trichostema ruygtii Napa bluecurls	1B.2	Open areas, generally thin clay soils, possibly seasonally saturated	100-1,970	Jun-Oct
Viburnum ellipticum Oval-leaved viburnum	2B.3	Chaparral, yellow-pine forest, generally n-facing slopes	985-4,595	Jun-Aug

[1] **California Rare Plant Rank**

1B – Plants rare, threatened, or endangered in California and elsewhere.

2B – Plants rare, threatened, or endangered in California but more common elsewhere. 3B – Review List: Plants about which more information is needed

4B – Watch List: Plants of limited distribution

1.1 – Seriously threatened in California

1.2 – Moderately threatened in California

1.3 – Not very threatened in California

[1] **Fed/State Listing Status**

F – Federally-Endangered

FT – Federally-Threatened

SE – State-Endangered

ST – State-Threatened

Special Status Wildlife

In addition to wildlife listed as federal or state endangered and/or threatened, federal and state candidate species, CDFW Species of Special Concern, CDFW California Fully Protected species, USFWS Birds of Conservation Concern, and CDFW Special Status Invertebrates are all considered special-status species. Although these species generally have no special legal status, they are given special consideration under

CEQA. The federal Bald and Golden Eagle Protection Act also provides broad protections to both eagle species that are roughly analogous to those of listed species. Bat species are also evaluated for conservation status by the Western Bat Working Group (WBWG), a non-governmental entity; bats named as a "High Priority" or "Medium Priority" species for conservation by the WBWG are typically considered special-status and also considered under CEQA; bat roosts are protected under CDFW Fish and Game Code. In addition to regulations for special-status species, most native birds in the United States (including non-status species) are protected by the federal Migratory Bird Treaty Act of 1918 (MBTA) and the California Fish and Game Code (CFGC), i.e., sections 3503, 3503.5 and 3513. Under these laws, deliberately destroying active bird nests, eggs, and/or young is illegal.

Nineteen (19) special-status wildlife species have been documented within five miles of the project area (Figure IV-2). Based on the presence of biological communities described above, the project sites have the potential to support 12 of these species. These species are described below. The remaining species found in the review of background literature were determined to be unlikely to occur due to absence of suitable habitat elements, vegetation community types in and immediately adjacent to the project site, proximity to human disturbance/development (Northern spotted owl), or occurrences are more than 50 years old, and species is presumed extirpated from the area (California red-legged frog).

Special Status Wildlife Potentially Present in the Project Area

Scientific Name/ Common Name	Status[1]	Habitat	Potential Location	Potential for Occurrence/Impacts
Mammals				
western red bat *Lasiurus blossevillii*	SSC, WBWG High	Typically, solitary species, roosts primarily in the foliage of trees or shrubs, usually in broad-leaved trees including cottonwoods, sycamores, alders, and maples. Day roosts are common in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	Schwartz Distribution, Boggs main connected to tank, Pine Grove Distribution	A small amount of suitable habitat is present along the Boggs main lines by tank where forest is still intact post-burn. Suitable broad-leaved trees and streamside habitat is present around the northern Schwartz distribution near Kelsey Creek and golf course, and within the riparian forest in the Pine Grove Distribution.
hoary bat *Lasiurus cinereus*	WBWG Medium	Prefers open forested habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees near the end of branches. Feeds primarily on moths. Requires water. This species tolerates a wide range of temperatures.	Boggs main connected to tank, Schwartz Distribution north portion	A small amount of suitable habitat is present with the forest habitat and edges along the Boggs well and mains line, the northern Schwartz new mains around the creek and golf course.

long eared myotis *Myotis evotis*	WBWG Medium	Occurs in semiarid shrublands, sage, chaparral, and agricultural areas, but is usually associated with coniferous forests from sea level to 9000 feet. Individuals roost under exfoliating tree bark, and in hollow trees, caves, mines, cliff crevices, and rocky outcrops on the ground; sometimes in buildings and under bridges.	Schwartz tank, Starview tank, Lassen tank, Bonanza south portion	Suitable tree roosting habitat is present.
fringed myotis *Myotis thysanodes*	WBWG High	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Oak and pinyon-juniper woodlands are most commonly used. Buildings, mines and large trees and snags are important day and night roosts.	Boggs main connected to tank, Bonanza south portion	Suitable tree roosting habitat is present; however, preferred habitat is not present or is badly burned.
Birds				
northern spotted owl *Strix occidentalis caurina*	FT, ST	Year-round resident in dense, structurally complex forests, primarily those with old-growth conifers. Nests in cavities or on platforms in large trees, preferentially inhabiting old growth forests, though it can be found in mixed primary- and secondary-growth forests in the southern part of its range (southern Oregon and California). Preys on mammals. Each nesting pair requires a large territory for hunting and raising young.	Boggs main connected to tank, Bonanza south portion, Starview north portion	A single occurrence is located within 500 feet of the northern Starview line. The Boggs tank and connected main line area also has denser forest with conifers. Adjacent land with older growth conifers has largely burned, so Boggs area could be post-burn habitat. Similarly, the outer extent of the Schwartz Distribution area and Pine Grove Distribution area may provide secondary nesting habitat.
bald eagle *Haliaeetus leucocephalus*	FD, SE, CFP, BCC	Occurs year-round in California, but primarily a winter visitor. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	Schwartz Distribution north portion	Limited potential nesting habitat is located within the forested riparian north portion of Schwartz distribution. No nest structures were observed. Limited foraging and riverine habitat present in the surrounding area.

purple martin *Progne subis*	SSC	Inhabits woodlands and low elevation coniferous forests. Nests in old woodpecker cavities and human-made structures. Nest is often located in tall, isolated tree or snag.	Boggs tank and adjacent main line	This species may utilize burned trees/snags for nesting and thus, may occur throughout the project area, though less commonly in residential areas.
Amphibians and Reptiles				
California giant salamander *Dicamptodon ensatus*	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams, often in headwater reaches. Larvae usually remain aquatic for over a year.	Schwartz Distribution, Boggs main connected to tank, Pine Grove Distribution	This species is documented nearby and there is potential habitat in Kelsey Creek and Jones Creek. Creeks and riparian habitat within the Schwartz Distribution and a small riparian portion of the Boggs main line near the water tank. Species may utilize terrestrial habitat in these areas where moist leaf litter is present.
red-bellied newt (*Taricha rivularis*)	SSC	Lives in terrestrial habitats in redwood forests along the coast and will migrate several hundred meters in a season to breed in fast-moving streams with rocky bottoms. After breeding, adults leave streams but usually remain in the same drainages or may use underground refugia and forage at the surface when dispersing.	Schwartz Distribution, Boggs Distribution south portion, Pine Grove Distribution	This species has potential to breed in Kelsey Creek and Jones Creek; may utilize terrestrial habitat in the surrounding area. Suitable stream habitat present in parts of the Pine Grove Distribution.
foothill yellow-legged frog *Rana boylii*	SSC (North Coast clade)	Found in or near rocky streams in a variety of habitats. Prefers partly shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.	Schwartz Distribution, Boggs main connected to tank, Pine Grove Distribution	This species is documented south of the Schwartz Distribution, and potentially occurs in Jones Creek and Kelsey Creek. This species is unlikely to be found outside aquatic habitat.

Pacific (western) pond turtle *Actinemys marmorata*	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require warm, shallow, low flowing or stagnant nutrient rich waters with basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying. Nesting occurs from late April through July and requires open, dry upland habitat with friable soils for nesting and prefer to nest on unshaded slopes within 5 to 100 meters of suitable aquatic habitat. Adults may also take refuge in vegetated, upland habitat for up to four months.	Schwartz Distribution north portion, Bonanza south portion	This species may potentially occur in Kelsey Creek and Jones Creek and nearby pond habitat; may nest on open or vegetated slopes up to 100 meters along Kelsey and Jones Creeks. Not likely to occur in residential areas.
Fish				
steelhead - central CA coast DPS *Oncorhynchus mykiss irideus*	FT (NMFS)	Occurs from the Russian River south to Soquel Creek and Pajaro River and in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating downstream to the ocean.	Schwartz Distribution north portion	This species may be present in Kelsey Creek and Jones Creek.

The remaining species found in the review of background literature were determined to be unlikely to occur due to absence of suitable habitat elements and/or community types in and immediately adjacent to the project sites.

Analysis

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?

There are 53 special-status plant species and 12 special-status animal species with the potential to be present, as indicated in the tables above. Potential impacts to these species are described below.

Special Status Plant Species

Fifty-three (53) special status plants have potential to occur in the project area. Most of work is proposed to occur within the existing roadway and previously impacted areas and thus, potentially significant impacts to these fifty-three (53) special status plant species are not likely to occur in most of the project area.

Konocti manzanita was observed at the Bonanza Springs waterline distribution improvements site (Figure IV-7). While Konocti manzanita is suspected to be present, this species shares diagnostic characteristics with other manzanita species, including sticky whiteleaf manzanita (Arctostaphylos viscida ssp. pulchella), which is common, and native to California. Rare plant surveys prior to construction are recommended during the blooming season for manzanitas to confirm if Konocti manzanita is present. Approximately twenty (20) individuals of Konocti manzanita occur north and south of Forest Oaks Dr., approximately five (5) individuals occur west of Loch Lomond Rd. at its intersection with Shenandoah Rd., and approximately five (5) individuals occur along both sides of Ridge Rd. approaching the Bonanza Springs tank.

Where vegetation removal cannot be avoided and/or trench work is proposed in vegetated areas, potential direct impacts may occur including mortality or removal of special status plants if present. Staging and access may also cause trampling, which can also result in mortality. Mortality to special status plants would be considered a potentially significant impact. Mitigation Measure BIO1 requires preconstruction plant surveys to reduce potential impacts to less than significant.

Special Status Wildlife Species

Four special status bats (western red bat, hoary bat, long eared myotis, and fringed myotis) may potentially roost in trees and snags located throughout the project area. Removal of trees containing a roost and/or disturbance (including removal) to maternity roosts would be considered a significant impact under CEQA. Mitigation Measure BIO2 provides for preconstruction bat surveys to reduce this potential impact to less than significant.

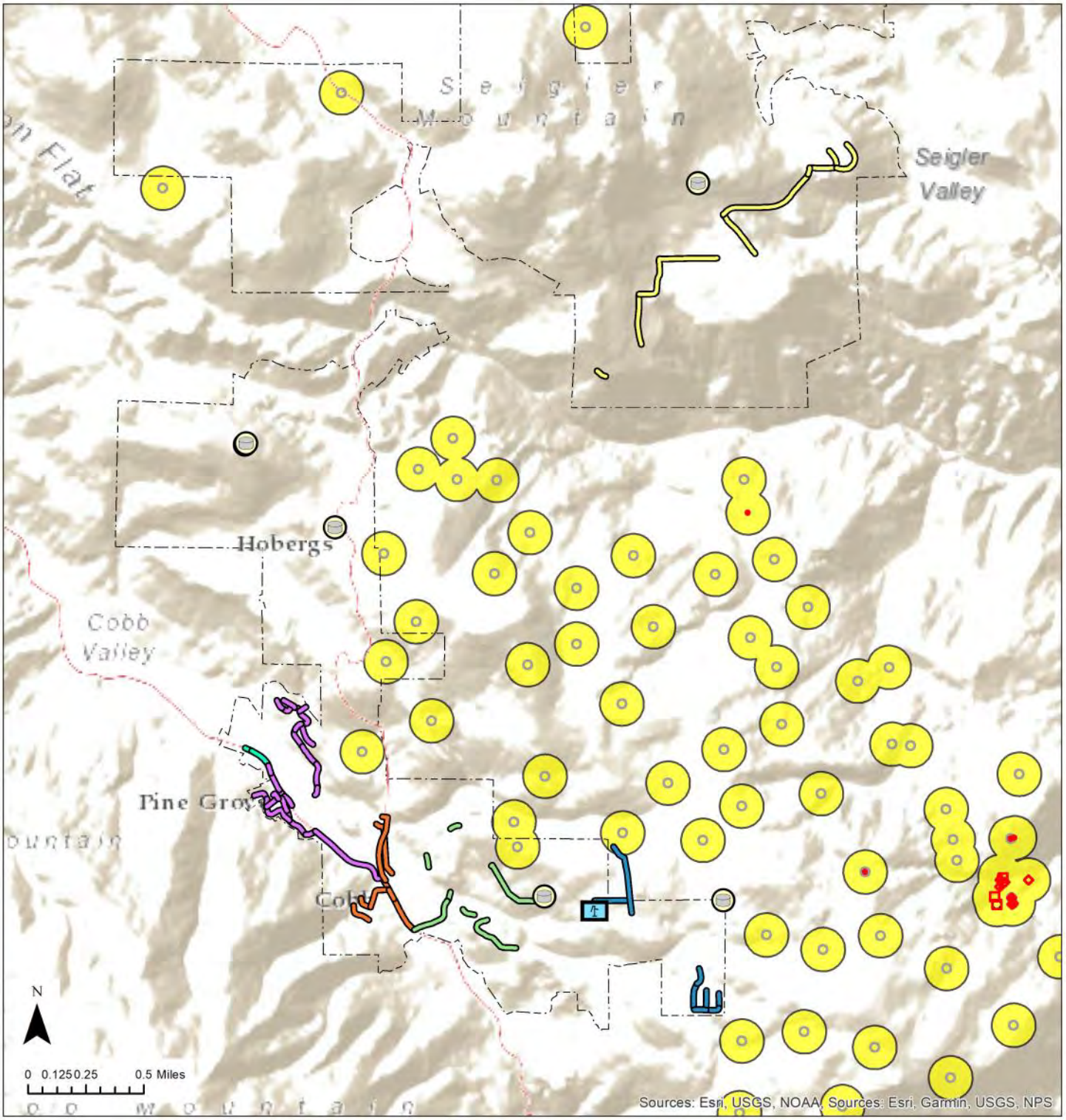
Three special status birds (Northern spotted owl, bald eagle, and purple martin) plus many common birds protected under the Migratory Bird Treaty Act may potentially nest throughout the project area. Removal of or disturbance to nesting birds causing the nest to be abandoned or fail is considered a significant impact under CEQA. Preconstruction nesting bird surveys are required by Mitigation Measure BIO3 to reduce this potential impact to less than significant. In addition, impacts to nesting Northern spotted owl (including noise disturbance within 500 feet of an active nest) is considered a violation of the Endangered Species Act. Likewise, impacts to bald eagle nests are considered a violation of the California Endangered Species Act. Impacts to listed species are considered significant under CEQA. Known spotted owl occurrences in the project vicinity are shown on Figure IV-10. Preconstruction spotted owl surveys, required in Mitigation Measure BIO4, for potential locations described in the table above would reduce this impact to less than significant.

Three special status amphibians (California giant salamander, red-bellied newt, and foothill yellow-legged frog) and one reptile (western pond turtle) may potentially be present where improvements are located near streams and/or vernal pools. These species may be directly impacted if present during construction activities in close proximity to aquatic habitat (typically within 100 meters). Incidental mortality is considered less than significant. However, impacts to multiple species in a given area, including nesting or breeding individuals may be considered significant under CEQA unless measures are taken to avoid impacts. Preconstruction surveys for these species is required for project areas near water sources, as provided in Mitigation Measure BIO5.

One special status fish (steelhead) may be present in Kelsey Creek and Jones Creek. Because all work will take place outside the creek, no significant impacts to this species are likely to occur.

Fig IV-10 Northern Spotted Owl Occurrences

Cobb Mountain Water District System Improvements Project, Lake County, CA



Phase 2 Areas
- Bonanza Springs Distribution
- Pine Grove Distribution
- CMWC Intertie
- Schwartz Distribution
- Boggs Distribution
- Starview Distribution

- Tank
- Well
- CAWD Boundary (2019)

- Northern spotted-owl Occurrence

Occurrence Symbology
- Nest
- Young
- Pair
- Other Positive Observation
- Negative Observation
- Activity Center
- Abandoned Activity Center
- Not Valid Activity Center

Date: 4-21-2020
Data: Sol Ecology Inc., Lake Co., CDFW

Base: ESRI
GIS: AJG

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b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

Big Canyon Creek, the tributary to Kelsey Creek at Pineview Heights Area/Schwartz water tank, Jones Creek, and Cole Creek are tributaries to the Sacramento River, a traditional navigable water (TNW). These non-wetland waters of the United States are subject to USACE jurisdiction due to their connection with a TNW of the United States and may also be considered waters of the state subject to the RWQCB and CDFW.

Activities that result in the substantial modification of the bed, bank or channel of a stream or lake may require a Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600-1607 of the California Fish and Game Code and/or a Section 401 Water Quality Certification or NPDES permit from the RWQCB. On streams, creeks and rivers, the extent of CDFW and RWQCB jurisdiction extends from the top of bank to top of bank or the outer limits of the riparian canopy, whichever is wider. As such, any impacts to riparian vegetation are likely to be significant unless mitigated through consultation with CDFW and RWQCB.

The project occurs primarily within existing roadways or disturbed areas and should be able to avoid impacts to riparian vegetation and streams through the design process and utilization of trenchless technologies where crossings cannot be avoided. Mitigation Measure BIO6 includes avoidance measures to reduce potential impacts to sensitive habitats to less than significant as well as the requirement to obtain appropriate permits for any activities that would result in direct impacts within jurisdictions described above.

c. Would the project 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?

A seasonal wetland, two ponds, and non-wetland waters and their associated riparian vegetation are sensitive natural communities occurring within the project area. Any permanent loss of seasonal wetland or pond habitat would be a potentially significant impact under CEQA. The seasonal wetland and ponds are likely within USACE jurisdiction under Section 404 of the Clean Water Act and under the jurisdiction of the Central Valley RWQCB according to the Porter-Cologne Act. Any proposed project activities that will occur in seasonal wetland and pond habitat will require mitigation to compensate for the functions of those wetlands proposed to be filled.

Any proposed project activities that would occur in the seasonal wetland or pond habitat would require mitigation to compensate for the functions of those wetlands proposed to be filled. The minimum replacement ratio is 1:1. Higher replacement ratios are required for high quality wetlands. A USACE Section 404 permit is required to fill in any wetland. It is anticipated that project design can avoid all wetland areas. Mitigation Measure BIO6 is included to reduce potential adjacent impacts and requires consultation should avoidance not be possible.

d. Would the project 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?

The Phase 2 projects would primarily located underground in existing roadways or disturbed locations and would not disrupt movement of migratory fish or wildlife species or impede the use of wildlife nursery sites.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The County does not have a tree protection ordinance. No tree removal is anticipated to occur associated with the Phase 2 projects since they occur primarily within existing roadways or developed tank sites. Much of the tree cover in the project area burned during the Valley Fire.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project location is not part of an adopted Habitat Conservation Plan or Natural Community Conservation Plan.

Cumulative Impacts

There are no adverse cumulative environmental impacts to biological resources resulting from implementation of the proposed project.

Mitigation Measures

BIO1

The following measures are recommended to avoid and/or mitigate for potential impacts to special status plants due to vegetation removal at select locations:

1. A pre-construction plant survey should be performed in all locations where work will occur beyond the limits of the roadway or will require some vegetation removal to access. Surveys should be performed during the blooming period for each of the species, which can vary from year to year. To ensure coverage of the fifty-three species with potential to occur, surveys the year prior to construction activities are recommended to occur in February, May, and July.
2. If special status plants are found, they should be completely avoided; orange construction fencing should be placed around the plants to ensure impacts during activities do not occur. In the event a non-federal-listed plant cannot be completely avoided then a relocation or propagation plan must be prepared and implemented prior to activities in those areas or it may be salvaged and transplanted following work in that area (shrub or manzanitas only). Should federal listed species be found and be unavoidable, consultation with the U.S. Fish and Wildlife Service is necessary to determine appropriate permitting and compensatory mitigation. Avoidance, salvage/transplanting, or reseeding (propagation) will ensure no significant impacts to special status plants occur.

BIO2

To reduce potential impacts to bat species (western red bat, hoary bat, long eared myotis, and fringed myotis), the following mitigation measures shall be implemented.

1. Prior to activities in areas where bat roosts may be present and subject to disturbance during the maternity season between April and September, a qualified bat biologist shall perform a pre-construction roost survey (dusk emergence survey) no more than 10 days prior to the start of activities to avoid potential impacts to active maternity sites and/or pregnant females.
2. If a maternity roost is located whether solitary or colonial, that roost will remain undisturbed until September 1 or until a qualified biologist has determined that the roost is no longer active. A no-disturbance buffer may be established around the roost at the direction of the biologist.
3. Tree removal may have potential to impact non-maternity roosting bats that may be present. As such any felled trees should be left overnight prior to removal from the site or on-site chipping to allow any bats to exit the roost.

BIO3

To avoid impacts to migratory nesting birds, bald eagle and purple martin, the following mitigation measures shall be implemented.

1. Tree removal and roadway construction should be initiated during the non-nesting season from September 1 to January 31.
2. If work cannot be initiated during this period, or if there is a break in activity lasting more than 14 days after February 1, then nesting bird surveys shall be performed within 500 feet of proposed activities.
3. If nests are found, a no-disturbance buffer shall be placed around the nest until young have fledged or the nest is determined to be no longer active by the biologist. The size of the buffer may be determined by the biologist based on species and proximity to activities; larger buffers up to 500 feet are recommended for special status raptor species.

BIO4

To avoid impacts to Northern Spotted Owl, the following mitigation measures shall be implemented.

1. All construction related activities, including tree removal and/or road construction (grading or paving) should be performed outside the nesting season for northern spotted owl in areas where it may occur (Starview). The nesting season for northern spotted owl is from March 15 to August 31. Alternatively, protocol-level surveys may be performed. A minimum of 6 surveys is required; alternatively, the applicant may apply for Section 2081 take coverage from the CDFW.

BIO5

To reduce potential impacts to special-status amphibians and reptiles (California giant salamander, red-bellied newt, foothill yellow-legged frog, and western pond turtle), the following mitigation measures shall be applied.

1. A pre-construction survey for special status amphibians and reptiles shall be conducted within 48 hours of ground disturbing activities if within 100 meters (328 feet) of any aquatic habitat and outside existing hardscape area and/or private property. Surveys are to be conducted by approved qualified

biologist with experience surveying for each species. If any species is found on the project site, it should be allowed to leave the area on its own. If the animal does not leave the area on its own, CDFW should be contacted. Non-listed species if found, may be relocated to suitable habitat outside the project Site.

2. Tightly woven fiber netting or similar material shall be used for erosion control or other purposes to ensure amphibian and reptile species do not get trapped. Plastic monofilament netting (erosion control matting), rolled erosion control products, or similar material should not be used. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
3. All over-water work shall be performed during the dry season, unless otherwise authorized by state issued permits.
4. If the stream contains standing or flowing water during the dry season, a catch basin shall be installed to prevent discharge of materials and/or equipment into the live waterway that may impact aquatic species.

BIO6

The following measures shall be implemented to avoid and/or mitigate potential direct and indirect impacts to wetland and non-wetland waters of the United States and their associated riparian habitat in the project area. Implementation of these measures will ensure impacts are less than significant.

1. Orange construction fencing shall be placed around all existing wetland, riparian and stream vegetation to avoid potential impacts to these sensitive vegetation communities during construction-related activities. Placement of exclusion fencing shall be performed under the direction of a biologist to ensure maximum avoidance of sensitive vegetation communities.
2. In addition to orange construction fencing, silt fence shall be installed and maintained between the work area and non-wetland waters of the United States located within fifty (50) feet to prevent any contaminants from entering the waterway.
3. Best management practices shall be employed including the preparation of spill prevention plan for work occurring within 100-feet of waterways to prevent discharge or spilling of materials or liquids into sensitive habitats.
4. If work occurs within the riparian corridor of Jones Creek and its tributaries and water mains cross these creeks either under existing bridges or culverts, both the CVRWQCB and CDFW shall be notified of any proposed improvements that will alter the beds and banks of any stream, will result in removal of any riparian vegetation, or for any grading or construction that would potentially result in a discharge of pollutants to waters of the State or Waters of the US. Permits would not be required for trenchless directional drilling if sensitive habitat is completely avoided.

To the extent feasible, all work within the riparian corridor should be performed outside the rainy season, in order to avoid and minimize any potential sediment discharges to receiving waters.

V CULTURAL RESOURCES

Section 15064.5(a) of CEQA includes a broad definition of historical and archaeological resources as follows:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4850 et seq.).
(2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852) including the following:
    (A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
    (B) Is associated with the lives of persons important in our past;
    (C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
    (D) Has yielded, or may be likely to yield, information important in prehistory or history.
(4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	□	■	□	□
b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	□	■	□	□
c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	□	■	□	□

Tom Origer & Associates prepared a Cultural Resources Study[10] for the Phase 1 project and an Archival Study[11] for both phases in April 2020. A Cultural Resources Study was prepared for Phase 2 projects[12] in September 2021 to assess potential project-level impacts of Phase 2 projects. Excerpts from the Phase 2 report are included in this section. All reports were prepared by Eileen Barrow who holds a Master of Arts in cultural resources management from Sonoma State University. Ms. Barrow's experience includes work that has been completed in compliance with local ordinances, CEQA, NEPA, and Section 106 (NHPA) requirements.

Origer & Associtates' study included archival research at the Northwest Information Center, Sonoma State University, examination of the library and files of Tom Origer & Associates, Native American contact, and field inspection of the study area. Information related to the precise locations of archaeological sites is confidential, and not included herein.

Under Section 106, when a federal agency is involved in an undertaking, it must take into account the effects of the undertaking on historic properties (36CFR Part 800). Compliance with Section 106 requires that agencies make an effort to identify historic properties that might be affected by a project.

The State of California requires that cultural resources be considered during the environmental review process. This process is outlined in CEQA and accomplished by an inventory of resources within a study area and by assessing the potential that historical resources could be affected by development.

The term "Historical Resources" encompasses all forms of cultural resources including prehistoric and historical archaeological sites and built environment resources (e.g., buildings, bridges, canals), that would be eligible for inclusion on the California Register of Historical Resources (California Register). An additional category of resources is defined in CEQA under the term "Tribal Cultural Resources" (Public Resources Code Section 21074). They are not addressed in this report because Tribal Cultural Resources are resources that are of specific concern to California Native American tribes, and knowledge of such resources is limited to tribal people. Pursuant to CEQA, as revised in July 2015, such resources are to be identified by tribal people in direct, confidential consultation with the lead agency (PRC §21080.3.1).

The term, cultural resources, will be used in this report to describe historical resources under CEQA and cultural resources under Section 106.

Pursuant to Section 106 and the CEQA Guidelines, the goals of Origer & Associates' study were to: 1) identify cultural resources within the project's Area of Potential Effect (APE); 2) provide an evaluation of the significance of identified resources; 3) determine resource vulnerability to adverse impacts that could arise from project activities; and 4) offer recommendations designed to protect cultural resource values, as warranted.

[10] *Cultural Resources Study for the Cobb Area County Water District Improvements Project, Lake County, California*. Tom Origer & Associates. April 9, 2020.
[11] *Archival Study for the Cobb Area County Water District, Lake County, California*. Tom Origer & Associates. April 7, 2020.
[12] *Cultural Resources Study for the Cobb Area County Water District Improvements—Phase 2, Lake County, California*. Tom Origer & Associates. September 17, 2021.

Environmental Setting

The APE locations are in southern Lake County, as shown on the Whispering Pines 7.5' USGS topographic map. The APE locations are found on level to moderately sloping land and are primarily in existing roadways.

The soil survey shows that nearly the entire APE is comprised of Collayomi-Aiken-Whispering soils (Smith and Broderson 1989: Sheet 26). The Lassen Tanks are located on Speaker-Sanhedrin-Maymen soils and a small portion of the Pine Grove Distribution APE lies on Still soils (Smith and Broderson 1986: Sheet 26).

Collayomi-Aiken-Whispering and Speaker-Sanhedrin-Maymen soils are gravelly loams that are found on mountains. In a natural state, these soil complexes support the growth of vegetation typical of a coniferous forest. Historically, these soil complexes have been used for timber production, wildlife and watershed habitat, homesite development, and geothermal well development (Smith and Broderson 1989:37-39 and 115).

Still soils consist of gravely loams found on alluvial plains. In a natural state, Still soils support the growth of grasses, forbs, and scattered oaks. Historically, Still soils have been used for orchards, vineyards, hay and pasture, and homesite development (Smith and Broderson 1989:118-119).

The closest sources of fresh water to the APE locations include Houghton, Jones, and Kelsey creeks; though there are several smaller unnamed creeks in close proximity as well.

Cultural Setting

Prehistory

Although archaeological work began as early as the 1900s in the San Francisco Bay Area (Moratto 1984:505; Nelson 1909), no archaeological work was performed in northwestern California until 1955 when Clement Meighan excavated CA-MEN-500 near Willits (Meighan 1955). Meighan, along with Richard Beardsley (1954), was the first to publish studies regarding cultural sequences in the area north of San Francisco Bay. In 1973, David Fredrickson synthesized prior work, and in combination with his own research, he developed a regional chronology that is used to this day, albeit modified for locality- specific circumstances. Fredrickson's scheme shows that native peoples have occupied the region for over 11,000 years (which is supported by Erlandson et al. 2007), and during that time, shifts took place in their social, political, and ideological regimes (Fredrickson 1973).

The most recent summary of data related to the identification of patterns within the temporal periods identified by Fredrickson comes from Hildebrandt (2007). Patterns represent a set of traits that were adopted by a number of separate cultures over an appreciable period of time and within an appreciable space (Bennyhoff and Fredrickson 1994:20-21). Hildebrandt analyzed data from excavations throughout the North Coastal Region of California, which extends from the Oregon border south to southern Sonoma County, and from the Pacific Ocean east to the eastern slopes of the North Coast Ranges (Hildebrandt 2007; Moratto 2004:472). Hildebrandt found that while cultural patterns in the southern North Coastal Region resembled those of the San Francisco Bay Area, those to the north followed a different trajectory represented by the Post, Borax Lake, Mendocino, and Gunther patterns. Hildebrandt (2007) summarizes artifact types and time spans for each pattern found in northern California; Table 2 provides a comparison of Hildebrandt's and Fredrickson's chronologies.

In 1960, the first study of obsidian hydration as a dating tool for archaeologists was published (Friedman and Smith 1960). This study showed that the chemical composition of the obsidian and temperature affect the

hydration process. It was not until the 1980s that research into this dating method was conducted for the North Coastal Region which has four major obsidian sources. In 1987, Thomas Origer devised a hydration chronology for the North Coastal Region (Origer 1987). This chronology was developed by pairing micron readings taken from obsidian specimens and pairing them with radiocarbon-dated artifacts and features. Origer was able to develop a hydration rate for Annadel and Napa Valley obsidian sources as a result of his study. Later, Tremaine (1989, 1993) was able to develop comparison constants among the four primary obsidian sources in the North Coastal Region. The concept of comparison constants allows for the calculation of dates from hydration band measurements taken from obsidian specimens from sources with unknown hydration rates.

The development of obsidian hydration rates for the four, primary North Coastal Region obsidian sources provided archaeologists with the ability to obtain relative dates from sites that could not previously be dated due to lack of diagnostic artifacts or organic material suitable for radiocarbon dating. Origer was able to support and refine Fredrickson's chronology dating tools diagnostic of certain periods (Origer 1987).

Early occupants appear to have had an economy based largely on hunting, with limited exchange, and social structures based on the extended family unit. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears to be coeval with the development of sedentism and population growth and expansion. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), which are possible indicators of both status and increasingly complex exchange systems.

Prehistoric archaeological site indicators expected to be found in the region include but are not limited to: obsidian and chert flakes and chipped stone tools; grinding and mashing implements such as slabs and hand-stones, and mortars and pestles; and locally darkened midden soils containing some of the previously listed items plus fragments of bone, shellfish, and fire-affected stones.

ETHNOGRAPHY

Linguists and ethnographers tracing the evolution of languages have found that most of the indigenous languages of the California region belong to one of five widespread North American language groups (the Hokan and Penutian phyla, and the Uto-Aztecan, Algic, and Athabaskan language families). The distribution and internal diversity of four of these groups suggest that their original centers of dispersal were outside, or peripheral to, the core territory of California, that is, the Central Valley, the Sierra Nevada, the Coast Range from Cape Mendocino to Point Conception, and the Southern California coast and islands. Only languages of the Hokan phylum can plausibly be traced back to populations inhabiting parts of this core region during the Archaic period, and there are hints of connections between certain branches of Hokan, that suggest that at least some of the Hokan languages could have been brought into California by later immigrants, primarily from the Southwest and northwestern Mexico (Golla 2011).

However, Moratto (2014: Figure 11.4) suggests that the APE was inhabited by pre-Yukian speakers. It has been hypothesized that Yukian speaking descendants may have been some of the first settlers to California (Golla 2011:241; Moratto 2014:544). By 2000 BC, Hokan speakers have been migrating west into former Yukian territory, pushing Yukians out of the Clear Lake Basin and its surroundings (such as the APE). Beginning around 2000 B.C. and continuing for the next 2000 years, Utian populations spread out of the Central Valley into the San Francisco Bay Area and northwest into what is now Marin, Sonoma, Napa, and southern Lake counties. This pushed Hokan speakers out of land they formerly occupied and put additional pressures on Yukian speakers (Moratto 2014).

Between AD 1 and AD 1000 a lot of migration takes place in Northern California that moved groups into lands occupied at the time of European contact. The Wappo (Yukian speakers) moved back into the Napa Valley area. The Pomo (Hokan speakers) moved west and south and occupy what is now much of Sonoma County and southern Mendocino County. The Miwok (Utian speakers) moved into the Clear Lake Basin from the Central Valley (Moratto 2014:11.8).

At the time of European settlement, the APE was in an area of overlapping ethnographic boundaries between the Eastern Pomo, Lake Miwok, and Wappo (Barrett 1908; Callaghan 1978; Driver 1936; Kroeber 1925; McLendon and Lowy 1978; McLendon and Oswalt 1978; Sawyer 1978). These groups all share similar traits, though speak vastly different languages as described above. These groups were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social orders. They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites.

Primary village sites were occupied throughout the year, and other sites were visited in order to procure particular resources that were abundant or available only during certain seasons. Sites often were situated near fresh water sources and in ecotones where plant and animal life were diverse and abundant. For more information about the Eastern Pomo see Bean and Theodoratus (1978), Kniffen (1939), and Stewart (1943). For more information about the Wappo, see Powers (1877) and Beard (1979). For more information about the Lake Miwok see Kroeber (1925) and Merriam (1907).

HISTORY

Walter Anderson, Henry Beeson, Benjamin Dewell and their families were some of the first settlers in Lake County. People began arriving in the 1850s to settle the valley lands first and into the hills and mountains as valley land became unavailable; though, due to the remote and ruggedness of the county it has always remained rural. Lake County's primary attraction for settlers was agriculture; however, southern Lake County his home to several mineral springs, and tourism became an industry as early as the 1870s. Around this same time, mining took off as an important industry and included sulfur, quicksilver, and borax (Bishop Sanderson and Garcia Carpenter 2005; Hoberg 2007; Simoons 1954).

There are several books on the history of mineral springs resorts and the history of Lake County (see Carpenter and Millberry (1914), Klages (1991), Menefee (1873), Paleno (2016) Slocum, Bowen & Co., Publishers (1881), W. W. Elliott Lithographer and Publisher (1885)

Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

NATIVE AMERICAN CONTACT

A request was sent to the State of California's Native American Heritage Commission (NAHC) seeking information from its Sacred Lands File and the names of Native American individuals and groups that would be appropriate to contact regarding this project. Letters were also sent to the following groups:

- Big Valley Band of Pomo Indians
- Elem Indian Colony of Pomo Indians
- Koi Nation of Northern California
- Mishewal-Wappo Tribe of Alexander Valley

The NAHC replied with a letter dated September 7, 2021, which indicated that the Sacred Lands File contained information about sacred sites within the township and range of the APE. A list of additional contacts was provided (listed above), and letters were sent to these groups.

No additional responses were received.

ARCHIVAL STUDY PROCEDURES

Archival research included examination of the library and project files at Tom Origer & Associates. This research is meant to assess the potential to encounter archaeological sites and built environment within the study area. Research was also completed to determine the potential for buried archaeological deposits.

A review (NWIC File No. 21-0307) was completed of the archaeological site base maps and records, survey reports, and other materials on file at the Northwest Information Center (NWIC), Sonoma State University, Rohnert Park by Eileen Barrow on August 24, 2021. Sources of information included but were not limited to the current listings of properties on the National Register of Historic Places, California Historical Landmarks, California Register of Historical Resources, and California Points of Historical Interest as listed in the OHP's Historic Property Directory (2012) and the Built Environment Resources Directory (2021).

The OHP has determined that structures in excess of 45 years of age could be important historical resources, and former building and structure locations could be important archaeological sites. Archival research included an examination of 19th and 20th-century maps and aerial photographs to gain insight into the nature and extent of historical development in the general vicinity, and especially within the study area.

Ethnographic literature that describes appropriate Native American groups, county histories, and other primary and secondary sources were reviewed. Sources reviewed are listed in the "Materials Consulted" section of this report.

A model for predicting a location's sensitivity for buried archaeological sites was formulated by Byrd et al. (2017) based on the age of the landform, slope, and proximity to water. A location is considered to have highest sensitivity if the landform dates to the Holocene, has a slope of five percent or less, is within 150 meters of fresh water, and 150 meters of a confluence. Note, the Holocene Epoch is the current period of geologic time, which began about 11,700 years ago, and coincides with the emergence of human occupation of the area. A basic premise of the model is that archaeological deposits will not be buried within landforms that predate human colonization of the area. Calculating these factors using the buried site model (Byrd et al. 2017:Tables 11 and 12), a location's sensitivity is scored on a scale of 1 to 10 and classed as follows: lowest (<1); low (1-3); moderate (3-5.5); high (5.5-7.5); highest (>7.5). Incorporating King's (2004) analysis of buried site potential, the probability of encountering buried archaeological deposits for each class is as follows:

Sensitivity Score	Classification	Probability
<1	Lowest	<1 %
1-3	Low	1-2 %
3-5.5	Moderate	2-3%
5.5-7.5	High	3-5%
>7.5	Highest	5-20%

FIELD SURVEY PROCEDURES

An intensive field survey of the APE was completed by Eileen Barrow on August 19, 2021. Ground visibility ranged from excellent to poor, with vegetation, imported gravel, and asphalt being the primary hindrances.

Since most of the proposed work is to take place beneath or immediately adjacent to existing roadways, both sides of the road were examined to look for archaeological deposits that could extend under the road. A hoe was used, when necessary, to remove vegetation and duff to examine the ground surface.

In addition to examination of the ground surface, efforts were made to examine subsurface soils, when possible, in locations where a Holocene epoch landform was present. Locations where subsurface soils were examined were in the banks of Jones Creek where a portion of the Boggs Area Improvements APE crosses the creek, and where Kelsey Creek crosses a portion of the Schwartz Area Improvements APE.

All of the resources recorded within, or in close proximity to the APE were visited, if possible, to confirm that they do not extend into the APE locations.

Analysis

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Results of Origer & Associates archival research follow. There are no reported ethnographic sites within a mile of any of the APE locations (Barrett 1908; Callaghan 1978; Kroeber 1925; McLendon and Lowy 1978; McLendon and Oswalt 1978; Sawyer 1978).

Bonanza Area Improvements and Bonanza Tank

Archival research found that only the area of the water tanks within the Bonanza Area Improvements APE had been previously subjected to a cultural resources study (Flaherty 2004; Prather 2012). No cultural resources have been recorded within or adjacent to this APE. Studies conducted within a half-mile of the Bonanza Area Improvements APE are shown in the table below. Only two resources have been documented within a half-mile of the Bonanza Area Improvements APE (Redmond et al. 2017; Whatford 2015b). One of these resources are two retaining wall segments and the other is two prehistoric isolated specimens. Both resources are over a quarter-mile away and would not have the potential to extend into the Bonanza Area Improvements APE.

Studies Conducted within a Half-Mile of the Bonanza Area Improvements and Bonanza Tank		
Author	**Date**	**S#**
Ann S. Peak & Associates, Inc.	1977	488
Darcangelo and Thomas	2016	47663
Dillon	1995	17025
Elsbree	1996	18656
Flaherty	1994	17085
Flaherty	1995	17071
Foster	1986	7801
Gary	1994	16772
Gary	1997	19380
Hamilton	1996	30017
Harvey	1993	15739
NISTAC	2017a	51359
NISTAC	2017b	49335
Parker	1980	2724

Prather	1998a	32725
Prather	1998c	26462
Prather	2014	46545
Prather	2015a	46997
Prather	2015b	47153
Prather	2016a	47570
Prather	2016d	48081
Waechter	1989	11158
Whatford	2016a	47885
Whatford	2015c	47190
Whatford	2017	49992
Whittier	2015	47293
Wright	2016	47568

Review of historical maps and aerial photos do not show any buildings or structures within the Bonanza Area Improvements or Bonanza Tank APE locations (GLO 1855, 1868, 1871, 1873b, 1877b, 1884, 1890; USACE 1945; USGS 1958a, 1958b, 1975). The Bonanza Tank was constructed in 1989.

Lassen Tanks

Archival research found that the Lassen Tanks APE had not been previously subjected to a cultural resource study. Twenty-two studies have been conducted within a half-mile of the Lassen Tanks APE, as shown below. Fourteen cultural resources have been recorded within a half-mile of the Lassen Tanks APE (map omitted). None of these resources have the potential to extend into this APE.

Studies Conducted within a Half-Mile of the Lassen Tanks		
Author	**Date**	**S#**
Barrow	2018	52730
Bieling and Fredrickson	1987	9003
Caster	1994	15904
Darcangelo and Thomas	2016	47663
Dillon	1995	17025
Haney	2009	35818
Harvey	1997	19902
Ives Ringstad	2015	47061
Leach-Palm et al.	2011	38865
NISTAC	2017a	51359
NISTAC	2017b	49335
Parker	2015a	46646
Parker	2016c	47561
Possehn	2016a	47569
Possehn	2016b	47566
Prather	1998b	31007
Prather	2008	34844
Rogers	1993	15428
Walker	2016	48345
Whatford	2015e	47190

Whatford	2017	49992
Whittier	2015	47293

Review of historical maps and aerial photos do not show any buildings or structures within the Lassen Tanks APE until 1993 which suggests that the Lassen Tanks were constructed between 1975 and 1993 (GLO 1855, 1871, 1873b, 1877b, 1890; USACE 1945; USGS 1958a, 1958b, 1975, 1993, 1998).

Resources within a half-mile of the Lassen Tanks (map omitted)			
Map #[13]	**P#**	**Resource Type**	**Citation**
1	LAK-ISO-11	Isolate	Bieling et al. 1987
2	LAK-ISO-12	Isolate	Bieling et al. 1987
3	LAK-ISO-7	Isolate	Bieling et al. 1987
4	LAK-ISO-8	Isolate	Bieling et al. 1987
5	LAK-ISO-6	Isolate	Bieling et al. 1987
6	LAK-ISO-5	Isolate	Bieling et al. 1987
7	LAK-ISO-4	Isolate	Bieling et al. 1987
8	LAK-ISO-3	Isolate	Bieling et al. 1987
9	LAK-ISO-9	Isolate	Bieling et al. 1987
10	LAK-ISO-10	Isolate	Bieling et al. 1987
11	17-002748	Trash scatter	Parker 2015i
12	17-002649	Lithic Scatter	Carpenter 2015
13	17-002201	Building remains	Barrow 2019
14	17-002760	Dirt Road Segment	Konzak 2015

Boggs Area Improvements and Boggs Tank

Archival research found that a small portion of the Boggs Area Improvements and Boggs Tank APE had previously been subjected to a cultural resources survey (Stewart 1989). No cultural resources have been recorded within or adjacent to the APE. Studies conducted within a half-mile of the Boggs Area Improvements and Boggs Tank APE are shown in the table below. Ten resources have been documented within a half-mile of the Boggs Area Improvements and Boggs Tank APE locations (map omitted). None of these resources have the potential to extend into these APE locations.

Studies Conducted within a Half-Mile of the Boggs Area Improvements and Boggs Tank		
Author	**Date**	**S#**
Adams	1979	1461
Brunzell	2011	45705
Darcangelo and Thomas	2016	47663
Dillon	1995	17025
Douglas and Martin	1979	2210
Flaherty	1980	2394
Flaherty	1985	7622
Flaherty	1986	8198
Flaherty	1989	11004
Gary	1997	19380
Haney	1993	14906

[13] "Map #" refers to keys on maps contained in the cultural resources report. Maps have been omitted due to confidentiality of such resource locations.

Haney	2009	35818
Harris	2019	53426
Keitzer *et al.*	1979	1699
Kuhn	1980	2173
Leach-Palm *et al.*	2011	38865
NISTAC	2017a	51359
NISTAC	2017b	49335
Prather	2016b	47555
Sayers	1992	13766
Stewart and Fredrickson	1988	10387
Stoneman	1992	14811
Walker	2016	48345
Whatford	2010a	37847
Whatford	2012	38893
Whatford	2015a	46567
Whatford	2015c	47190
Whatford	2016a	47885
Whatford	2016c	47868
Whatford	2017	49992
Wickstrom and Fredrickson	1979	1644
Wright	2016	47568

Review of historical maps and aerial photos do not show any buildings or structures within the Boggs Area Improvements and Boggs Tank APE until 1993 suggesting that the Boggs Tank was constructed between 1975 and 1993 (GLO 1867, 1873a, 1874, 1875, 1877a, 1901; USACE 1945; USGS 1958a, 1958b, 1975, 1993).

Resources within a half-mile of the Boggs Area Improvements and Boggs Tank (map omitted)

Map #	P#	Resource Type	Author	Date
19	17-002537	Lithic scatter	Whatford	2016h
20	17-002538	Lithic scatter	Whatford	2016i
26	17-002753	Highway monuments	Walker	2015
27	17-002762	Dirt road segment	Newland *et al.*	2015
28	17-000903	Lithic scatter	Whatford	2016d
29	17-002005	Lithic scatter	Whatford	2016g
30	17-002735	Historical debris	Prather	2016f
31	17-002908	Lithic scatter	Pacific Legacy, Inc.	2018
32	17-002734	Historical debris	Prather	2016e
34	17-002873	Pipeline/Lithic scatter	Leon Guerrero *et al.*	2017

Pine Grove Area Improvements

Archival research found that Bottle Rock Road and a small portion of the Pine Grove Area Improvements APE off Rainbow Drive had previously subjected to a cultural resource study (Douglas and Martin 1979; Flaherty 1980; Harris 2019; Kuhn 1980; Prather 2016c). Studies conducted within a half-mile of the Pine Grove Area Improvements APE locations are shown in the table below. Twenty-seven resources have been documented within a half-mile of the Pine Grove Area Improvements APE locations (map omitted). None of these resources have the potential to extend into these APE locations.

Studies Conducted within a Half-Mile of the Pine Grove Area		
Author	**Date**	**S#**
Adams	1979	1461
Barrow	2018	52730
Brunzell	2011	45705
Darcangelo and Thomas	2016	47663
Dillon	1995	17025
Flaherty	1985	7622
Flaherty	1986	8198
Flaherty	1989	11004
Gary	1997	19380
Haney	2009	35818
Hennessy and Barrow	2018	53101
Ives Ringstad	2015	47061
Leach-Palm et al.	2011	38865
Matuk and De Shazo	2018	52301
NISTAC	2017a	51359
NISTAC	2017b	49335
Painter	2008	35832
Parker	2016b	47556
Parker	2016a	47557
Parker	2016c	47561
Possehn	2016b	47566
Prather	2016b	47555
Sayers	1992	13766
Stewart and Fredrickson	1988	10387
Walker	2016	48345
Whatford	2010a	37847
Whatford	2012	38893
Whatford	2015a	46567
Whatford	2015c	47190
Whatford	2016a	47885
Whatford	2016b	47867
Whatford	2016c	47868
Whatford	2017	49992
Whittier	2016b	48085
Whittier	2017	50183
Wright	2016	47568

Review of historical maps and aerial photos do not show any buildings or structures within the Pine Grove Area Improvements APE (GLO 1867, 1873a, 1874, 1875, 1877a, 1901; USACE 1945; USGS 1958a, 1958b, 1975, 1993).

Resources within a half-mile of the Pine Grove Area (map omitted)				
Map #	**P#**	**Resource Type**	**Author**	**Date**
1	17-002540	Pipes/rock alignment	Anthropological	2015
2	17-002968	BRM	Tom Origer &	2018
3	17-002872	Water tank	Beck	2016a

4	17-002867	Trash scatter	Redmond, Cook,	2017
5	17-002516	Swimming Pool	Meyer et al.	2015
6	17-002747	Trash scatter	Parker	2015h
8	17-002746	Trash scatter	Parker	2015g
9	17-002741	Lithic scatter	Parker	2015b
10	17-002744	Trash scatter	Parker	2015e
11	17-002745	Trash scatter	Parker	2015f
12	17-002874	Water tank	Beck	2016b
13	17-002757	Sanitary cans	Walker	2015b
14	17-002756	Dirt road segment	Shew	2017
15	17-002534	Isolate	Whatford	2009a
16	17-002535	Petroglyph	Whatford	2010c
17	17-002536	Lithic scatter	Whatford	2009b
18	17-002533	Building complex remains/trash	Whatford	2010b
19	17-002537	Lithic scatter	Whatford	2016h
20	17-002538	Lithic scatter	Whatford	2016i
21	17-002382	Pine Grove Resort	Matuk	2018a
22	17-002383	Pine Grove Resort	Matuk	2018b
23	17-002384	Pine Grove Resort	Matuk	2018c
24	17-002385	Pine Grove Resort	Matuk	2018d
25	17-002386	Pine Grove Resort	Matuk	2018e
26	17-002753	Highway monuments	Walker	2015a
27	17-002762	Dirt road segments	Newland et al.	2015
31	17-002908	Lithic scatter	Pacific Legacy, Inc.	2018

Schwartz Area Improvements

Archival research found that portions of the Schwartz Area Improvements APE locations have been previously subjected to a cultural resource study (Adams 1979; Douglas and Martin 1979; Haney 2009; Kuhn 1980; Leach-Palm et al. 2011; Walker 2016). Studies conducted within a half-mile of the Schwartz Area Improvements APE locations are shown in the table below.

Studies Conducted within a Half-Mile of the Schwartz Area		
Author	**Date**	**S#**
Barrow	2018	52730
Brunzell	2011	45705
Darcangelo and Thomas	2016	47663
Dillon	1995	17025
Flaherty	1980	2394
Flaherty	1985	7622
Flaherty	1986	8198
Flaherty	1989	11004
Fredrickson	1974	80
Gary	1997	19380
Haney	1993	14906
Harris	2019	53426
Hennessy and Barrow	2018	53101
Matuk and De Shazo	2018	52301
NISTAC	2017a	51359
NISTAC	2017b	49335
Painter	2008	35832
Prather	2016b	47555

Prather	2016c	47574
Sayers	1992	13766
Stewart and Fredrickson	1988	10387
Stoneman	1992	14811
Whatford	2010a	37847
Whatford	2012	38893
Whatford	2015a	46567
Whatford	2015c	47190
Whatford	2016a	47885
Whatford	2016b	47867
Whatford	2016c	47868
Whatford	2017	49992
Whittier	2017	50183
Wickstrom and Fredrickson	1979	1644
Wright	2016	47568

Sixteen resources have been documented within a half-mile of the Schwartz Area Improvements APE locations (map omitted). One of these resources, P-17-002908, is documented within a portion of the APE. P-17-002908 is a lithic scatter (Pacific Legacy, Inc. 2018). It is located on the east side of Highway 175 approximately 330 feet north of the bridge over Kelsey Creek. A report verifying this was not on file at the Northwest Information Center; however, an Initial Study with Proposed Mitigated Negative Declaration was obtained which stated that P-17-002908 had been evaluated and found ineligible for inclusion on the California and National registers (Caltrans 2020).

The remaining resources documented within a half-mile of the Schwartz Area Improvements APE would not extend into the APE.

Review of historical maps and aerial photos show the bridge over Kelsey Creek present as early as 1945 (GLO 1867, 1873a, 1874, 1875, 1877a, 1901; USACE 1945; USGS 1958a, 1958b, 1975, 1993).

Resources within a half-mile of the Schwartz Area Improvements (map omitted)				
Map #	**P#**	**Resource Type**	**Author**	**Date**
15	17-002534	Isolate	Whatford	2009a
16	17-002535	Petroglyph	Whatford	2010c
17	17-002536	Lithic scatter	Whatford	2009b
18	17-002533	Building complex remains/trash	Whatford	2010b
19	17-002537	Lithic scatter	Whatford	2016h
20	17-002538	Lithic scatter	Whatford	2016i
21	17-002382	Pine Grove Resort	Matuk	2018a
22	17-002383	Pine Grove Resort	Matuk	2018b
23	17-002384	Pine Grove Resort	Matuk	2018c
24	17-002385	Pine Grove Resort	Matuk	2018d
25	17-002386	Pine Grove Resort	Matuk	2018e
26	17-002753	Highway monuments	Walker	2015a
27	17-002762	Dirt road segments	Newland et al.	2015
28	17-000903	Lithic scatter	Whatford	2015d
30	17-002735	Trash scatter	Prather	2016f
31	17-002908	Lithic scatter	Pacific Legacy, Inc.	2018

Cobb Mountain Water Area Improvements

Archival research found that the entirety of the Cobb Mountain Water Area Improvements APE and previously been subjected to a cultural resource study (Harris 2019). Studies conducted within a half-mile of the Cobb Mountain Water Area Improvements APE are shown in the table below. Nineteen resources have been documented within a half-mile of the Cobb Mountain Water Area Improvements APE locations (map omitted). None of these resources have the potential to extend into this APE location.

Studies Conducted within a Half-Mile of the Cobb Mountain Water Area		
Author	**Date**	**S#**
Barrow	2018	52730
Darcangelo and Thomas	2016	47663
Davis	1993	15302
Davis	1999	31052
Dillon	1995	17025
Flaherty	1985	7622
Gary	1997	19380
Haney	2009	35818
Hennessy and Barrow	2018	53101
Kuhn	1980	2173
Leach-Palm *et al.*	2011	38865
MacKenzie	1992	13959
Matuk and De Shazo	2018	52301
NISTAC	2017a	51359
NISTAC	2017b	49335
Painter	2008	35832
Parker	2016c	47561
Prather	2016c	47574
Sayers	1992	13766
Stewart and Fredrickson	1988	10387
Walker	2016	48345
Whatford	2010a	37847
Whatford	2015c	47190
Whatford	2016a	47885
Whatford	2016c	47868
Whatford	2017	49992
Whittier	2016a	48086
Whittier	2016b	48085
Whittier	2017	50183
Wright	2016	47568

Review of historical maps and aerial photos do not show any buildings or structures within this APE (GLO 1867, 1873a, 1874, 1875, 1877a, 1901; USACE 1945; USGS 1958a, 1958b, 1975, 1993).

Resources within a half-mile of the Cobb Mountain Area (map omitted)				
Map #	**P#**	**Resource Type**	**Author**	**Date**
6	17-002747	Trash scatter	Parker	2015h
7	17-002743	Lithic scatter	Parker	2015d
8	17-002746	Trash scatter	Parker	2015g
9	17-002741	Lithic scatter	Parker	2015b
10	17-002744	Trash scatter	Parker	2015e
11	17-002745	Trash scatter	Parker	2015f
13	17-002757	Sanitary cans	Walker	2015b
14	17-002756	Dirt road segment	Shew	2015
15	17-002534	Isolate	Whatford	2009a
16	17-002535	Petroglyph	Whatford	2010c
17	17-002536	Lithic scatter	Whatford	2009b
18	17-002533	Building complex remains/trash scatter	Whatford	2010b
19	17-002537	Lithic scatter	Whatford	2016h
20	17-002538	Lithic scatter	Whatford	2016i
21	17-002382	Pine Grove Resort	Matuk	2018a
22	17-002383	Pine Grove Resort	Matuk	2018b
23	17-002384	Pine Grove Resort	Matuk	2018c
24	17-002385	Pine Grove Resort	Matuk	2018d
25	17-002386	Pine Grove Resort	Matuk	2018e

Starview Area Improvements and Starview Tank

Archival research found that none of the Starview Area Improvements and Starview Tank APE had been previously subjected to a cultural resource study. Studies conducted within a half-mile of the Starview Area Improvements and the Starview Tank APE locations are shown in the table below. Seven resources have been recorded within a half-mile of the Starview Area Improvements and Starview Tank APE locations (map omitted). None of these resources have the potential to extend into the Starview Area Improvements and Starview Tank APE locations.

Studies Conducted within a Half-Mile of the Starview Area and Starview Tank		
Author	**Date**	**S#**
Dillon	1995	17025
Foster	1984	6386
Gary	1997	19380
Gerike	1987	9921
Haney	1993	14906
Ives Ringstad	2016	48077
Keitzer *et al.*	1979	1699
NISTAC	2017a	51359
NISTAC	2017b	49335
Prather	2016b	47555
Sayers	1992	13766
Stewart and Fredrickson	1988	10387
Whatford	2015c	47190
Whatford	2016c	47868
Whatford	2016a	47885
Whatford	2017	49992
Woodward	1982	9181

Wright	2016	47568

Review of historical maps and aerial photos do not show any buildings or structures within this APE (GLO 1867, 1873a, 1874, 1875, 1877a, 1901; USACE 1945; USGS 1958a, 1958b, 1975, 1993).

Resources within a half-mile of the Starview Area Improvements and the Starview Tank (map omitted)				
Map #	**P#**	**Resource Type**	**Author**	**Date**
29	17-002005	Lithic scatter	Whatford	2016g
32	17-002734	Trash scatter	Prather	2016e
33	17-001720	Lithic scatter	Whatford	2016e
34	17-002873	Pipeline/Lithic scatter	Leon Guerrero *et al.*	2017
35	17-002700	Isolate	Whatford	2016j
36	17-001723	Lithic scatter	Whatford	2016f
37	17-001641	Lithic scatter	Gerike and Ramiller	1979

Based on landform age, our analysis of the environmental setting, and incorporating the Byrd *et al.* (2017) analysis of sensitivity for buried sites, the majority of the APE locations have a very low potential (<1) for buried archaeological site indicators. All of the Cobb Mountain Area Improvements APE and portions of the Boggs, Pine Grove, and Schwarz Area Improvement APEs lie on Holocene geology which have a high potential for buried archaeological site soils.

Natural occurring obsidian was found in road rights-of-way and embedded in the asphalt of several of the roads that lie within the APE. This should not be confused as evidence of an archaeological site; however, it should not be assumed that all obsidian specimens are naturally occurring.

Most of the APE has a very low buried sites potential. There are small portions of the APE that have a high potential for buried sites because they lie on a landform that dates to the Holocene Epoch and due to their proximity to fresh water. These places include all of the Cobb Mountain Area Improvements APE and small portions of the Pine Grove, Schwartz, and Boggs APE locations.

The tanks within the APE are all too young to be considered eligible for inclusion on the California and National registers. The bridge over Kelsey Creek is not considered important (Caltrans 2020).

While Origer & Associated determined there would be no impact to existing known historical resources and did not identify any new resources, there is always the possibility of accidental discovery of historical resources during construction. In the event resources are discovered, mitigation measure CR1 would reduce such impact to less than significant.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

No newly discovered archaeological site constituents were found during this survey. No evidence of P-17-002908 was observed during this study. There were locations throughout the APE where natural occurring obsidian was observed. The most obvious locations included much of the Bonanza Springs Area Improvements APE. In addition, obsidian pebbles were observed embedded in the asphalt of several of the roads that were surveyed for this study.

While Origer & Associated determined there would be no impact to existing known archaeological resources and did not identify any new resources, there is always the possibility of accidental discovery of archaeological resources during construction. In the event resources are discovered, mitigation

measure CR2 would reduce such impact to less than significant. Also, see the discussion of Tribal Cultural Resources.

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

There are no known human remains in the project area. However, the remote possibility exists that human remains could be discovered during construction. In such an event, Mitigation Measure CR2 would reduce such impact to a less than significant level.

Cumulative Impacts

There are no adverse cumulative environmental impacts to cultural resources resulting from implementation of the proposed project.

Mitigation Measures

CR1

The project plans and specifications shall provide that in the event prehistoric-era or historic-era archaeological site indicators are unearthed during the course of grading, excavation and/or trenching, all ground disturbing work in the 60 feet of the discovery shall cease and all exposed materials shall be left in place. After cessation of excavation, the contractor shall immediately contact the CACWD. The CACWD shall contact a qualified professional who meets the Secretary of the Interior's Standards for Archaeology and the requirements under 36 CFR 800.13 followed. Work shall not commence in the vicinity of the inadvertent discovery until a qualified archaeologist completes a significance evaluation of the find(s) pursuant to Section 106 of the National Historic Preservation Act (36 CFR 60.4).

CR2

If human remains are encountered during grading, excavation or trenching, all construction activity shall cease and the contractor shall immediately contact the CACWD and the Lake County Coroner's Office. If the remains are determined by the Coroner's Office to be of Native American origin, the Native American Heritage Commission shall be contacted and the procedures outlined in CEQA §15064.5 (d) and (e) shall be implemented by the CACWD or its designee.

VI ENERGY

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	□	□	□	■
b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	□	□	□	■

Setting

The California Energy Commission (Energy Commission) was charged with developing the states Renewable Energy Program in 1998, following deregulation of electric utilities. The Energy Commission provides a brief history of its actions regarding the Renewable Energy Program:

> In 2002, California established its Renewables Portfolio Standard Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent by 2017. The Energy Commission's 2003 Integrated Energy Policy Report recommended accelerating that goal to 2010, and the 2004 Energy Report Update urged increasing the target to 33 percent by 2020. Governor Schwarzenegger, the Energy Commission, and the California Public Utilities Commission (CPUC) endorsed this enhanced goal for the state as a whole. Achieving these renewable energy goals became even more important with the enactment of AB 32 (Núñez, Chapter 488), the California Global Warming Solutions Act of 2006. This legislation sets aggressive greenhouse gas reduction goals for the state and its achievements will depend in part on the success of renewable energy programs.
>
> SBX1-2 was signed by Governor Edmund G. Brown, Jr., in April 2011 to codify the ambitious 33 percent by 2020 goal. In his signing comments, Governor Brown noted that "This bill will bring many important benefits to California, including stimulating investment in green technologies in the state, creating tens of thousands of new jobs, improving local air quality, promoting energy independence, and reducing greenhouse gas emissions."
>
> This new RPS applied to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must adopt the new RPS goals of 20 percent of retails sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.
>
> In October 2015, Governor Brown signed Senate Bill 350 to codify ambitious climate and clean energy goals. One key provision of SB 350 is for retail sellers and publicly

> owned utilities to procure "half of the state's electricity from renewable sources by 2030.[14]"

These goals were accelerated in 2016 with passage of SB 32 requiring lowering greenhouse gas emissions to 40 percent below 1990 levels by 2030. Further, "In 2018, Senate Bill 100...set a planning target of 100 percent zero-carbon electricity resources by 2045 and increased the 2030 renewables target from 50 percent to 60 percent. On the same day of signing SB 100, then-Governor Brown signed Executive Order B-55-18 with a new statewide goal to achieve carbon neutrality (zero-net GHG emissions) by 2045 and to maintain net negative emissions thereafter. The executive order covers all sectors of the economy[15]."

Today, California's energy policies are intertwined with goals of reducing greenhouse gases. The Energy Commission produces the biennial Integrated Energy Policy Report. The report contains an integrated assessment of major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The most recent report was divided into two sections. Volume I was produced in 2018 and Volume II was released in February 2019[16].

CURRENT ENERGY USAGE AND SOURCES

California uses the least electricity of any state with a 2019 (most recent electricity California Energy Commission date) usage of 7,071 kWh per capita[17]. The census states that Lake County had an estimated population of 64,389 in 2019[18] and the California Energy Commission indicates the Lake County used a total (residential and non-residential) of 446.071293 gigawatt hours (GWh) of electricity in 2019[19] for a per capita use of approximately 6,928 kWh, slightly above the state average.

Lake County is provided electricity by PG&E. As of 2019, PG&E's power content supplied 29 percent of its electricity from renewable resources under the California Renewables Portfolio Standard. PG&E intends to supply 50 percent renewable electricity by 2030, consistent with California's goals. Additionally, in 2019, 44 percent of PG&E electricity was nuclear power and 27 percent was hydroelectric, for a total of 100 percent greenhouse gas free electricity[20]. In contrast, the overall power mix in California included 34 percent generated by natural gas.

[14] https://www.energy.ca.gov/renewables/history.html
[15] Ibid.
[16] https://www.energy.ca.gov/2018_energypolicy/
[17] http://www.ecdms.energy.ca.gov/elecbycounty.aspx
[18] https://www.census.gov/quickfacts/lakecountycalifornia
[19] http://www.ecdms.energy.ca.gov/elecbycounty.aspx
[20] https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2020/1220-PowerContent-ADA.pdf

Analysis

a. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

As with the Phase 1 projects, Phase 2 project construction would only account for a minor use of energy, primarily associated with fuels used in construction vehicles. All construction vehicles would be California-compliant to ensure state goals of energy efficiency and air quality are maintained. The new and replacement Phase 2 water mains would not require energy after installation. Proposed Phase 2 pump retrofits would not require long-term energy inputs—water distribution systems are generally passive after initial pumping to the water storage tanks. No pumping facilities or treatment facilities that would increase electricity and no expansion of water service that would require additional water pumping or treatment at existing facilities are proposed by the Phase 2 projects. The overall consolidation project is necessary to update distribution system resiliency in the existing water systems and would not result in a wasteful, inefficient, or unnecessary consumption of energy resources. Improvements to the existing water systems would reduce leakage in the existing infrastructure, primarily through water main replacement. This would reduce water production requirements, leading to an overall reduction of energy used to produce and treat water, a beneficial impact.

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The Phase 2 projects would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As indicated above, electricity to CACWD facilities is provided by PG&E and is exceeding the state's renewable energy goals. Because the project would result in an overall reduction in energy associated with pumping and treatment and energy is supplied according to California's renewable energy policies, the project will not conflict with or obstruct the state's plan for renewable energy or energy efficiency.

Cumulative Impacts

There are no adverse cumulative environmental impacts to energy resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to energy have been identified; therefore, no mitigation is required.

VII GEOLOGY & SOILS

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	□	□	■	□
ii. Strong seismic ground shaking?	□	□	■	□
iii. Seismic-related ground failure, including liquefaction?	□	□	■	□
iv. Landslides?	□	□	□	■
b. Would the project result in substantial soil erosion or the loss of topsoil?	□	□	□	■
c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	□	□	■	□
d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	□	□	■	□
e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	□	□	□	■
f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	□	■	□	□

Environmental Setting

REGIONAL GEOLOGY AND TOPOGRAPHY

The proposed project site is located within the Coast Ranges Geomorphic Province of California. This province is characterized by northwest trending topographic and geologic features, and it includes many separate ranges, coalescing mountain masses, and several major structural basins. The province is bounded on the east by the Great Valley Geomorphic Province and on the west by the Pacific Ocean. The Coast Ranges region extends north into Oregon and south to the Transverse Ranges and Ventura County.

The structure of the northern Coast Ranges region is extremely complex due to continuous tectonic deformation imposed over a long period of time. The initial tectonic episode in the northern Coast Ranges was a result of the plate convergence which is believed to have begun during late Jurassic time. This process involved eastward thrusting of oceanic crust beneath the continental crust (Klamath Mountains and Sierra Nevada) and the scraping off of materials that are now accreted to the continent (northern Coast Ranges). This is a seismically active region characterized by northwest-trending faults. Regional Geology is shown on Figure VII-1 and keyed to the geologic map units below[21]. As shown on Figure VII-1, the majority of the CACWD is located on Quaternary volcanic flow rocks (Qv).

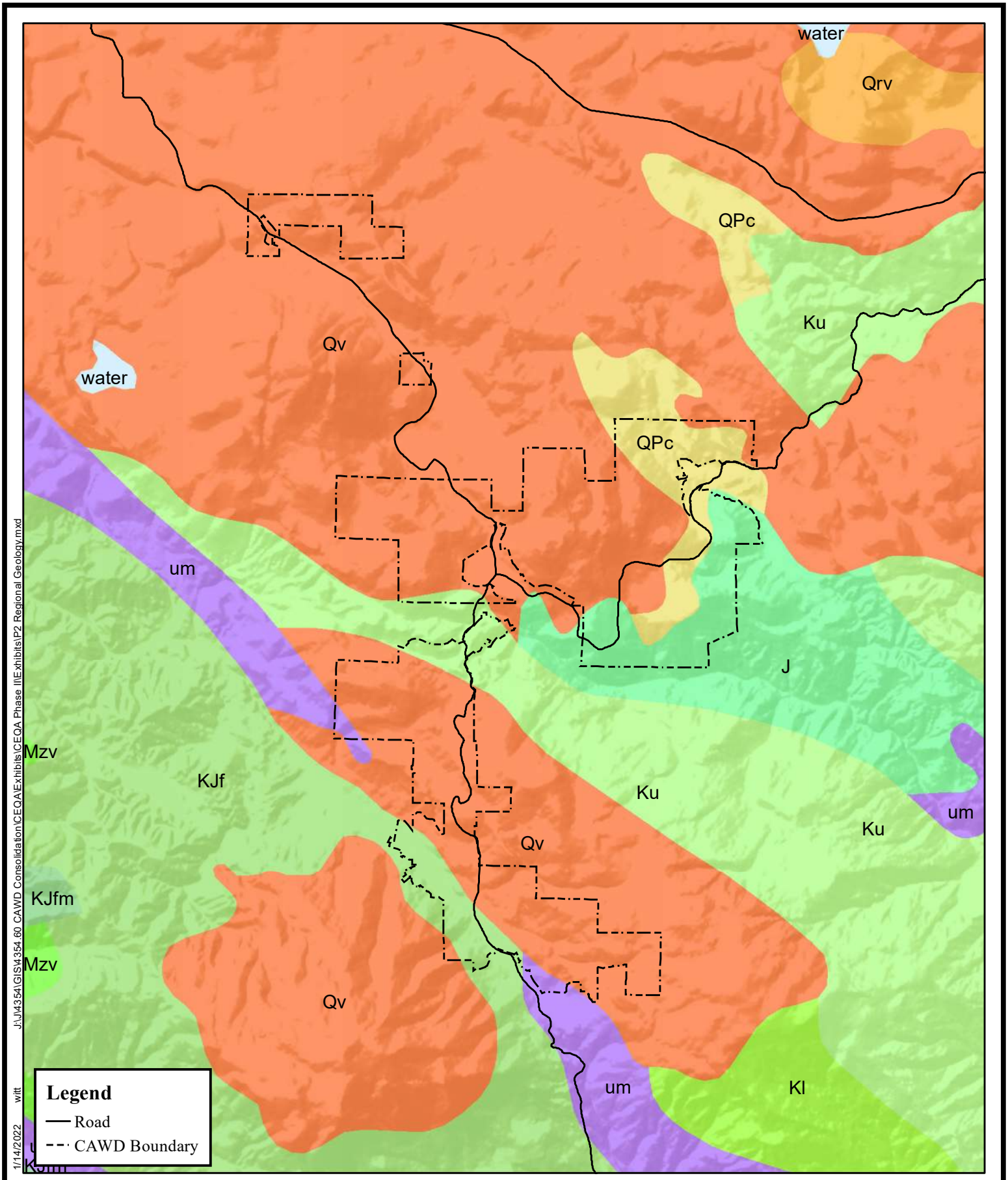
Map Symbol	General Lithology	Age	Description
J	marine sedimentary and metasedimentary rocks	Jurassic	Shale, sandstone, minor conglomerate, chert, slate, limestone; minor pyroclastic rocks.
KJf	marine sedimentary and metasedimentary rocks	Cretaceous-Jurassic	Franciscan Complex: Cretaceous and Jurassic sandstone with smaller amounts of shale, chert, limestone, and conglomerate. Includes Franciscan melange, except where separated.
Ku	marine sedimentary and metasedimentary rocks	Upper Cretaceous	Upper Cretaceous sandstone, shale, and conglomerate.
QPc	nonmarine (continental) sedimentary rocks	Pliocene-Pleistocene	Pliocene and/or Pleistocene sandstone, shale, and gravel deposits; mostly loosely consolidated.
Qv	volcanic rocks	Quaternary	Quaternary volcanic flow rocks; minor pyroclastic deposits.
um	plutonic rocks	Mesozoic	Ultramafic rocks, mostly serpentine. Minor peridotite, gabbro, and diabase; chiefly Mesozoic.

Topography is highly varied in the project area, ranging from nearly level to steep. Elevations range from approximately 2,500 feet above sea level to surrounding mountain peaks of nearly 4,000 feet.

SOILS IN THE PROJECT AREA

The United States Department of Agriculture, Natural Resources Conservation Service (USDA), maps soils across the county. USDA mapped soils in the southern portion of the project area are shown on Figure VII-2 and the northern portion on Figure VII-3. Map Symbols shown on the soils maps are keyed to the soil type below.

[21] *Geologic Map of California. California Geological Survey 150th Anniversary Edition*. Charles W. Jennings, with modifications by Carlos Gutierrez, William Bryant, George Saucedo and Chris Wills. 2010.



Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Department of Conservation

NORTH

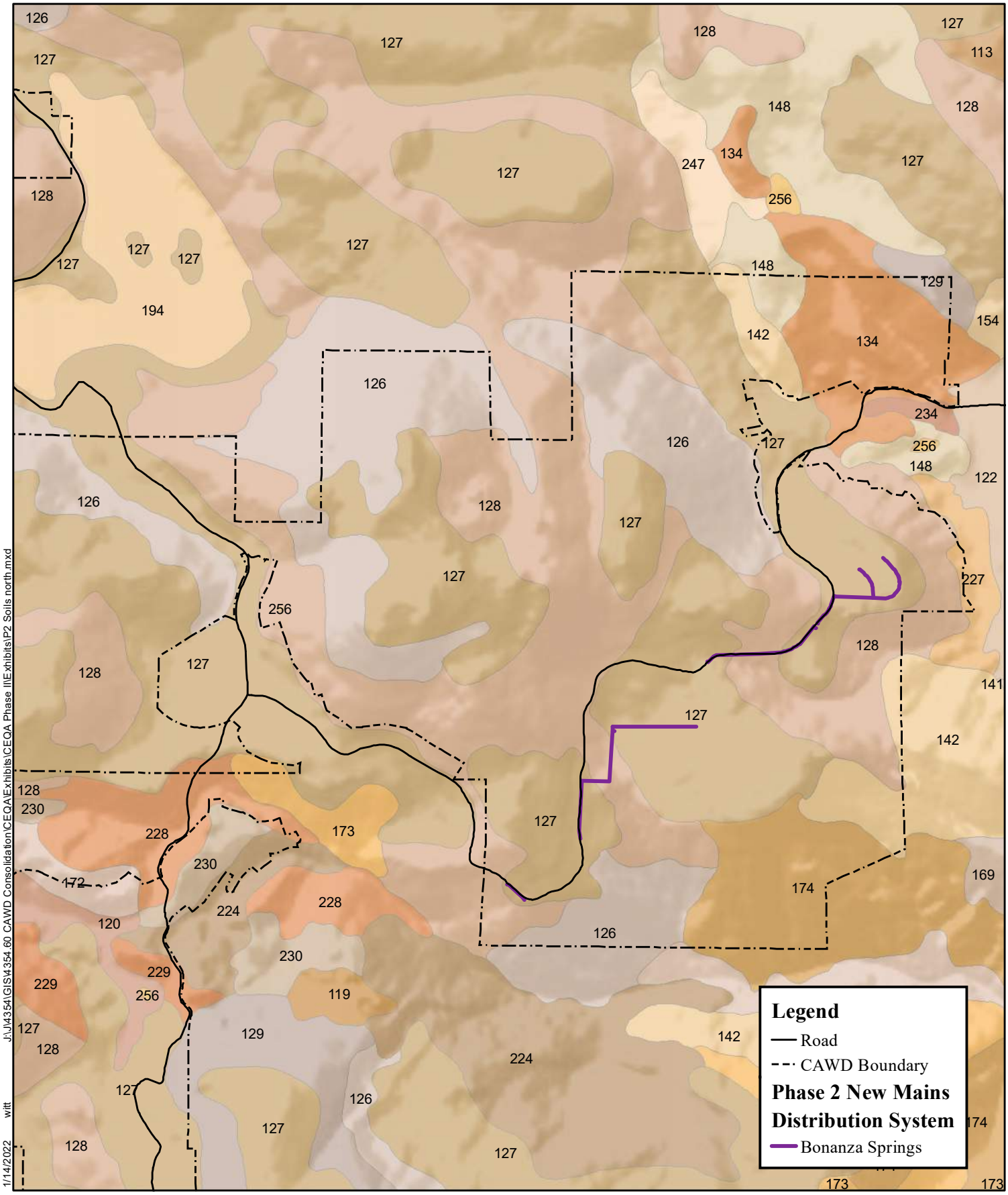
0 0.25 0.5 1 Miles

Brelje & Race

FIGURE VII-1
REGIONAL GEOLOGY

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022



Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

NORTH

0 500 1,000 2,000 Feet

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FIGURE VII-2
SOILS, NORTH

CAWD - CONSOLIDATION PHASE 2
JANUARY 2022

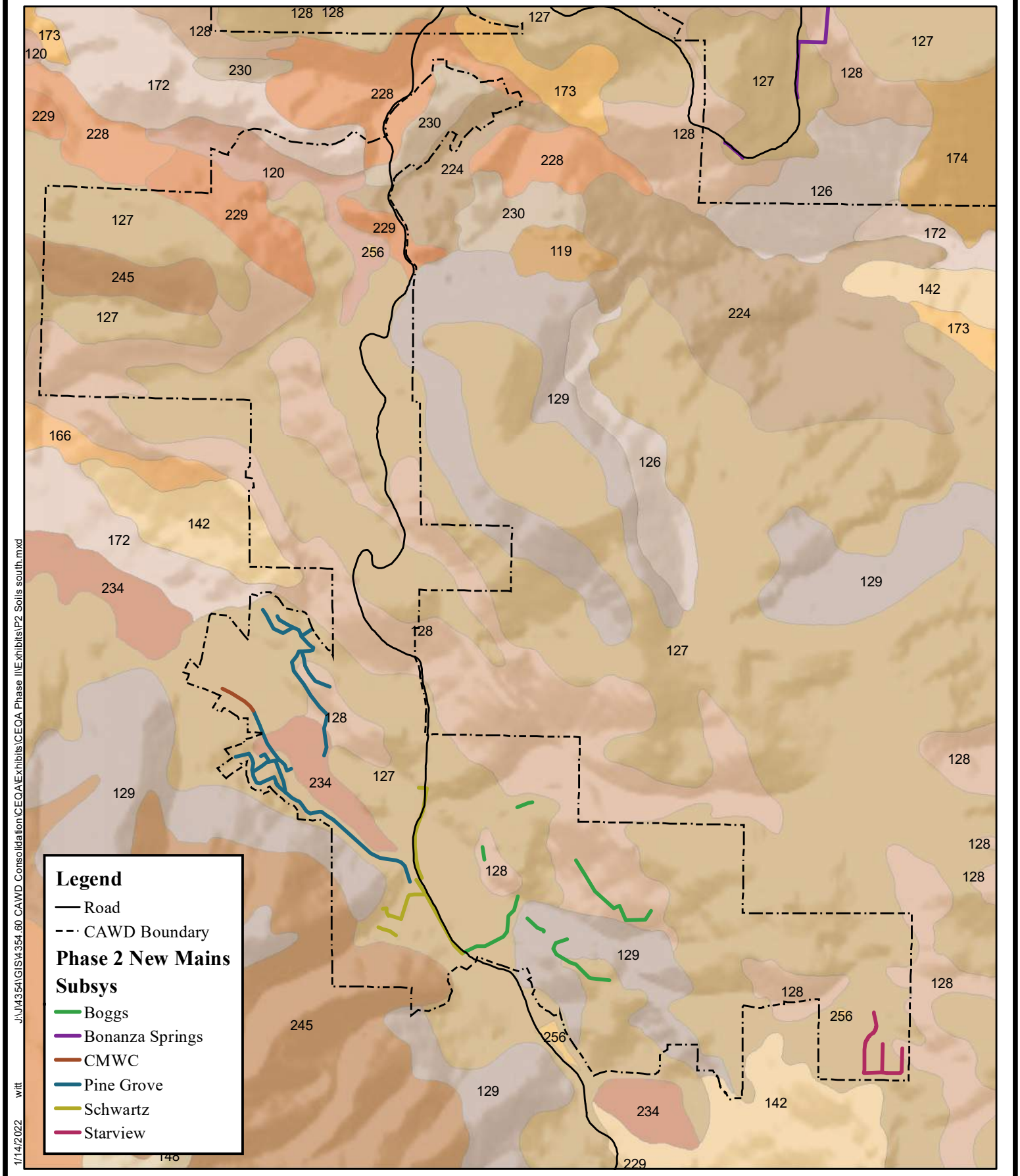

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FIGURE VII-3
SOILS, SOUTH

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JANUARY 2022

Map Symbol	Soil Type	Map Symbol	Soil Type
101	Aiken-Sobrante association, 5 to 15 percent slopes	169	Maymen-Etsel-Snook complex, 30 to 75 percent slopes
112	Benridge-Konocti association, 15 to 30 percent slopes	171	Maymen-Hopland-Etsel association, 15 to 50 percent slopes
113	Benridge-Konocti association, 30 to 50 percent slopes	172	Maymen-Hopland-Mayacama complex, 9 to 30 percent slopes
115	Benridge-Sodabay loams, 15 to 30 percent slopes	173	Maymen-Hopland-Mayacama association, 20 to 60 percent slopes, MLRA 15
116	Benridge variant loam, 2 to 15 percent slopes	174	Maymen-Hopland-Mayacama association, 50 to 75 percent slopes
117	Bottlerock-Glenview-Arrowhead complex, 5 to 30 percent slopes	175	Maymen-Millsholm-Bressa complex, 30 to 50 percent slopes
118	Bottlerock-Glenview-Arrowhead complex, 30 to 50 percent slopes	177	Millsholm-Bressa loams, 30 to 50 percent slopes
119	Bressa-Millsholm loams, 8 to 15 percent slopes	178	Millsholm-Bressa-Hopland association, 30 to 50 percent slopes
120	Bressa-Millsholm loams, 15 to 30 percent slopes	181	Neice-Sobrante-Hambright complex, 15 to 30 percent slopes
122	Clear Lake variant clay, drained	182	Neice-Sobrante-Hambright complex, 30 to 75 percent slopes
126	Collayomi complex, 50 to 75 percent slopes	191	Neuns-Speaker gravelly loams, 15 to 30 percent slopes
127	Collayomi-Aiken-Whispering complex, 5 to 30 percent slopes	194	Oxalis variant silt loam
128	Collayomi-Aiken-Whispering complex, 30 to 50 percent slopes	201	Sanhedrin-Kekawaka-Speaker complex, 15 to 30 percent slopes
129	Collayomi-Whispering complex, 30 to 50 percent slopes	209	Skyhigh-Millsholm loams, 15 to 50 percent slopes
134	Forward variant-Kidd association, 30 to 50 percent slopes	211	Skyhigh-Sleeper-Millsholm association, 1 to 35 percent slopes, MLRA 15
138	Glenview-Arrowhead complex, 5 to 15 percent slopes	213	Sleeper variant-Sleeper loams, 5 to 15 percent slopes
139	Glenview-Arrowhead complex, 15 to 30 percent slopes	218	Sobrante-Guenoc-Hambright complex, 2 to 15 percent slopes
140	Glenview-Bottlerock complex, 2 to 5 percent slopes	219	Sobrante-Guenoc-Hambright complex, 15 to 30 percent slopes
141	Henneke-Montara complex, 8 to 15 percent slopes	223	Sodabay-Konocti association, 5 to 30 percent slopes
142	Henneke-Montara-Rock outcrop complex, 10 to 50 percent slopes, MLRA 15	224	Speaker-Marpa-Sanhedrin gravelly loams, 30 to 50 percent slopes
144	Jafa loam, 2 to 5 percent slopes	226	Speaker-Maymen-Marpa association, 50 to 75 percent slopes
145	Jafa loam, 5 to 15 percent slopes	227	Speaker-Maymen-Millsholm association, 30 to 50 percent slopes
148	Kidd-Forward complex, 5 to 30 percent slopes	228	Speaker-Sanhedrin gravelly loams, 50 to 75 percent slopes
151	Konocti-Benridge complex, 50 to 75 percent slopes	229	Speaker-Sanhedrin-Maymen association, 30 to 50 percent slopes
153	Konocti-Hambright complex, 15 to 30 percent slopes	230	Speaker-Speaker variant-Sanhedrin association, 5 to 30 percent slopes
154	Konocti-Hambright-Rock outcrop complex, 30 to 75 percent slopes	234	Still gravelly loam
166	Maymen-Etsel-Mayacama complex, 15 to 30 percent slopes	245	Whispering-Collayomi complex, 50 to 75 percent slopes
167	Maymen-Etsel-Mayacama complex, 20 to 60 percent slopes	247	Wolfcreek loam
168	Maymen-Etsel-Snook complex, 15 to 30 percent slopes	256	Water

Collayomi complex (Map Symbol 126) and Collayomi-Aiken-Whispering complex (Map Symbol 127 and 128) are the majority of the soils within the project areas. Collayomi soils occur on hills and mountains in the Clear Lake volcanic fields. Slopes are five to 75 percent. Elevations are 1,200 to 4,600 feet. The soils are formed in material weathered from andesite, dacite, and basalt rocks. Characteristics include well drained, medium to very rapid runoff, and moderate permeability. Aiken soils are on broad gently sloping tabular ridges with moderately steep to steep sideslopes of two to 70 percent at elevations of about 1,200 to 5,000 feet. They formed in material weathered from basic volcanic rocks, principally tuff breccia. Characteristics include well drained, slow to rapid runoff and moderately slow permeability. Whispering soils consist of moderately deep, well drained soils formed in material weathered from basic igneous rocks. Whispering soils are on hills and mountains and have slopes of five to 75 percent. Characteristics include well drained, slow to rapid runoff and moderate permeability[22].

LIQUEFACTION

Liquefaction is the process where water is combined with unconsolidated soils, generally from ground motions and pressure, which causes the soils to behave like quicksand. Liquefaction potential is determined from a variety of factors including soil type, soil density, depth to the groundwater table, and the expected duration and intensity of ground shaking. Liquefaction is most likely to occur in deposits of water-saturated alluvium or areas of considerable artificial fill.

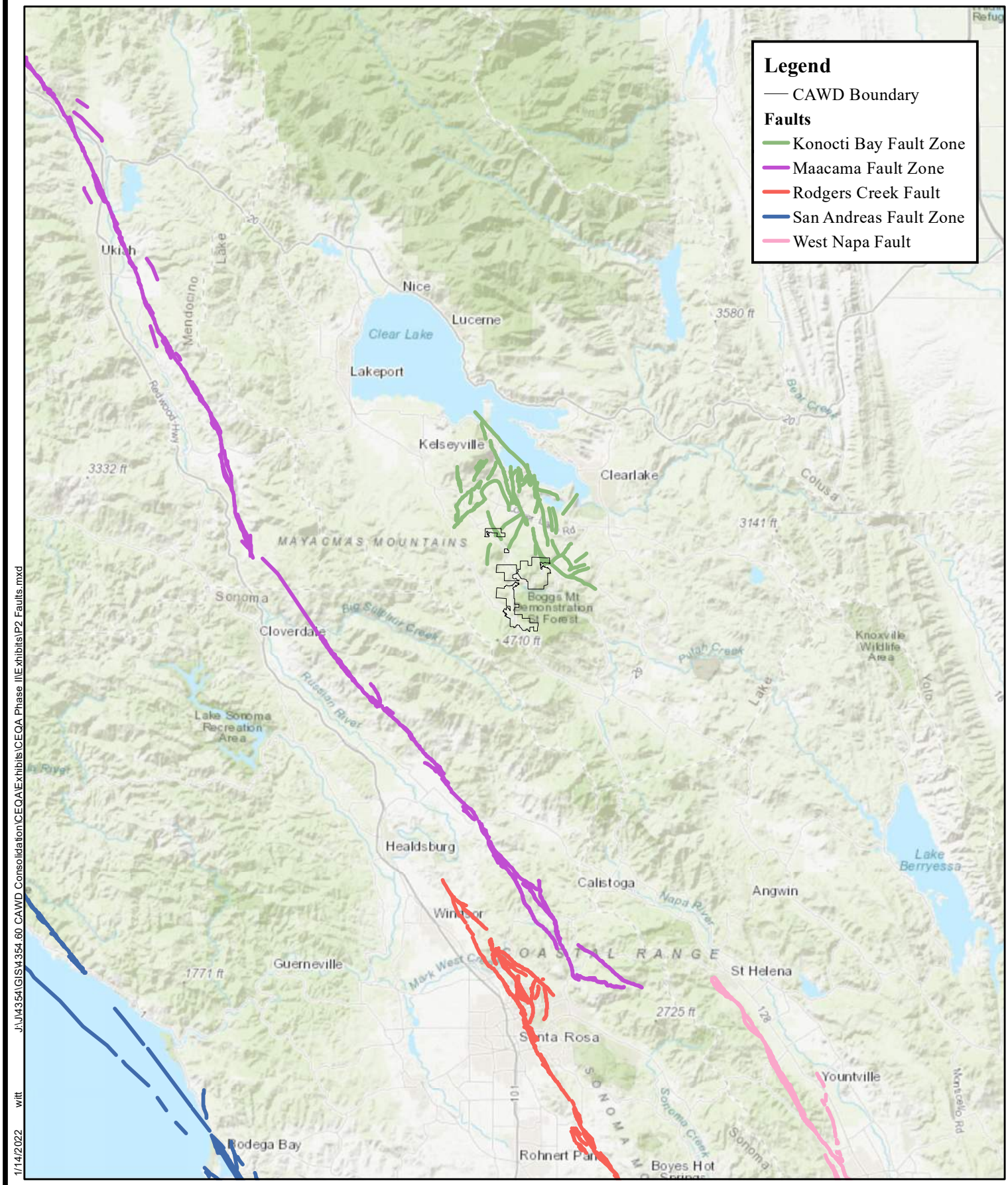
SEISMIC CONDITIONS

Like all of Lake County, the project area is within a seismically active area. The nearest faults considered to be 'Holocene-active' (experiencing surface rupture within about the last 11,000 years) are shown below and on Figures VII-4 and VII-5. Other faults in the project area are in the 700,000 to two million years old range and considered less likely to result in seismic activity. Faults with the potential to produce earthquakes are described below.

Fault	Approximate Distance to Fault (miles)	Direction to Fault
Konocti	5	North
Mayacama	12	West
Rodgers Creek	27	South
W. Napa	35	South
San Andreas	40	West

Throughout Lake County and the entire Northern California region, ground shaking from earthquakes represents a significant geologic hazard to developments. The intensity of ground shaking will be dependent on several factors such as: 1) distance from the site to the earthquake focus; 2) depth of earthquake focus; 3) earthquake magnitude; 4) response of the underlying soil and rock; and 5) topography and local geologic structure.

[22] *Soil Survey.* United States Department of Agriculture, Natural Resources Conservation Service. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx



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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Faults: USGS

NORTH

0 2 4 8 Miles

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FIGURE VII-4

EARTHQUAKE FAULTS

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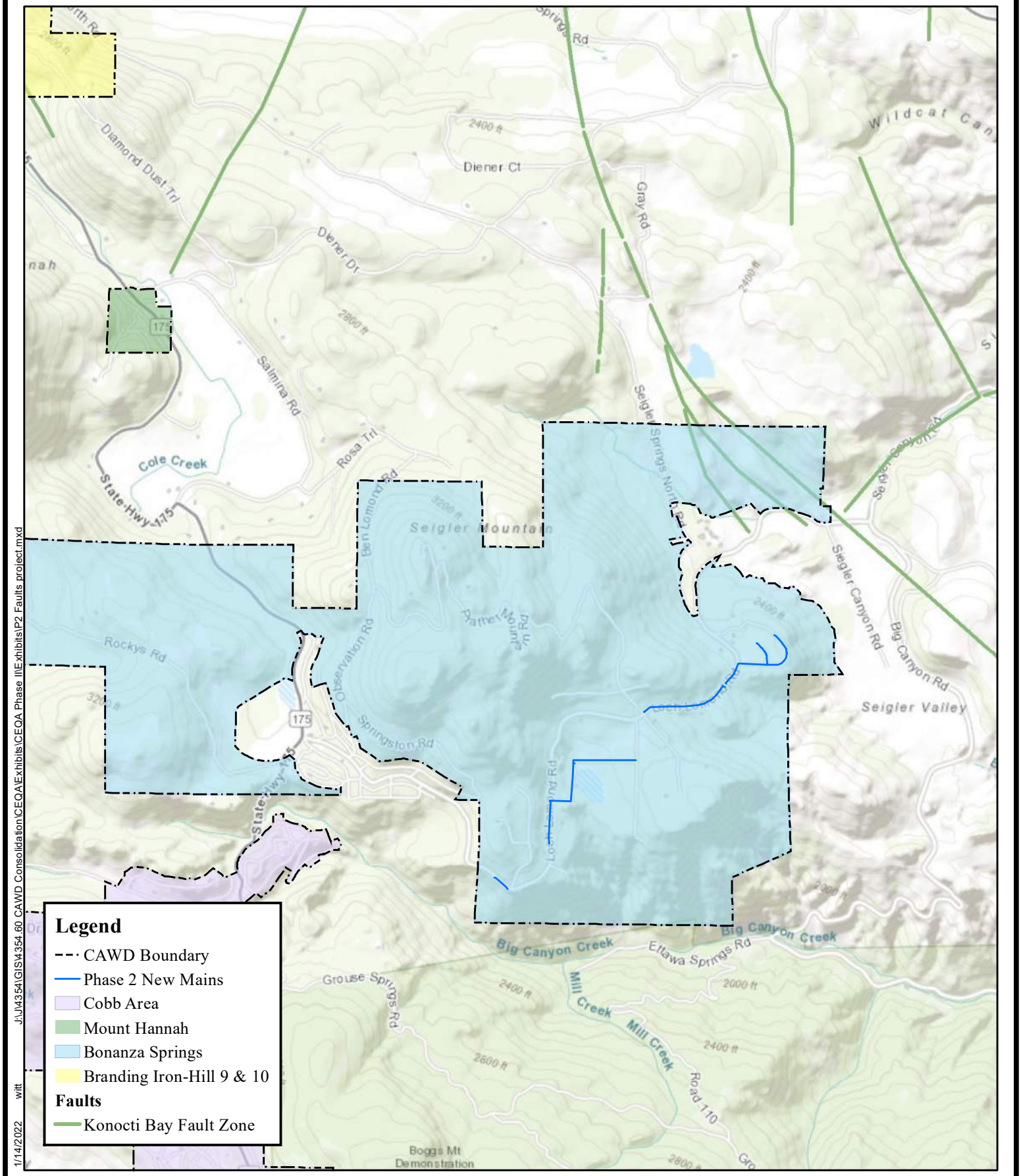

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Faults: USGS

NORTH

0 0.125 0.25 0.5 Miles

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FIGURE VII-5
EARTHQUAKE FAULTS
PROJECT SITES

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Regulatory Setting

FEDERAL REGULATIONS

Clean Water Act 402 and National Pollutant Discharge Elimination System

The CWA is discussed in detail in the Hydrology and Water Quality section of this document. However, because CWA Section 402 is directly relevant to excavation, additional information is provided below. Amendments to the CWA in 1987 added Section 402p, which establishes a framework for regulating municipal and industrial stormwater discharges under National Pollutant Discharge Elimination System (NPDES) program. The EPA has delegated to the State Water Resources Control Board (SWRCB) the authority for the NPDES program in California, which is implemented by the state's nine regional water quality control boards. Under the NPDES Phase II Rule, construction activity disturbing one acre or more must be permitted under the state's General Construction Permit. General Construction Permit applicants are required to prepare a Notice of Intent and a Stormwater Pollution Prevention Plan (SWPPP) and implement and maintain Best Management Practices (BMPs) to avoid adverse effects on receiving water quality due to construction activities, including earthwork.

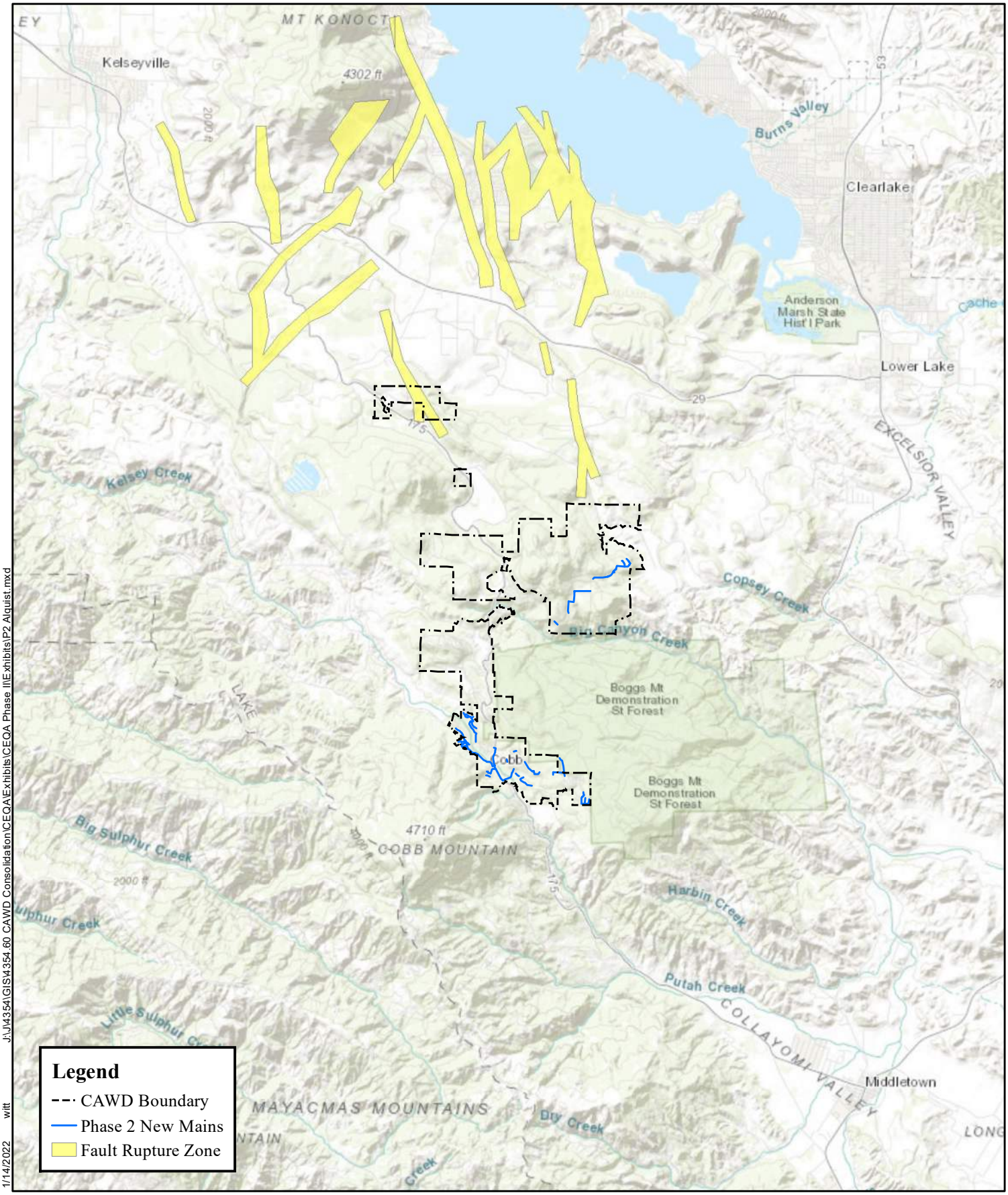
STATE REGULATIONS

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (prior to January 1, 1994, known as the Alquist-Priolo Special Studies Zones Act – CCR, Title 14, Section 3600) sets forth the policies and criteria of the State of California regarding building within active fault zones mapped pursuant to the Act. The Alquist-Priolo Earthquake Fault Zoning Act outlines cities' and counties' responsibilities in prohibiting the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones delineated on maps officially issued by the State Geologist. Figure VII-6 shows the project relative to the nearest mapped fault rupture zone.

Seismic Hazard Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC 2690 2699.6) is intended to reduce damage resulting from earthquakes. The Seismic Hazards Mapping Act addresses earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites in Seismic Hazard Zones until appropriate site-specific geologic or geotechnical investigations have been carried out, and measures to reduce potential damage have been incorporated into the development plans.



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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Department of Conservation

Brelje & Race

FIGURE VII-6
ALQUIST PRIOLO ZONES

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022

California Building Code

The California Code of Regulations, Title 24, also known as the California Building Standard Code or the California Building Code (CBC), establishes guidance for foundation design, shear wall strength, and other structurally related concerns. The CBC modified regulations for specific conditions found in California and included many more detailed and/or more restrictive regulations. For example, CBC includes common engineering practices requiring special design and construction methods that reduce or eliminate potential expansive soil-related impacts. The CBC requires structures to be built to withstand ground shaking in areas of high earthquake hazards and the placement of strong motion instruments in larger buildings to monitor and record the response of the structure and the site of the seismic activity. Compliance with CBC regulations ensure the adequate design and construction of building foundations to resist soil movement. In addition, the CBC also contains drainage requirements to control surface drainage and to reduce seasonal fluctuations in soil moisture content.

Analysis

a. Would the project directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:

a.i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

The project area is not located within an Alquist-Priolo Zone, as shown on Figure VII-6 (the Hill 9 & 10 boundary at the northern portion is within a mapped zone but not a part of The Phase 2 project). None of the Phase 2 project components are intended for human occupancy. The project would be required to implement California Building Code Seismic Design Category Requirements standards into the project design for applicable features to minimize hazards associated with potential fault rupture, ground shaking, and liquefaction. Existing water mains are older and in various stages of useful life. The water tanks that would be upgraded by Phase 2 include seismic retrofit to connections from the storage tanks to the distribution system. Replacement of older water mains and equipment associated with the Phase 2 projects would increase the resiliency of the water systems with respect to seismic events by replacing them with infrastructure built to modern standards, a beneficial impact. Based on incorporation of appropriate geotechnical design recommendations and engineering standards, the risk to the project from fault rupture is considered to be less than significant.

a.ii. Strong seismic ground shaking?

Like all of Lake County, the project location is subject to strong seismic ground shaking. As shown on Figure VII-5, parts of the Konocti Fault system are within the overall project area. The Bonanza Springs project is the closest Phase 2 project to the Konocti Fault system. Other faults are more distant, as shown on Figure VII-4. The northernmost portion of the Bonanza Springs improvements are approximately 0.5 mile south and west of the mapped fault rupture zone. While none of the mains cross fault rupture zones, earth shaking from an earthquake on that fault system can be expected.

As indicated in a.i.) above, the project would be designed and constructed in strict adherence with current standards for earthquake-resistant construction and replacement of older water mains and equipment with new mains constructed to current standards would increase the resiliency of the

water systems with respect to seismic events. Risk to the project is considered to be less than significant.

a.iii. Seismic-related ground failure, including liquefaction?

As indicated in a.ii.) above, seismic ground shaking could occur in the project area and originate near Phase 2 projects. However, the project is not located in an area subject to liquefaction. Any risks of ground failure would be remediated, as indicated in a.i.) above.

a.iv. Landslides?

The Phase 2 projects would primarily be constructed within areas with existing infrastructure and residential development. Landslides are not evident adjacent to project locations and the project would not increase the risk of landslides.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Similar to the Phase 1 projects, the majority of Phase 2 project locations are within existing roads or existing developed water infrastructure sites. Stormwater drainage in the area primarily consists of overland flow over the ground and roadway surfaces that concentrate in man-made drainage elements such as roadside gutters and drainage ditches. Some underground stormwater system exists, primarily related to under-road culverts and Highway 175 improvements but those structures would not be impacted by the project. Surfaces would be restored to existing conditions once construction is complete to ensure there is no long-term erosion.

The Phase 2 projects would have a total disturbance area of approximately 3.37 acres. Each project would be funded, bid and constructed separately as discrete projects. Coverage under the State Water Resources Control Board (SWRCB) Construction General Permit is triggered by projects over one acre, so would not be applicable to each individual project. It is anticipated that two Phase 2 projects could be constructed per year and would still have a disturbance area that would not subject them to coverage under the Construction General Permit, as shown below. In the unlikely event that funding was obtained to include Phase 2 projects that resulted in more than one acre of disturbance, the District would comply with the Construction General Permit and file a Notice of Intent for coverage of the larger project. The Pine Grove project will likely require such coverage, but actual project disturbance will be determined at the design phase.

Distribution System	Approximate Pipeline Length (Linear Feet)	Approximate Disturbance Area (Acres)
Boggs	3,850	0.35
Bonanza Springs	9,500	0.87
CMWC	1,000	0.10
Pine Grove	12,100	1.11
Schwartz	4,620	0.42
Starview	5,610	0.52

As with Phase 1 projects, each Phase 2 project would include an erosion control plan to be prepared by the contractor that would be consistent with the Construction General Permit but not subject to reporting requirements. The Phase 2 tank rehabilitation projects would similarly fall under the threshold of the Construction General Permit but would have only minimal opportunity for soil erosion due to the very limited scale of excavation occurring. The requirement of an erosion control plan would

minimize the potential for erosion-related impacts to surface waters to the extent possible. Because the Phase 2 projects would comply with current regulations to limit erosion-related water quality impacts during and after construction, there would be no impact.

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

The project area currently supports the existing development and individual water systems that serve that development. Like Phase 1, Phase 2 projects would replace existing undersized and leaking water mains. The proposed Phase 2 projects would generally improve or replace water system components to provide additional reliability and reduce water losses. Some new water distribution mains are included in the Phase 2 projects but would be designed to current regulations regarding seismic events. Appropriate design according to professional standards and regulations contained in the most recent edition of the California Building Code would ensure that any risk from on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse is less than significant.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Appropriate design according to professional standards and regulations contained in the most recent edition of the California Building Code would ensure that any risk to Phase 2 projects from expansive soils is less than significant. The Phase 2 replacement of existing water mains with new infrastructure meeting existing standards would improve system resiliency over existing conditions.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Wastewater service in the project area is provided by individual septic systems. No new wastewater would be generated by the proposed project. Any new or fire recovery residential construction occurring in the project area would be subject to septic system permitting through the existing County permitting process.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

There are no known paleontological resources or unique geologic features in the project area. Mitigation Measure GS1 is included to preserve any such features discovered during construction and reduces any potential impact to less than significant.

Cumulative Impacts

There are no adverse cumulative environmental impacts to geology and soils resulting from implementation of the proposed project.

Mitigation Measures

GS1

The project plans and specifications shall provide that in the event paleontological site indicators are unearthed during grading, excavation and/or trenching, all ground disturbing work in the vicinity of the discovery shall cease and all exposed materials shall be left in place. After cessation of excavation, the contractor shall immediately contact the CACWD. The CACWD shall contact a qualified professional geologist or paleontologist immediately after the find. Such consultant shall conduct an evaluation of significance of the site and assess the necessity for mitigation. The contractor shall not resume construction activities until authorization to proceed is received from the CACWD.

VIII GREENHOUSE GAS EMISSIONS

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	□	□	■	□
b. Would the project Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	□	□	□	■

To fully understand global climate change it is important to recognize the naturally occurring "greenhouse effect" and to define the greenhouse gases (GHG) that contribute to this phenomenon. The temperature on Earth is regulated by this "greenhouse effect," which is so named because the Earth's atmosphere acts like a greenhouse, warming the planet in much the same way that an ordinary greenhouse warms the air inside its glass walls. Like glass, the gases in the atmosphere let in light yet prevent heat from escaping.

Greenhouse gases are naturally occurring gases such as water vapor, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) that absorb heat radiated from the Earth's surface. Greenhouse gases are transparent to certain wavelengths of the Sun's radiant energy, allowing them to penetrate deep into the atmosphere or all the way to Earth's surface. Clouds, ice caps, and particles in the air reflect about 30 percent of this radiation, but oceans and land masses absorb the rest (70 percent of the radiation received from the Sun) before releasing it back toward space as infrared radiation. The greenhouse gases and clouds effectively prevent some of the infrared radiation from escaping; they trap the heat near the Earth's surface where it warms the lower atmosphere.

In addition to natural sources, human activities are exerting a major and growing influence on climate by changing the composition of the atmosphere and by modifying the land surface. Particularly, the increased consumption of fossil fuels (natural gas, coal, gasoline, etc.) has substantially increased atmospheric levels of greenhouse gases. Measured atmospheric levels of certain greenhouse gases such as CO_2, NH_4, and N_2O have risen substantially in recent decades. This increase in atmospheric levels of greenhouse gases unnaturally enhances the "greenhouse effect" by trapping more infrared radiation as it rebounds from the Earth's surface and thus trapping more heat near the Earth's surface.

California Implications

According to the Air Resources Board's 2016 California GHG Emissions Inventory, in 2014, total California GHG emissions were 441.5 million metric tons of CO2 equivalent (MMTCO2e), a decrease of 2.8 MMTCO2e compared to 2013. This represents an overall decrease of 9.4 percent since peak levels in 2004. During the 2000 to 2014 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 13.9 tons per person to 11.4 tons per person in 2014; an 18 percent decrease[23]. State regulations have begun lowering GHG California's contribution to global GHG levels but managing GHG emissions remains an ongoing priority in California.

[23] https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_trends_00-14_20160617.pdf

State Regulations

CLIMATE CHANGE REGULATORY FRAMEWORK

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act, which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required the California Air Resources Board (ARB) to develop a Scoping Plan, adopted in 2008, that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. In 2016, the Legislature passed SB 32, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels by 2030. The Scoping Plan was updated in 2017. In 2018, Senate Bill 100 set a planning target of 100 percent zero-carbon electricity resources by 2045 and increased the 2030 renewables target from 50 percent to 60 percent. Executive Order B-55-18 set a new statewide goal to achieve carbon neutrality (zero-net GHG emissions) by 2045 and to maintain net negative emissions thereafter. The Scoping Plan recognizes that local GHG reduction commitments and climate action plans are essential to the state meeting its targeted emissions reductions.

California's energy policies are intertwined with goals of reducing greenhouse gases. These goals were accelerated in 2016 with passage of SB 32 requiring lowering greenhouse gas emissions to 40 percent below 1990 levels by 2030. Further, "In 2018, Senate Bill 100...set a planning target of 100 percent zero-carbon electricity resources by 2045 and increased the 2030 renewables target from 50 percent to 60 percent. On the same day of signing SB 100, then-Governor Brown signed Executive Order B-55-18 with a new statewide goal to achieve carbon neutrality (zero-net GHG emissions) by 2045 and to maintain net negative emissions thereafter. The executive order covers all sectors of the economy... Executive Order B-55-18 follows the spirit of what is required at a global scale to achieve the climate goals of the Paris Agreement, in which signatory nations worldwide agree to sufficiently reduce GHG emissions to avoid catastrophic climate change. This is also consistent with a special report by the Intergovernmental Panel on Climate Change, which found that to avoid catastrophic climate change, global carbon dioxide emissions must decline by about 45 percent below 2010 levels by 2030 and reach net zero by about 2050[24]."

LOCAL REGULATIONS

ARB works with 35 air pollution districts in California to enforce air pollution regulations. The LCAQMD enforces air quality regulations in Lake County. More metropolitan air pollution districts, cities and counties have adopted Local Climate Action Plans consistent with ARB Scoping Plan goals. Due to the rural nature of the project area, the County of Lake has not developed a Climate Action Plan.

Because the LCAQMD has not developed GHG regulations or a Climate Action Plan, it has not identified a significance threshold for GHG emissions or a methodology for analyzing air quality impacts related to greenhouse gas emissions. Similarly, the county has not prepared a climate action plan so there is no established local threshold of significance for GHGs. The adjacent Sacramento Metropolitan Air Quality Management District[25] (SMAQMD) adopted GHG thresholds of significance in 2012 that are contained in the SMAQMD's CEQA Guide[26]. For land development and construction projects, that threshold has been established as 1,100 metric tons per (MT/yr) year for construction and operational phases. Stationary sources (projects that do not involve transportation impacts) have been determined to have an operational threshold

[24] Ibid.
[25] The Sacramento Metropolitan Air Quality Management District is used here because the BAAQMD has not adopted a threshold for construction-related GHG emissions in its CEQA Guidelines utilized in the Air Quality section of this document.
[26] www.airquality.org/Businesses/CEQA-Land-Use-Planning/CEQA-Guidance-Tools

of 10,000 MT/yr. The CEQA Guide also establishes operational screening levels for various projects to determine if a GHG analysis is necessary[27]. While neither the LCAQMD nor Lake County has adopted these thresholds, they are a useful guideline for assessing this project's potential impacts.

Analysis

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

As an infrastructure replacement and improvement project, the project is not characteristic of the land development projects contained in the SMAQMD CEQA screening levels for GHGs. Therefore, quantification of project emissions is required. Phase 1 project construction GHG emissions were modeled using the Roadway Construction Emissions Model developed by SMAQMD for transportation and pipeline projects. Emissions shown below assume non mitigated emissions. The model was based on construction parameters associated with the Phase 1 Pine View Heights distribution project, the worst-case project regarding construction-related emissions.

Modeled worst-case construction related CO2e emissions for the Phase 1 Pine View Heights project are shown below and are expected to be 151.47 MT/yr CO2e, under SMAQMD's 1,100 MT/yr threshold and therefore the emissions are considered to be less than significant. The Phase 1 CEQA document determined that if two of the Phase 1 distribution projects were constructed concurrently, a worst-case of 302.47 MT/yr CO2e would be emitted, remaining below the threshold of significance. The Pine View Heights project was based on approximately 23,000 lf of pipeline being installed. The worst-case Phase 2 projects in the schedule provided in the Project Description anticipate a total of approximately 15,180 lf of pipeline being constructed in 2028 with the Bonanza Springs and Schwartz improvements projects occurring in the same year. The associated construction activities would be considerably less than modeled for the Pine View Heights improvements, thus Phase 2 projects were not separately modeled. All Phase 2 projects would have reduced emission levels from those associated with the Pine View Heights distribution project shown below.

Because the Phase 2 projects replace existing water distribution systems or expand those systems to existing parcels and do not induce growth, operational emissions would be essentially unchanged and were not quantified. It is expected that operational emissions would actually decrease since the new distribution systems would remediate existing leaks in the system, thus reducing electricity associated with pumping and treating water.

SMAQMD Thresholds of Significance			**Project Emissions**	
	Construction Average Daily Emissions (MT/yr)	Operational Annual Emissions (MT/yr)	RoadMod[28] Construction Emission Estimates (MT/yr)	RoadMod Operational Emission Estimates (MT/yr)
GHG as CO2e	1,100	1,100	151.47	Not quantified

[27] http://www.airquality.org/LandUseTransportation/Documents/Ch4+Ch6OperationalScreening4-2018.pdf
[28] Roadway Construction Emissions Model v 8.1.0

b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Lake County has not adopted a Climate Action Plan. Because the project does not exceed the SMAQMD's construction threshold of 1,100 MT/yr and operational emissions would be essentially unchanged, the project would not impede implementation of a local climate action plan, should one be developed. Additionally, the reduction in energy demands associated with reduced pumping and treatment from rectifying system leaks would assist the energy reduction goals of any such plan.

Cumulative Impacts

As indicated in a.) above, the project would result in short-term emission of GHGs associated with project construction. Construction-related emissions are not considered to be cumulatively considerable based on the limited nature of the construction project and emissions expected to below the 1,100 MT/yr threshold.

Mitigation Measures

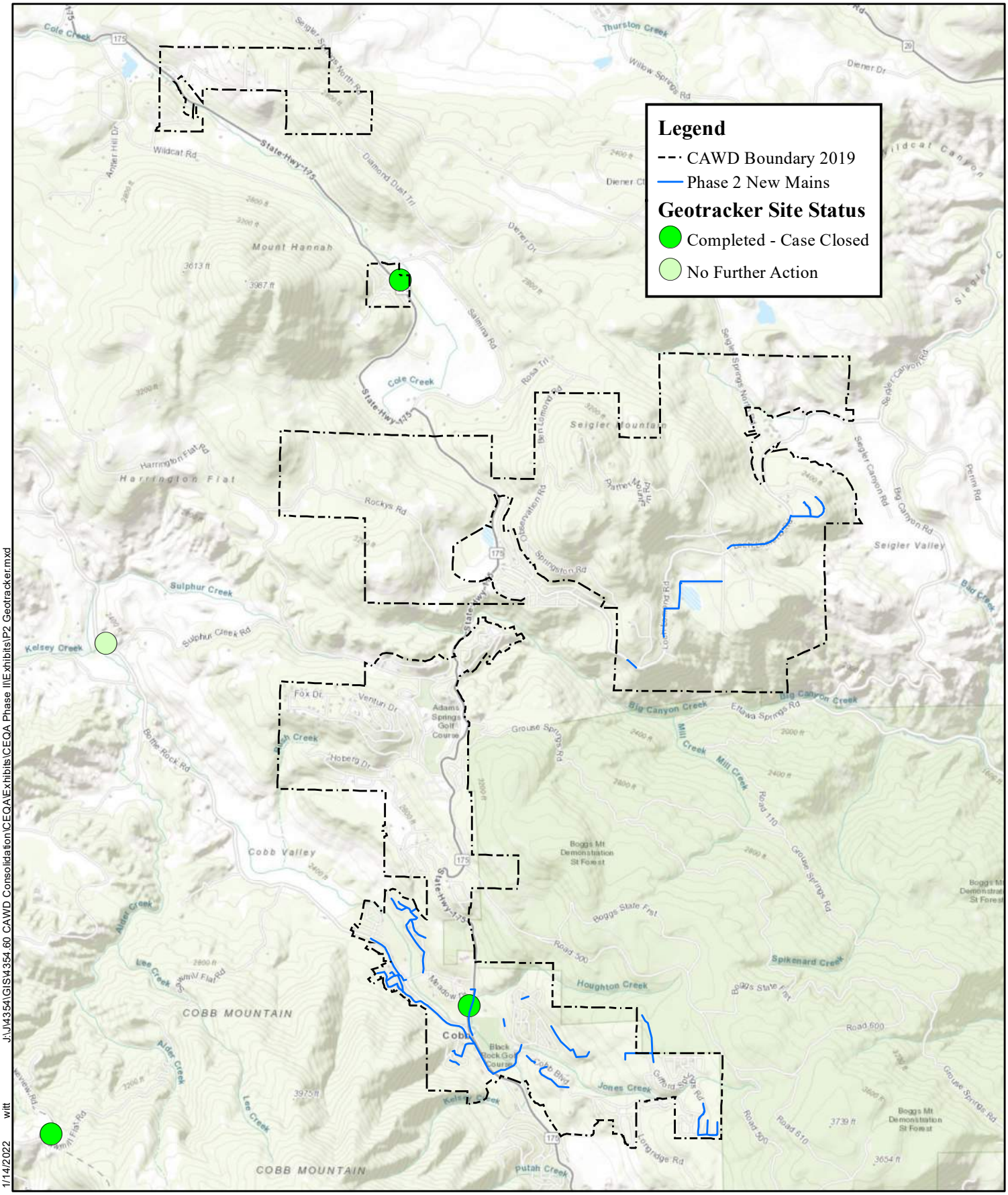
No adverse environmental impacts to greenhouse gas emissions have been identified; therefore, no mitigation is required.

IX HAZARDS & HAZARDOUS MATERIALS

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	□	□	□	■
b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	□	■	□	□
c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	□	□	□	■
d. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	□	■	□	□
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	□	□	□	■
f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	□	□	■	□
g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	□	□	□	■

Environmental Setting

The project area is predominantly rural with developed residential areas, limited commercial services and a large golf course. The State Water Board's GeoTracker system implements Government Code Section 65962.5 by identifying the locations of known hazardous materials sites. Sites listed on California's GeoTracker system are shown on Figure IX-1.



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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Hazardous Materials: Water Resources Control Board GeoTracker (2109)

NORTH

0 1,000 2,000 4,000 Feet

Brelje & Race

FIGURE IX-1
HAZARDOUS MATERIALS SITES

CAWD - CONSOLIDATION PHASE 2
JANUARY 2022

REGULATORY SETTING

Federal Regulations

Hazardous materials in the project area are subject to applicable federal regulations, including the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act. Other applicable federal regulations are contained primarily in CFR Titles 29, 40, and 49.

State Regulations

California regulations are as stringent as or more stringent than federal regulations. The EPA has granted the State of California primacy oversight responsibility for administering and enforcing hazardous waste management programs. State regulations require planning and management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human and environmental health.

Analysis

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The Phase 2 projects would improve existing water distribution systems and other water system infrastructure within the CACWD. Municipal water systems are not generally associated with hazardous materials. Construction of the proposed Phase 2 projects would include the use and short-term storage of hazardous materials. These materials could include, but are not limited to, lubricants, adhesives, paints, asphalt, fuel, and toxic solvents. The proposed Phase 2 projects are required to comply with federal, state, and local regulations regarding the storage, handling, disposal, and cleanup of hazardous materials. No routine transport, use, or disposal of hazardous materials would be associated with the Phase 2 projects and the projects would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

As indicated in a.) above, the Phase 2 projects would not introduce new long-term hazardous materials or hazardous materials handling. The Phase 2 projects would make improvements to the existing water systems that do not currently, and would not in the future, utilize hazardous materials.

There is the potential for a fuel/oil spill during construction from construction vehicles and equipment. During construction, hazardous materials would be used to fuel and maintain construction vehicles and there would be the potential for spills of those materials as well as hydraulic fluid from the machinery. Mitigation Measure HM1 would reduce such impact to a less than significant level.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The project would not result in emissions or handling of hazardous materials within one quarter mile of an existing or proposed school. The Cobb Mountain Elementary School is approximately 0.2 mile north of the proposed water main in Highway 175 associated with the Pine Grove distribution improvements where the water main would cross from Highway 175 to Meadow Drive. Use of hazardous materials associated with the project are those commonly related to construction projects and would not pose a hazard to the school. The Phase 2 projects include improvements of the existing water systems and would not emit hazardous emissions or handle hazardous or acutely hazardous materials.

d. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

There are two reported hazardous materials sites listed by the State Water Resources Control Board GeoTracker system as shown on Figure IX-1. Both sites are closed (remediated) leaking underground storage tank (LUST) sites. One site is located outside of any Phase 2 projects at 16390 Highway 175 (Regional Board Case 170030) related to a leaking gasoline tank identified in 1981, remediated and closed in 2011.

The second site is located at 9564 Highway 175 (Regional Board Case 170104) related to a leaking kerosene tank that was abated and closed in 2000. The proposed Pine Grove distribution water main in Highway 175 would pass along this location. Because site has been remediated and closed, it should not represent a potential hazard to the project. There is the possibility with any construction project that contaminated soils could be found during construction from unknown sources or from the remediated site at 9564 Highway 175. In that event, Mitigation Measure HM1 requires the contractor to cease work and contact CACWD and the Regional Board to develop a plan to dispose of the soils and ensure worker safety and protection of the environment.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The nearest public use airport, Lampson Field, is located between the communities of Kelseyville and Lakeport and is approximately 12 linear miles northwest of the nearest portion of the project area. No portions of the project are located within Lampson Field's airport land use plan area. There is an historic landing strip (Hoberg Airport) just east of the Bonanza Springs project, but it is defunct and has not been in use for many years. Therefore, there would be no impact.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Lake County Emergency Response Plan facilitates response by the Lake County Department of Health Services when medical and health services are required as a result of catastrophic events. The primary threats to Lake County include earthquakes and aftershocks, hazardous materials releases, transportation accidents, levee or dam failure and floods, landslides, national security incidents, and wildfires. An efficient roadway and circulation system is vital for the evacuation of residents and the mobility of fire suppression, emergency response, and law enforcement vehicles. The CACWD shall require that the contractor develop a traffic management plan that ensures the existing roadway system

within the project areas shall be kept accessible to residents and to all first responder units in the case of a wildland fire, earthquake event, hazardous materials release, transportation accident, landslide or national security incident by the incorporation of half-width improvements and traffic control utilization. Additionally, encroachment permits required from the County and Caltrans would ensure appropriate traffic control and emergency access are maintained. As such, this impact would be less than significant.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The Phase 2 projects are intended to improve the existing water systems and would include fire hydrants where they would be supported by adequate water flow and pressure. The Phase 2 project areas do not currently have fire hydrants or have substandard wharf hydrants. Once completed, the Phase 2 projects would primarily be underground or at existing water tank sites and would not increase the risk of wildland fires. Implementation of the Phase 2 projects would increase the community's ability to respond to fires by increasing water distribution system reliability and increasing the number of available fire hydrants in Phase 2 project areas.

Cumulative Impacts

There are no adverse cumulative environmental impacts to or from hazards/hazardous materials resulting from implementation of the proposed project.

Mitigation Measures

HM1

The contractor shall be required to follow the provisions of § 5163 through 5167 of the General Industry Safety Orders (California Code of Regulations, Title 8) to protect the project area from being contaminated by accidental release of any hazardous materials.

In general, the Contractor shall maintain awareness of potential signs of soil and groundwater contamination throughout the project limits and shall notify the CACWD immediately upon discovery of any potential soil or groundwater contamination.

If hazardous materials are encountered during construction or occur as a result of an accidental spill, the contractor shall halt construction immediately, notify the CACWD, and implement remediation in accordance with the project specifications and applicable requirements of the Regional Board. Disposal of all hazardous materials shall be in compliance with current California hazardous waste disposal laws.

X HYDROLOGY & WATER QUALITY

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	□	■	□	□
b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	□	□	□	■
c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. result in a substantial erosion or siltation on- or off-site?	□	□	□	■
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	□	□	□	■
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	□	□	□	■
iv. impede or redirect flows?	□	□	□	■
d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?	□	□	□	■
e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	□	■	□	□

Environmental Setting

SURFACE WATER

The CACWD is within the Clear Lake watershed. Clear Lake is located within, and tributary to, the Sacramento River Basin. The Sacramento River Basin covers approximately 27,210 square miles and includes the entire area drained by the Sacramento River, including all watersheds tributary to the Sacramento River north of the Consumnes River watershed. The basin also includes the closed basin of Goose Lake and the drainage sub- basins of Cache and Putah creeks. The principal streams are the Sacramento River and its larger tributaries, the Pit, Feather, Yuba, Bear, and American rivers to the east, and Cottonwood, Stony, Cache, and Putah creeks to the west. Major reservoirs and lakes include Shasta, Oroville, Folsom, Clear Lake, and Lake

Berryessa. Numerous streams are located within the CACWD with Kelsey Creek and Cole Creek being the largest. Surface waters are shown on Figure X-1.

There are no designated wild or scenic rivers in the immediate project area. Cache Creek is designated as a wild or scenic river approximately three miles downstream of Clear Lake, as shown on Figure X-2.

GROUNDWATER RESOURCES

The CACWD's water supply is from wells throughout the project area, as described in the Background section of this document. As shown on Figure X-3, the project is not located above any designated groundwater basin. The CACWD is approximately equidistant from the Big Valley, Lower Lake Valley and Collayomi Valley basins.

FLOODING

Only minor portions of the CACWD area located within a designated FEMA floodplain, as shown on Figure X-4, located along Kelsey Creek. Figure X-5 shows the portion of the CACWD within the floodplain.

Regulatory Setting

FEDERAL REGULATIONS

Clean Water Act

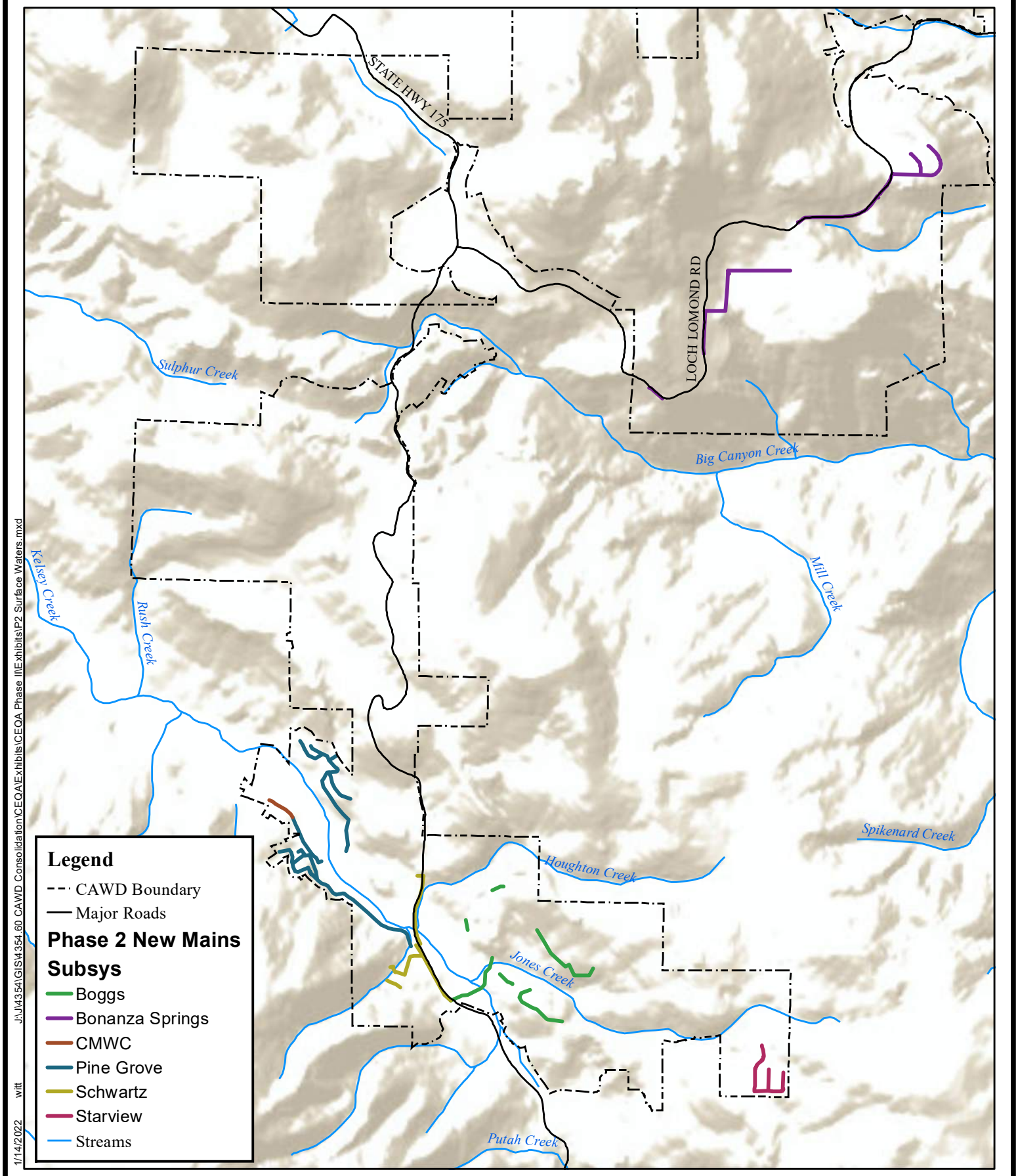
Important applicable sections of the federal CWA (33 USC 1251–1376) are identified below:

- Sections 303 and 304 provide water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the CWA. Certification is provided by the Regional Water Quality Control Board (RWQCB).
- Section 402 establishes the NPDES permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This permit program is administered by the RWQCB.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and issues NPDES permits to cities and counties through regional water quality control boards. The project location is regulated by the Central Valley Regional Water Quality Control Board (CVRWQCB).

The SWRCB has issued a statewide General Permit (Water Quality Order No. 99-08-DWQ) for construction activities within the state. The Construction General Permit (CGP) is implemented and enforced by the RWQCBs. The CGP applies to construction activity that disturbs one acre or more and requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies best management practices (BMPs) to minimize pollutants from discharging from the construction site to the maximum extent practicable.



Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

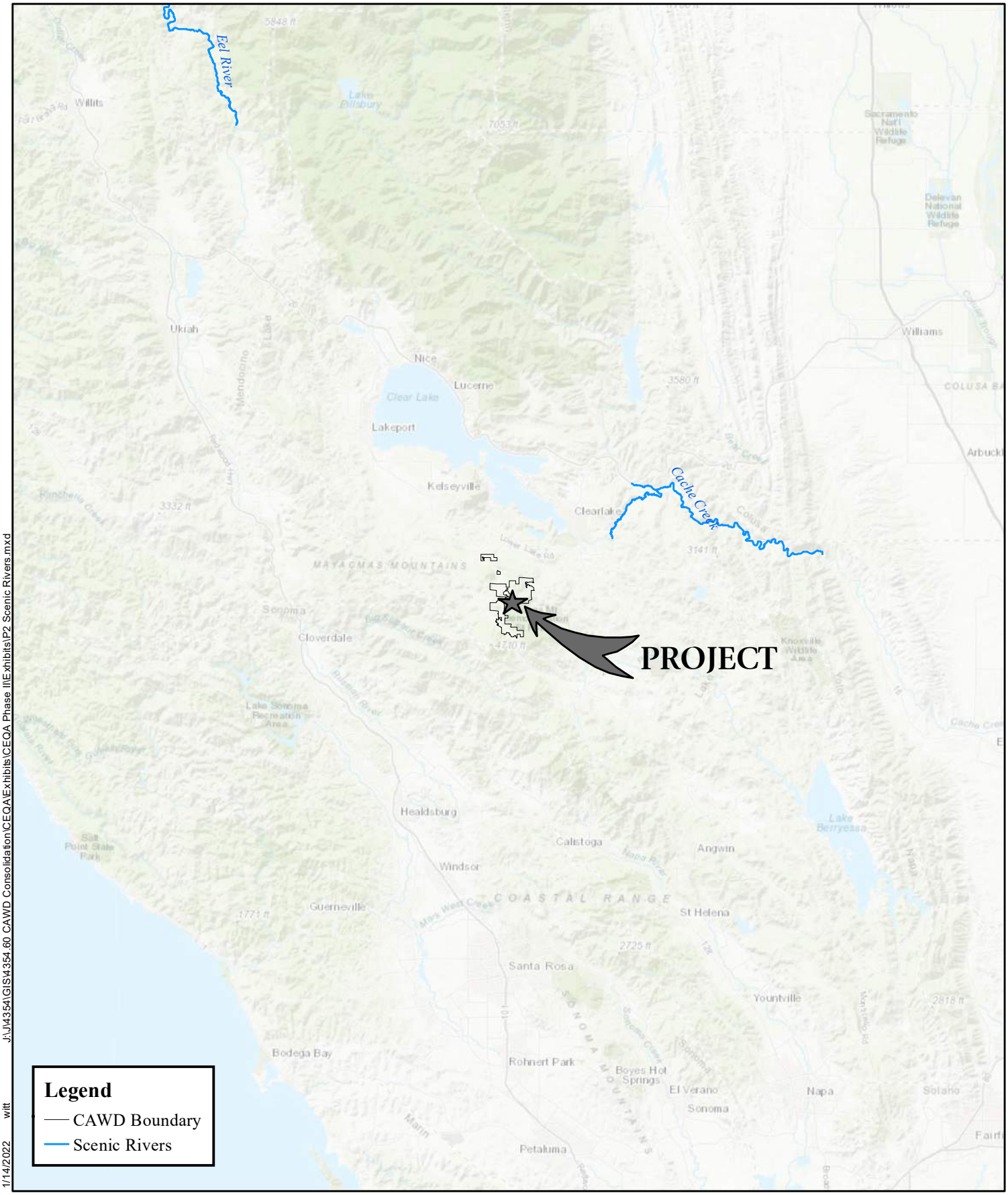
NORTH

0 0.125 0.25 0.5 Miles

Brelje & Race

FIGURE X-1
SURFACE WATERS

CAWD - CONSOLIDATION PHASE 2
JANUARY 2022



1/14/2022 witt J:\JJ4354\GIS\4354.60 CAWD Consolidation\CEQA\Exhibits\CEQA Phase II\Exhibits\P2 Scenic Rivers.mxd

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Scenic Rivers: California Department of Fish and Wildlife (2017)

NORTH

0 2.5 5 10 Miles

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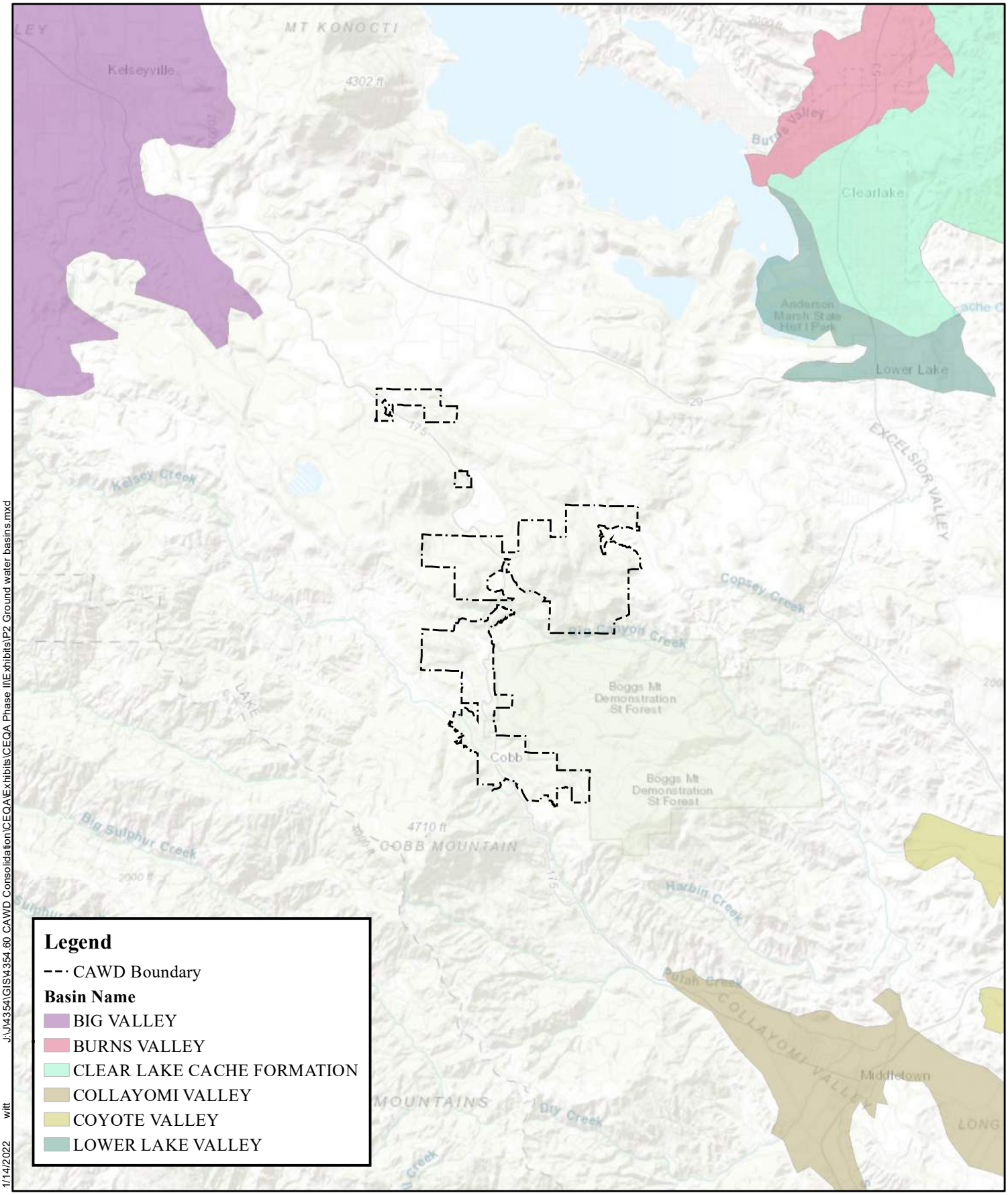
X-2

SCENIC RIVERS

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022



1/14/2022 witt J:\JJ\4354\GIS\4354.60 CAWD Consolidation\CEQA\Exhibits\CEQA Phase II\Exhibits\P2 Ground water basins.mxd

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Ground Water Basins: California Division of Water Resources (2018)

NORTH

0 0.5 1 2 Miles

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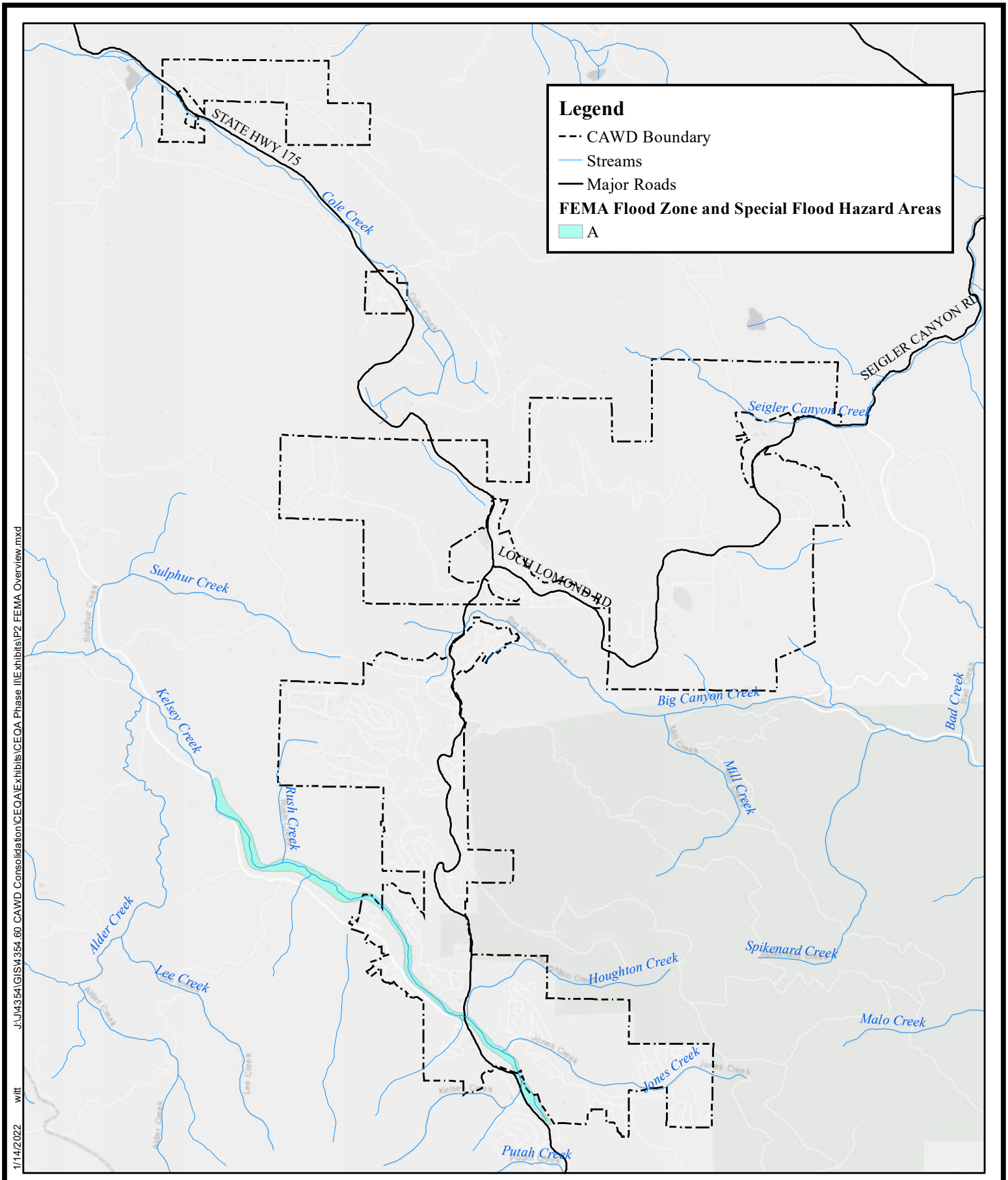
FIGURE X-3

GROUNDWATER BASINS

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022



Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Flood Plains: FEMA (2109)

NORTH

0 1,000 2,000 4,000 Feet

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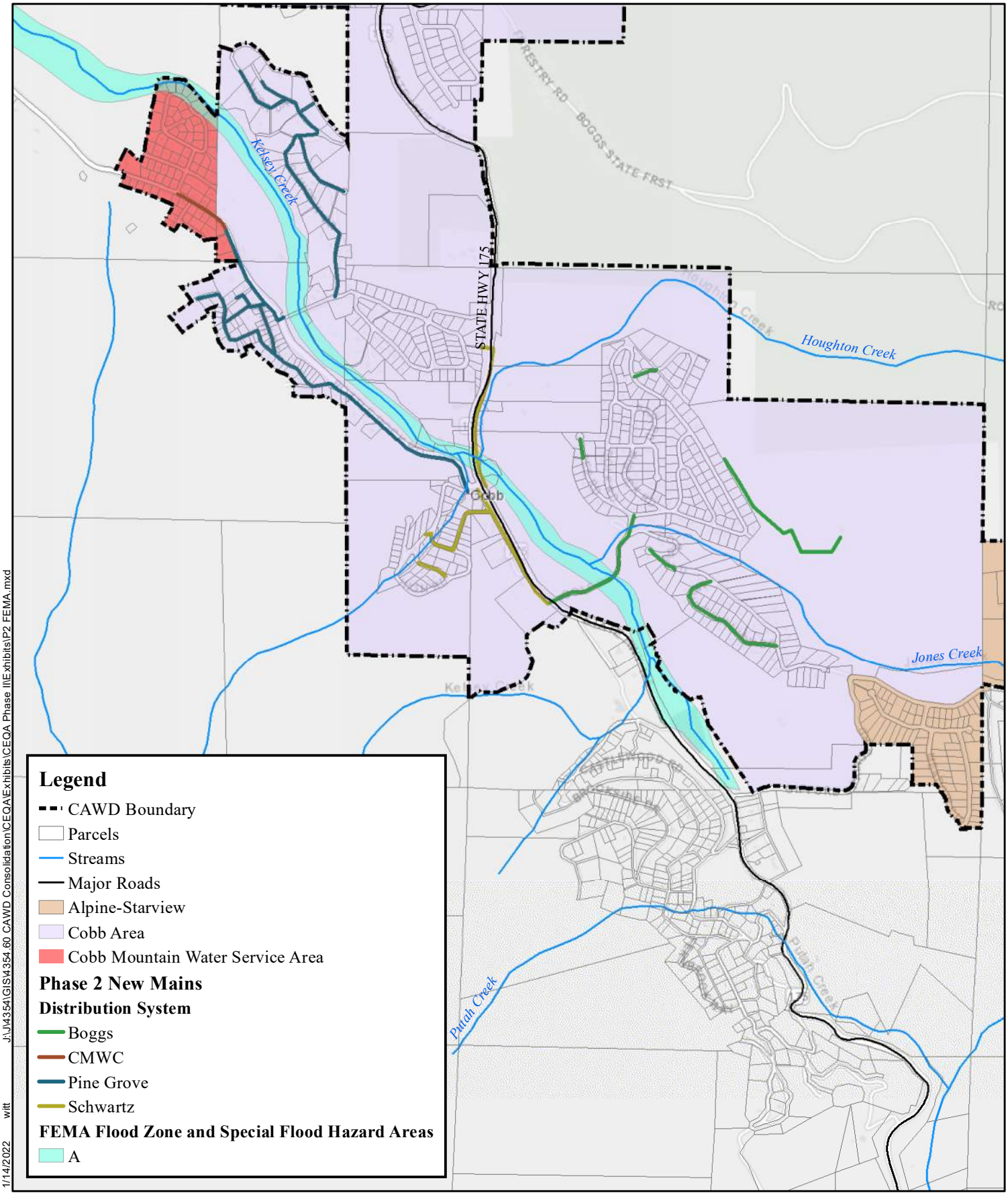
FIGURE X-4
FEMA FLOOD ZONES OVERVIEW

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022



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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Flood Plains: FEMA (2109)

NORTH

0 375 750 1,500 Feet

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FIGURE X-5
FEMA FLOOD ZONES
CAWD, PINE GROVE & CMW

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022

The SWRCB has also issued a statewide General Permit (Water Quality Order No. 97-03-DWQ) for regulating stormwater discharges associated with industrial activities. This General Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable and best conventional pollutant control technology. It also requires the development of a SWPPP, a monitoring plan, and the filing of an annual report.

Certain actions during construction may also need to conform to a General Permit (Water Quality Order No. 5-00-175) that requires that a permit be acquired for dewatering and other low threat discharges to surface waters, provided that they do not contain significant quantities of pollutants and are either (1) four months or less in duration, or (2) the average dry weather discharge does not exceed 0.25 million gallons per day (mgD). Examples of activities that may require the acquisition of such a permit include construction dewatering, pump testing, pipeline/tank pressure testing, pipeline/tank flushing or dewatering, and other miscellaneous dewatering/low threat discharges.

Lake County is listed by the CVRWQCB as an NPDES Phase II program municipality that must comply with Water Quality Order No. 2013-0001-DWQ pertaining to post-construction stormwater best management practices (BMPs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems. Permitees must meet the requirements in Provision D of the General Permit which require the development and implementation of a Storm Water Management Program (SWMP) with the goal of reducing the discharge of pollutants to the maximum extent practicable. The SWMP must include the following six minimum control measures:

- Public Education and Outreach on Stormwater Impacts
- Public Involvement/Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management in New Development
- Redevelopment and Pollution Prevention/Good Housekeeping for Municipal Operations.

A SWMP was completed by Lake County, and a complete application was acknowledged by the SWRCB with a staff recommendation for approval, effective October 2003. The Lake County Clean Water Program (LCCWP) Stormwater Program was also established as a joint effort among the Lake County Watershed Protection District, Lake County, the City of Clearlake, and the City of Lakeport to reduce the impacts of increases in peak flows from development and damage caused by polluted stormwater runoff.

STATE REGULATIONS

Porter-Cologne Water Quality Act

The State of California's Porter-Cologne Water Quality Control Act (California Water Code, Section 13000 et seq.) provides the basis for water quality regulation in California. This Act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. Based on the report, the RWQCBs issue waste discharge requirements to minimize the effect of the discharge.

Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The project would not have a long-term impact to water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. The project includes improvements to existing public water systems to bring those systems into regulatory compliance as well as replace or improve aging infrastructure. Operation of state-permitted public water systems generally does not result in violation of water quality standards and such systems are not associated with the need for waste discharge requirements. The project would not increase population growth in the project area that would result in any significant increase of groundwater withdrawals or introduce new activities in the project area that would result in degradation of surface or groundwater quality. Any such impacts would be less than significant.

Construction related discharges and erosion are also regulated. Each of the Phase 2 projects would have the potential to cause construction-related violations of water quality standards. Implementation of the proposed projects would involve excavation, grading, and other construction activities involving slope and soil disturbance at all locations that could impact water quality by increasing the potential for erosion and sedimentation. Slope and soil disturbance associated with construction activities may cause accelerated soil erosion and sedimentation and/or the release of pollutants to downstream properties and facilities that could impact water quality standards during construction. Most of the Phase 2 projects would be constructed in or adjacent to existing roadways and erosion potential would be limited. Post-construction, surfaces would be returned to previous conditions, limiting the potential for long-term erosion.

The Phase 2 projects would have a total disturbance area of approximately 3.37 acres. Each project would be funded, bid and constructed separately as discrete projects. Coverage under the State Water Resources Control Board (SWRCB) Construction General Permit is triggered by projects over one acre, so would not be applicable to each individual project. It is anticipated that two Phase 2 projects could be constructed per year and would still have a disturbance area that would not subject them to coverage under the Construction General Permit, as shown below. In the unlikely event that funding was obtained to include Phase 2 projects that resulted in more than one acre of disturbance, the District would comply with the Construction General Permit and file a Notice of Intent for coverage of the larger project. The Pine Grove project will likely require such coverage, but actual project disturbance will be determined at the design phase.

Distribution System	Approximate Pipeline Length (Linear Feet)	Approximate Disturbance Area (Acres)
Boggs	3,850	0.35
Bonanza Springs	9,500	0.87
CMWC	1,000	0.10
Pine Grove	12,100	1.11
Schwartz	4,620	0.42
Starview	5,610	0.52

As with Phase 1 projects, each Phase 2 project would include an erosion control plan to be prepared by the contractor that would be consistent with the Construction General Permit but not subject to reporting requirements. The Phase 2 tank rehabilitation projects would similarly fall under the threshold of the Construction General Permit but would have only minimal opportunity for soil erosion due to

the very limited scale of excavation occurring. The requirement of an erosion control plan would minimize the potential for erosion-related impacts to surface waters to the extent possible. Because the Phase 2 projects would comply with current regulations to limit erosion-related water quality impacts during and after construction, there would be no impact.

The potential for water quality impacts associated with stream crossings is assessed in the Biological Resources section.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Water has and will be provided by each system's independent water supply, as described in the Background section of this document. The Phase 2 projects are not growth inducing and would not increase existing water demands or increase demands on groundwater levels in the project area or elsewhere. The project does not introduce any significant impervious surfaces and would not substantially interfere with groundwater recharge or groundwater basin management. Any such impact would be less than significant.

Like the Phase 1 projects, the Phase 2 projects are intended to rectify existing distribution system deficiencies including leaks in the system. The reduction of leaks associated with the existing mains would reduce overall groundwater withdrawals from existing levels upon completion each of the Phase 2 projects. This is considered a beneficial impact to groundwater.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

c.i. result in a substantial erosion or siltation on- or off-site?

The Phase 2 projects would not substantially alter the existing area drainage at any of the project locations. As indicated in a.) above, the projects would comply with all permitting requirements to reduce the potential of erosion or siltation, consistent with regulations.

c.ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

The Phase 2 projects would not substantially alter the existing drainage pattern of the sites or areas or introduce new impervious surfaces that could substantially increase the rate or amount of surface runoff or result in flooding on- or off-site. As shown on Figure X-3, portions of several water main alignments, primarily the Pine Grove system, are within or adjacent to designated flood zones along Kelsey Creek. Due to the subterranean nature of water mains, they would not impede floodwaters that would increase on- or off-site flooding.

c.iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The Phase 2 projects would not significantly alter existing grades in the project area or introduce any significant impervious surfaces that would impact local stormwater systems or result in substantial additional sources of polluted runoff. There is currently no post-construction

stormwater treatment in the project area, and none is proposed by the project due to its subterranean nature and lack of significant new impervious surfaces.

c.iv. Would the project impede or redirect flows?

Most of the project area is not within a mapped 100-year flood hazard area, as shown on Figure X-4. As shown on Figure X-5, portions of several Phase 2 water main alignments are within or adjacent to designated flood zones but would not impact flows based on the subterranean nature of water mains. The project would not impede or redirect flows.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Most of the project area is not within a mapped 100-year flood hazard area. The project is not in an area subject to inundation by seiche, tsunami or mudflows.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Please see a.), above.

Cumulative Impacts

There are no adverse cumulative environmental impacts to hydrology/water quality resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to hydrology and water quality have been identified; therefore, no mitigation is required.

XI LAND USE & PLANNING

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project physically divide an established community?	□	□	□	■
b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	□	□	□	■

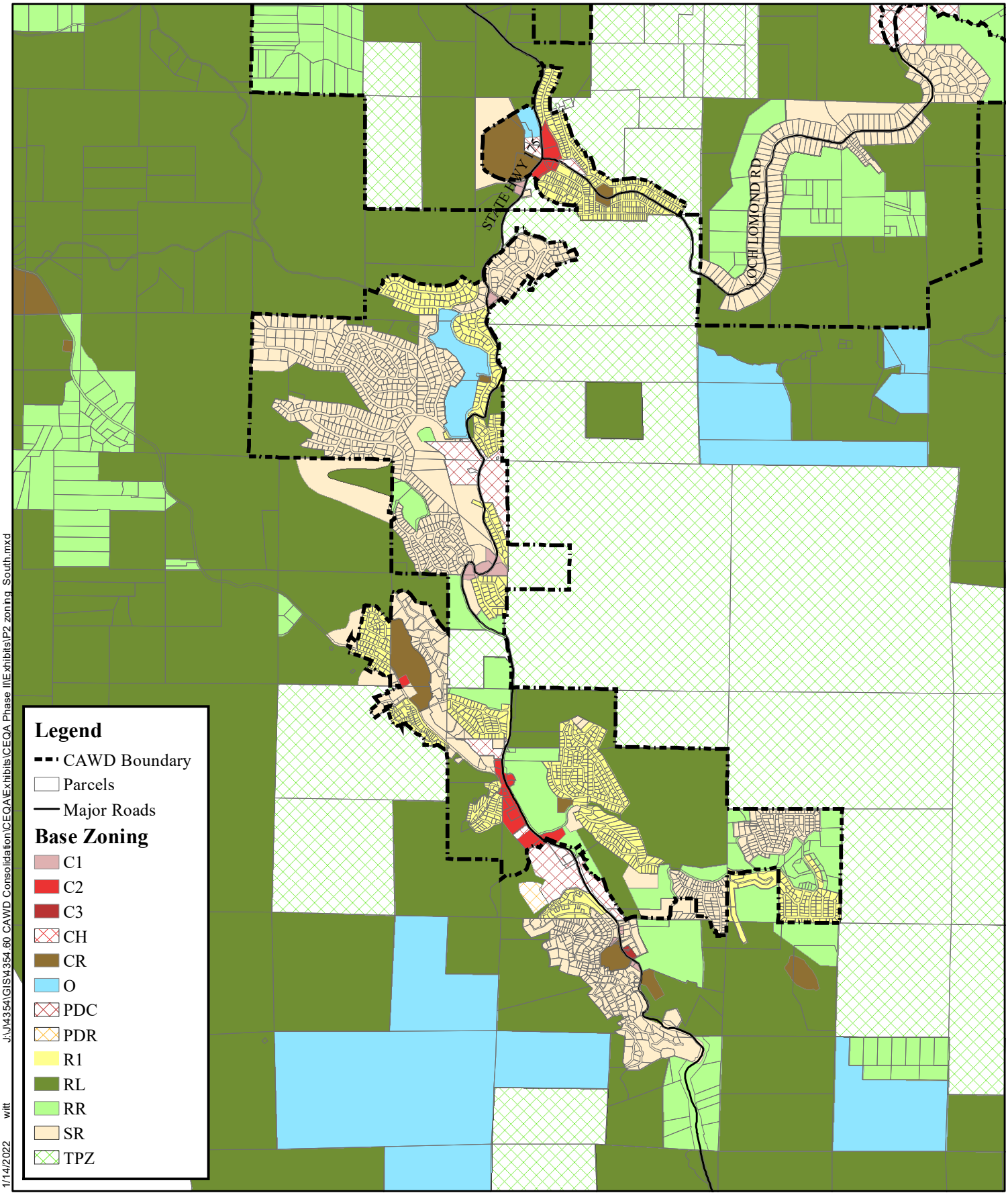
Development in the project area is governed by the County of Lake General Plan and zoning ordinance and the Cobb Mountain Area Plan[29]. Project area zoning includes the following designations, as shown on Figures XI-1 and XI-2:

A	Agricultural District
APZ	Agricultural Preserve District
C1	Local Commercial District
C2	Community Commercial District
C3	Service Commercial District
CH	Highway Commercial District
CR	Resort Commercial District
O	Open Space District
PDC	Planned Development Commercial District
PDR	Planned Development Residential District
R1	Single-Family Residential District
RL	Rural Lands District
RR	Rural Residential District
SR	Suburban Reserve District
TPZ	Timberland Preserve District

Large portions of the project area were destroyed in the 2015 Valley Fire, as shown on Figure 2. Those areas are in the continued process of rebuilding, even years later. The remainder of the project area is largely built-out with residential and limited commercial uses that were not destroyed.

In 2018, seven public water systems were consolidated with CACWD and one subdivision was annexed into the Service Area, resulting in CACWD as it is currently comprised. The consolidation process itself is a long-range process of incorporating the various water service areas into the CACWD, identification of system deficiencies, undergoing environmental review and project design and funding and constructing the projects.

[29] https://www.lakecountyca.gov/Assets/Departments/CDD/Area+Plans/Cobb+Mountain+Area+Plan.pdf?method=1



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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Zoning: Lake County GIS

NORTH

0 750 1,500 3,000 Feet

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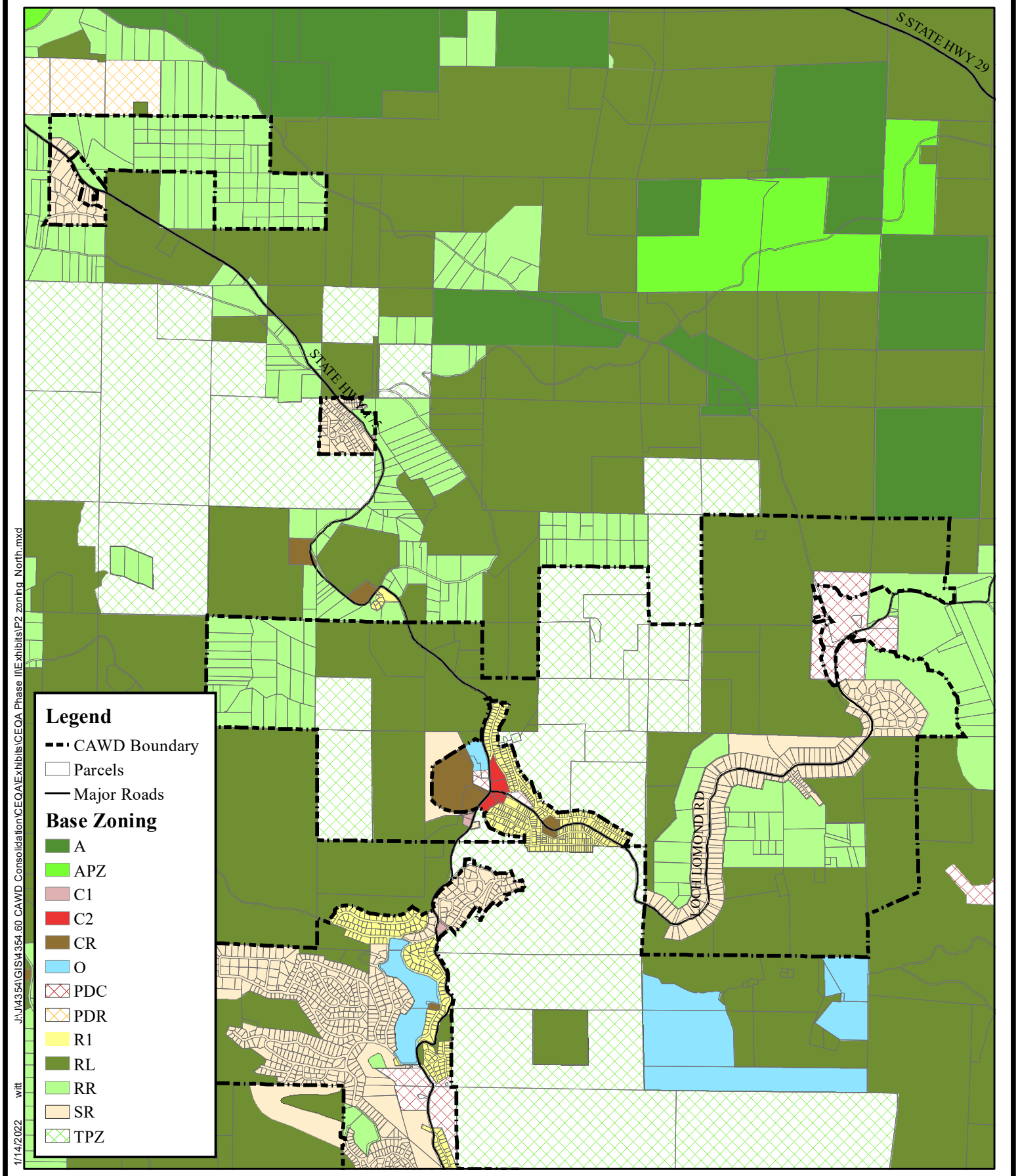
FIGURE XI-1
ZONING, SOUTH

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022



Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Zoning: Lake County GIS

NORTH

0 750 1,500 3,000 Feet

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FIGURE XI-2

ZONING, NORTH

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022

Analysis

a. Would the project physically divide an established community?

The project overall will not physically divide an established community. The Phase 1 and Phase 2 projects occur within existing roadways in a community largely in the continued process of rebuilding after the 2015 Valley Fire. The overall project would bring portions of the existing water systems up to current regulatory standards and assist CACWD in providing safe and reliable drinking water as well as expanding fire protection in the project areas. Roadways will be restored upon completion of the project. Implementation of the overall project would support the existing and rebuilding communities, a beneficial impact.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Neither the overall project nor Phase 2 would conflict with any applicable land use plan, policy or regulation. All project components occur within public right-of-way or on parcels owned (or to be acquired through easement) by CACWD. Water system uses are consistent with applicable planning policies and allow provision of public utilities to areas already built out.

Cumulative Impacts

There are no adverse cumulative environmental impacts to land use and planning resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to land use and planning have been identified; therefore, no mitigation is required.

XII MINERAL RESOURCES

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	□	□	□	■
b. Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	□	□	□	■

Environmental Setting

Lake County is historically known for quicksilver mining operations that occurred in the 19th and 20th Centuries. Gold was also a mineral that was mined in Lake County. The most notable quicksilver mine was the Sulphur Bank Mine located near Clearlake Oaks. This mine started operations in 1856 and was established to originally mine borax, but was then retooled to mine for sulfur. Mercury was mined intermittently from 1873 to 1957, when the mine ceased operations. The Sulphur Bank Mine is both a California Historical Landmark and a superfund site. More recently, the McLaughlin Gold Mine located east of the unincorporated community of Lower Lake and within both Lake and Napa Counties was operated by the Homestake Mining Company from 1985 until 1996.

There are no designated quarry resource areas or existing quarries in the project area contained in the Aggregate Resources Management Plan. The upper reach of Kelsey Creek downstream of Highway 175 to Glenbrook (partially within the CACWD) was assessed in the Aggregate Resources Management Plan (Plates UK1 and UK2)[30]. No mineral resources are currently mapped within the project area in the General Plan.

[30] *Lake County Aggregate Resources Management Plan*. County of Lake. November 19, 1992.

Analysis

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The Phase 2 project sites do not include any designated mineral resource that would be of value to the region and the residents of the state. The project would not affect the availability of any such resource.

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

The overall project area is not delineated in the County's General Plan or the Aggregate Resource Management Plan as a locally important mineral resource recovery site. The Aggregate Resource Management Plan indicates that gravel mining in Upper Kelsey Creek shall not occur except for permitted gravel mining operations of less than 1,000 cubic yards specifically related to habitat restoration or flood or erosion control. While portions of the CMWD and Pine Grove distribution projects are near Kelsey Creek, neither would have any impact to those potential activities.

Cumulative Impacts

There are no adverse cumulative environmental impacts to mineral resources resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to mineral resources have been identified; therefore, no mitigation is required.

XIII NOISE

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	□	■	□	□
b. Would the project result in generation of excessive ground borne vibration or ground borne noise levels?	□	□	□	■
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	□	□	□	■

Environmental Setting

This section includes a description of the terminology and concepts related to noise and vibration impacts that are considered in the analysis. This section also includes a discussion of the existing environmental conditions related to noise-sensitive receptors and ambient conditions found in rural areas such as the project vicinity.

NOISE-SENSITIVE USES

Noise-sensitive land uses in the project area are nearby single-family residences. There are residential uses located near or adjacent to all the proposed project locations.

NOISE CONDITIONS

Existing ambient sound levels in the project area can be considered typical of a rural residential environment. Sources of noise in the area come primarily from traffic along local two-lane roadways and Highway 175. These sound levels typically range from 40 to 50 dBA on private residential properties though traffic can cause temporary exceedances of those levels.

CONSTRUCTION NOISE

The types of equipment that would be used to construct the proposed pipeline include asphalt/concrete trucks, backhoes, compactors, compressors, 10-wheel dump trucks, tracked excavators, forklifts, front-end loaders, jackhammers, paving equipment, flat-bed delivery trucks (pickup trucks), and water trucks.

The table below presents the typical noise levels for the construction equipment listed above based on a worst-case scenario including several pieces of the loudest equipment (running simultaneously). This includes the typical measured A-weighted Lmax noise levels (maximum noise level) that would occur at a 50-foot

distance from the construction site. The acoustical use factor is the fraction of time that the equipment would typically be in use over a 1-hour period.

Equipment	Acoustical Use Factor	Typical Noise Level (Lmax)[1]
Asphalt/Concrete Truck[2]	40%	76
Backhoe	40%	78
Compactor	20%	83
Compressor	40%	78
Crane	16%	81
Dump Truck	40%	76
Excavator	40%	81
Forklift[3]	40%	75
Front-End Loader	40%	79
Jackhammer	20%	89
Paver	50%	77
Pickup Truck	40%	75
Roller	20%	80
Water Truck[2]	40%	76

Source: Federal Highway Administration 2006

[1] dBA, A-weighted decibel level (measured at 50 feet)

[2] Based on data for dump truck

[3] Based on data for pickup truck

OPERATIONAL NOISE

During operation, the proposed project would not create noise that would be audible. Water mains would be installed below ground and do not emit noise. Tank improvements and pressure relief valves similarly do not result in noise generation.

Regulatory Setting

LOCAL REGULATIONS

Lake County General Plan Noise Exposure Limits

In accordance with the State Guidelines for General Plans, the Lake County General Plan provides guidance for the acceptability of projects within specific noise level criteria. Noise associated with construction activities occurring between 7:00 a.m. and 7:00 p.m. are exempted from the provisions of the Lake County noise ordinance.

Analysis

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The Phase 2 projects would not result in any significant long-term increases in noise levels in the project vicinity. None of the project components are operationally associated with noise generation. New and replacement water mains would be located below ground and do not create noise. Existing tank

improvements would be passive, related to piping and appurtenances, and would not create new sources of noise.

Homes in the project vicinities would be subject to construction-related noise while construction is occurring in their proximity. It is anticipated that the pipeline construction would average approximately 150 to 300 feet per day so no one location would be impacted by construction noise for more than a few days at a time. Provided the general construction activities (as defined by the County's noise ordinance) occur between 7:00 a.m. and 7:00 p.m., there would be no statutory noise impact related to general construction activities along the pipeline installation routes or tank site improvement locations. Implementation of Mitigation Measure N1 would further reduce construction-related noise.

b. Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Implementation of the Phase 2 projects would not result in the exposure of people to or the generation of ground borne vibration or noise levels. No pile driving, blasting or similar construction techniques that would generate such vibration are required for the Phase 2 projects.

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

There are no active public use airports within two miles of the project area. The Paul Hoberg Airport was a private airstrip to the east of Seigler Springs, but it is not operational. The project would not alter the existing noise environment resulting from air traffic.

Cumulative Impacts

There are no adverse cumulative environmental impacts to noise resulting from implementation of the proposed project.

Mitigation Measures

N1

The following measures shall be implemented at the construction site to reduce the effects of construction noise on adjacent residences:

- Noise-generating activities at the construction sites or in areas adjacent to the construction sites associated with the project in any way shall generally be restricted to the hours of 7:00 a.m. to 7:00 p.m.
- Equip all internal combustion engine driven equipment with intake and exhaust mufflers which are in good condition and appropriate for the equipment.
- Unnecessary idling of internal combustion engines shall be strictly prohibited.
- Staging of construction equipment and all stationary noise-generating construction equipment, such as air compressors and portable power generators, shall be staged as far as practical from existing noise sensitive receptors.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- Control noise from construction workers' radios to the point where radio noise is not audible at existing residents bordering the project site.
- Notify adjacent residents to the project site of the construction schedule in writing.

XIV POPULATION & HOUSING

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	□	□	□	■
b. Would the project displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	□	□	□	■

Environmental Setting

Population growth in the project area is planned for and regulated by the County's General Plan and zoning ordinance. The Valley Fire destroyed portions of the project area and the CACWD. The CACWD (post consolidation) had approximately 1,244 connections before the fire. As of January 2022, CACWD provided water service to 1,000 connections, including those destroyed homes or businesses that have rebuilt. There are approximately 244 connections that existed prior to the fire that have not been reestablished. Service connections can be residential or commercial. Some service connections serve more than one residence on a parcel (second unit, granny unit).

Analysis

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The project would not induce population growth. All of the water systems that were consolidated into CACWD already provide water service to existing customers. The overall project is intended to bring those existing water systems up to current regulations and provide safe and reliable water service.

The approximately 244 service connections that have not been reestablished since the Valley Fire (down from 313 in the Phase 1 CEQA documentation) are not representative of unplanned population growth as they would not be new homes or businesses. Rather, they would be rebuilt to pre-fire development levels. Structures to be rebuilt would be subject to County zoning, planning, and building codes. The CACWD is currently obligated to provide water service to lots within its boundaries. Implementation of Phase 1 and Phase 2 projects does not increase existing service area size and will not facilitate growth.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No housing would be displaced by the project. The Phase 1 and Phase 2 projects are specifically intended to facilitate the long-term ability to provide the existing community with water service.

Cumulative Impacts

There are no adverse cumulative environmental impacts to population and housing resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to population and housing have been identified; therefore, no mitigation is required.

XV PUBLIC SERVICES

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	□	□	□	■
ii. Police protection?	□	□	□	■
iii. Schools?	□	□	□	■
iv. Parks?	□	□	□	■
v. Other public facilities?	□	□	□	■

Environmental Setting

The project area falls primarily within the jurisdiction of the South Lake County Fire Protection District (SLCFPD), which covers 285 square miles of commercial, residential, and wildland properties. The district is bounded by Napa County on the south, Sonoma County on the west, Kelseyville Fire Protection District on the north, and Lake County Fire Protection District on the northeast. The SLCFPD service area has a permanent population of 14,000, with a population of up to 31,000 in the summer tourist season. SLCFPD currently operates four fire stations located in the communities of Cobb, Hidden Valley Lake, Loch Lomond, and Middletown.

Police protection is provided by the Lake County Sheriff. The Sheriff's Office is in Lakeport. The Cobb/Loch Lomond area is patrolled as Beat 7B.

The southern portion of the CACWD is in the Middletown Unified School District and the northern portion is in the Kelseyville Unified School District. The Loch Lomond area is in the Konocti Unified School District. Cobb Mountain Elementary School, part of the Middletown Unified School District, is the only public school in the CACWD and is located at 15895 Hwy 175. Middle school and high school students attend school outside of the CACWD.

The nearest public parks operated by Lake County are located to the south in the community of Middletown. The 3,100-acre Boggs Mountain Demonstration State Forest is owned by CalFire and is located along the southeasterly boundary of the CACWD. The Valley Fire burned approximately 99 percent of the property and killed approximately 80 percent of the mature trees. The forest is currently open for day use but the trail system has not been restored. The Rob Roy golf course is privately owned and located in the community of Cobb.

Analysis

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a.i. Fire protection?

The overall project would not have any negative effect on fire protection services. The project does not alter above ground conditions or access to/from the project area. The Phase 1 and Phase 2 projects provide the benefit of increased water availability and a more resilient distribution system within the project area and provision of additional fire hydrants. These would be beneficial to fire protection.

a.ii. Police protection?

The Phase 2 project is intended to improve the existing water systems and is not growth inducing. The project would not alter demographics in the project area and would not impact police protection.

a.iii. Schools?

The Phase 2 projects are water system improvement projects, intended to serve the existing population. The projects would not be growth inducing and would not have a long-term impact to schools.

a.iv. Parks?

The Phase 2 projects would not impact any parks.

a.v. Other public facilities?

The Phase 2 projects would not impact other public facilities.

Cumulative Impacts

There are no adverse cumulative environmental impacts to public services resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to public services have been identified; therefore, no mitigation is required.

XVI RECREATION

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	□	□	□	■
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	□	□	□	■

Environmental Setting

The nearest public parks operated by Lake County are located to the south in the community of Middletown. The 3,100-acre Boggs Mountain Demonstration State Forest is owned by CalFire and is located along the southeasterly boundary of the CACWD. The forest is currently open for day use but the trail system has not been restored. The Rob Roy golf course is privately owned and located in the community of Cobb. Public lands that could be used for recreation are shown on Figure XVI-1.

Analysis

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The overall project would improve the existing water systems and neither phase would be growth inducing or increase use of regional parks or other recreational facilities. The Phase 2 projects would not impact any parks.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

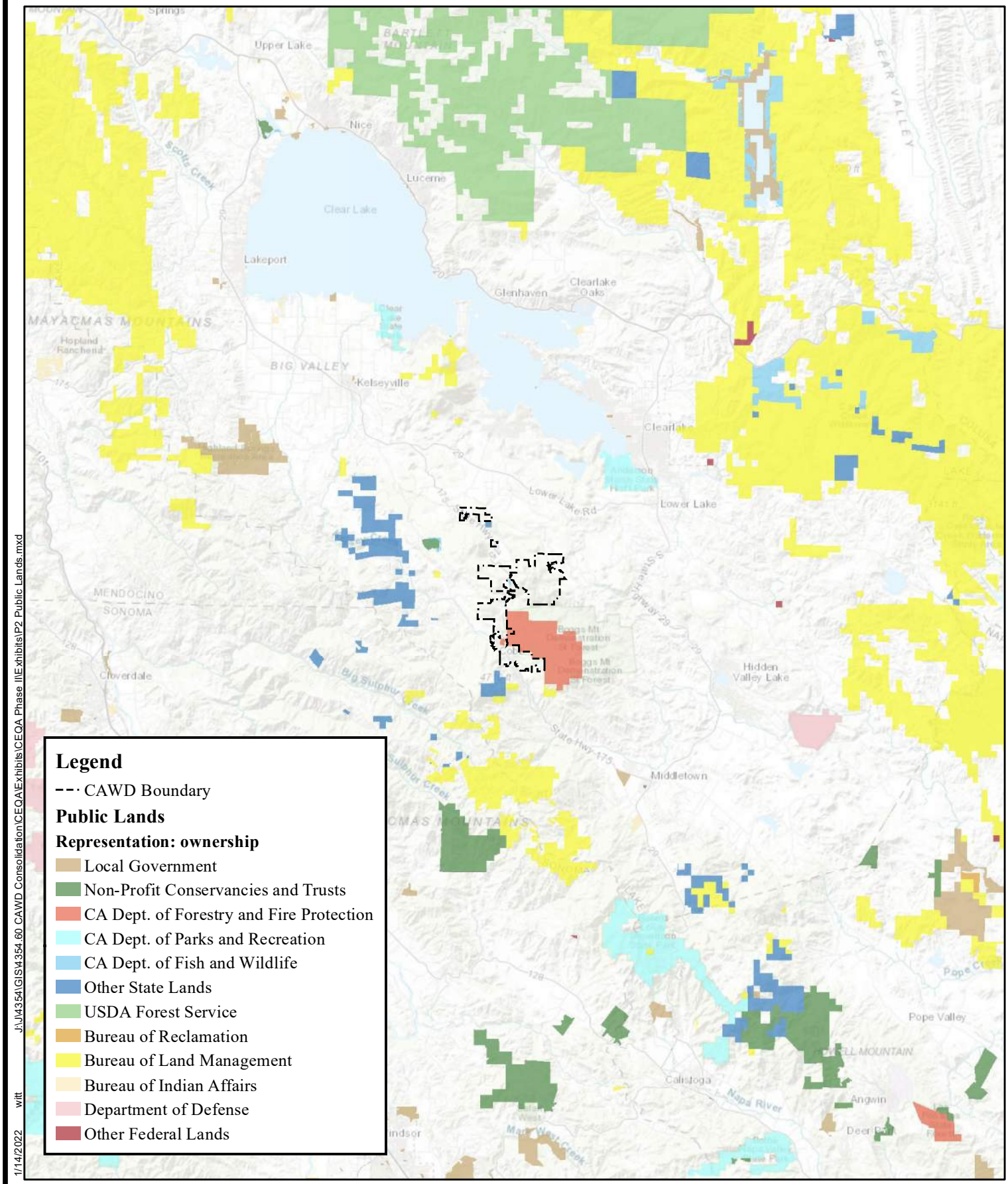
The Phase 2 projects do not include recreational facilities or alter such facilities in any way.

Cumulative Impacts

There are no adverse cumulative environmental impacts to recreation resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to recreation have been identified; therefore, no mitigation is required.



J:\JJ4354\GIS\4354.60 CAWD Consolidation\CEQA\Exhibits\CEQA Phase II\Exhibits\P2 Public Lands.mxd witt 1/14/2022

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Public Lands: CalFire (2017)

NORTH

0 1.25 2.5 5 Miles

Brelje & Race

FIGURE XVI-1

PUBLIC LANDS

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022

XVII TRANSPORTATION

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	□	□	□	■
b. Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	□	■	□	□
c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	□	□	□	■
d. Would the project result in inadequate emergency access?	□	■	□	□

Environmental Setting

The project area is in the Cobb Mountain area and Highway 175 is the major roadway through the community and provides access from Middletown to the South and Kelseyville to the North. Bottle Rock Road provides access to Glenbrook to the west and Loch Lomond Road/Seigler Canyon Road provides access to Lower Lake to the east. Internal roads provide access to individual residences within the community.

Lake Transit provides a bus route along Highway 175 (Route 2) from Kelseyville to Middletown[31]. No other alternative transportation exists in the project area. There are no sidewalks or official bike lanes.

Analysis

a. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The Phase 2 projects would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The Phase 2 projects would primarily be located within roadways but would not have a long-term impact on an applicable transportation plan, ordinance, or policy. All roadways would be restored once construction is completed.

[31] https://laketransit.org/routes-schedules/

b. Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

The project does not conflict with and is not inconsistent with CEQA Guidelines § 15064.3, subdivision (b). The Phase 2 projects would not increase vehicle trips to or from the project area. Where the projects would impact roadways, roadway surfaces would be restored to existing conditions or improved upon project completion. While areas in the CACWD are still in the rebuilding phase after destruction associated with the 2015 Valley Fire, such rebuilding is not associated with an increase in traffic above conditions existing before the fire. The proposed Phase 2 projects would not exacerbate traffic from rebuilding.

As with the Phase 1 projects, roadways would be impacted by short-term construction associated with Phase 2 water main construction. Construction would reduce access to vehicle, pedestrian, and bike traffic within those locations. Standard traffic control mitigation provided in TT1 would reduce these impacts and ensure traffic flow and access to driveways when active construction is not underway. Portions of the Pine Grove distribution system would be constructed in or adjacent to Highway 175 and require a Caltrans encroachment permit. Those portions would be subject to additional traffic control requirements, consistent with the encroachment permit.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Phase 2 projects would not increase design hazards. Road surfaces would be restored to existing conditions in the portions of the transmission main constructed in roadways. Encroachment permits from the County and Caltrans would ensure restored roadways do not increase hazards.

d. Would the project result in inadequate emergency access?

The Phase 2 projects would not have any long-term impact to emergency access since roadways would be restored to existing conditions. Construction in roadways could impact emergency response during construction. Mitigation Measure TT2 requires the contractor to maintain emergency access at all times and would reduce such impact to less than significant.

Cumulative Impacts

There are no adverse cumulative environmental impacts to transportation/traffic resulting from implementation of the proposed project.

Mitigation Measures

TT1

The contractor shall develop and submit an appropriate Traffic Control Plan (TCP) in accordance with the California Manual of Uniform Traffic Control Devices (MUTCD) for review and approval by the CACWD, County and Caltrans for all project elements that impact traffic circulation in respective jurisdictions. The TCP shall also include notifying adjacent businesses and residents of the construction schedule and when it will impact access. The TCP shall ensure thru traffic and temporary driveway access during periods where active construction is not taking place.

TT2

The contractor shall provide advanced notice regarding timing, location, and the duration of construction activities to local emergency responders. The contractor shall ensure emergency responders can always have access through construction areas located in roadways.

XVIII TRIBAL CULTURAL RESOURCES

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

REGULATORY SETTING

Assembly Bill 52 (AB52), the Native American Historic Resource Protection Act, sets forth a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. AB52 established a formal consultation process for California Native American Tribes to be conducted with the CEQA process. All projects that file a notice of intent to adopt a mitigated negative declaration after July 1, 2016, are subject to AB52 which added tribal cultural resources (TCR) protection under CEQA. A TCR is defined as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register, or included in a local register of historical resources. A Native American Tribe or the lead agency, supported by substantial evidence, may choose at its discretion to treat a resource as a TCR. AB52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation.

Analysis

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a.i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

As described in the Cultural Resources section, Tom Origer & Associates prepared a Cultural Resources Study[32] for the Phase 1 project and an Archival Study[33] for the entire project in April 2020. The Phase 2 projects were subject to an archival and field review in September 2021[34]. No new resources were identified in their filed investigation. Known resources were described in the Cultural Resources section and it was determined none were within the APE.

There is always the possibility of accidental discovery of historical resources during construction. In the event resources are discovered, mitigation measure CR1, contained in the Cultural Resources section, would reduce such impact to less than significant.

a.ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Known archaeological resources were described in the Cultural Resources section of this document and described in a.i.) above.

As part of the AB52 tribal consultation process, project information was sent via certified mail to the following tribes by the CACWD on October 12, 2021:

- Elem Indian Colony of Pomo Indians
- Koi Nation of Northern California
- Middletown Rancheria of Pomo Indians of California
- Mishewal-Wappo Tribe of Alexander Valley
- Big Valley Band of Pomo Indians

Except for the Mishewal-Wappo Tribe of Alexander Valley, receipt of mailing cards were received by October 25, 2021. A follow up call was made to the Mishewal-Wappo Tribe of Alexander Valley on November 8, 2021 but no response has been received. The consultation package was emailed to the Mishewal-Wappo Tribe of Alexander Valley on December 6, 2021. No responding requests for consultation have been received as of January 14, 2022.

[32] *Cultural Resources Study for the Cobb Area County Water District Improvements Project, Lake County, California*. Tom Origer & Associates. April 9, 2020.
[33] *Archival Study for the Cobb Area County Water District, Lake County, California*. Tom Origer & Associates. April 7, 2020.
[34] *Cultural Resources Study for the Cobb Area County Water District Improvements—Phase 2, Lake County, California*. Tom Origer & Associates. September 17, 2021.

During the Phase 1 CEQA review process, the Middletown Rancheria of Pomo Indians of California (Tribe) responded indicating the project falls in an area of cultural, historical, and religious significance to the Tribe and provided mitigation measures to ensure potential impacts to Tribal Cultural Resources were minimized to the extent practicable for Phase 1 projects. The CACWD included all requested mitigation measures, TCR1 through TCR5, below, for the Phase 1 projects. While no response has been received from the Phase 2 offer of consultation, it is appropriate to include those originally requested mitigation measures for Phase 2 projects, especially since the Phase 1 CEQA document examined Phase 2 projects at a program level. Mitigation measures TCR1 through TCR5 are therefore included for Phase 2 projects.

Cumulative Impacts

There are no adverse cumulative environmental impacts to tribal cultural resources resulting from implementation of the proposed project.

Mitigation Measures

Due to the possibility of unearthing tribal cultural resources which include, but is not limited to, Native American human remains, funerary objects, items or artifacts, sites, features, places, landscapes or object with cultural values to the Middletown Rancheria of Pomo Indians of California (Tribe), during ground disturbance activities, the following mitigation measures shall be incorporated into the project for preservation or mitigation of significant impacts to tribal cultural resources.

TCR1

Prior to initial ground disturbance, the applicant shall retain a project Tribal Cultural Advisor approved by the Tribe, to direct all mitigation measures related to tribal cultural resources.

TCR2

Ground disturbing activities occurring in conjunction with the project (including surveys, testing, concrete pilings, debris removal, rescrapes, punchlists, erosion control (mulching, waddles, hydroseeding, etc.), pot-holing or auguring, boring, grading, trenching, foundation work and other excavations or other ground disturbance involving the moving of dirt or rocks with heavy equipment or hand tools within the project area) shall be monitored on a full-time basis by qualified tribal monitor(s) approved by the Tribe. The tribal monitoring shall be supervised by the project Tribal Cultural Advisor. Tribal monitoring should be conducted by qualified tribal monitor(s) approved by the Tribe, who is defined as qualified individual(s) who has experience with identification, collection and treatment of tribal cultural resources of value to the Tribe. The duration and timing of the monitoring will be determined by the project Tribal Cultural Advisor. If the project Tribal Cultural Advisor determines that full-time monitoring is no longer warranted, he or she may recommend that tribal monitoring be reduced to periodic spot-checking or cease entirely. Tribal monitoring would be reinstated in the event of any new or unforeseen ground disturbances or discoveries.

TCR3

The project Tribal Cultural Advisor and tribal monitor(s) may halt ground disturbance activities in the immediate area of discovery when known or suspected tribal cultural resources are identified until further evaluation can be made in determining their significance and appropriate treatment or disposition. There must be at minimum one tribal monitor for every separate area of ground disturbance activity that is at least 30 meters or 100 feet apart unless otherwise agreed upon in writing between the Tribe and applicant.

Depending on the scope and schedule of ground disturbance activities of the project (e.g., discoveries of cultural resources or simultaneous activities in multiple locations that requires multiple tribal monitors, etc.) additional tribal monitors may be required on-site. If additional tribal monitors are needed, the Tribe shall be provided with a minimum of three (3) business days advance notice unless otherwise agreed upon between the Tribe and applicant. The on-site tribal monitoring shall end when the ground disturbance activities are completed, or when the project Tribal Cultural Advisor have indicated that the site has a low potential for tribal cultural resources.

TCR4

All on-site personnel of the Project shall receive adequate cultural resource sensitivity training approved by the project Tribal Cultural Advisor or his or her authorized designee prior to initiation of ground disturbance activities on the Project. The training must also address the potential for exposing subsurface resources and procedures if a potential resource is identified consistent. The Project applicant will coordinate with the Tribe on the cultural resource sensitivity training.

TCR5

The project applicant must meet and confer with the Tribe, at least 45 days prior to commencing ground disturbance activities on the project to address notification, protection, treatment, care and handling of tribal cultural resources potentially discovered or disturbed during ground disturbance activities of the project. All potential cultural resources unearthed by project activities shall be evaluated by the project Tribal Cultural Advisor. The Tribe must have an opportunity to inspect and determine the nature of the resource and the best course of action for avoidance, protection and/or treatment of tribal cultural resources to the extent permitted by law. If the resource is determined to be a tribal cultural resource of value to the Tribe, the Tribe will coordinate with the project applicant to establish appropriate treatment and disposition of the resources with appropriate dignity which may include reburial or preservation of the resources. The project applicant must facilitate and ensure that the determination of treatment and disposition by the Tribe is followed to the extent permitted by law. No laboratory studies, scientific analysis, curation, or video recording are permitted for tribal cultural resources without prior written consent of the Tribe.

XIX UTILITIES & SERVICE SYSTEMS

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	□	□	□	■
b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	□	□	□	■
c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	□	□	□	■
d. Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	□	□	□	■
e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	□	□	□	■

Environmental Setting

The CACWD currently provides water service to the project area. The major Lake County landfill is the South Lake Refuse and Recycling Center, located in the City of Clearlake, approximately ten miles northeast from the project area. Wastewater treatment in the project area is provided by individual septic systems. Electric power is provided by PG&E via above ground transmission. There is no natural gas distribution in the area.

Analysis

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The Phase 2 projects would not require or result in the relocation or construction of new or expanded wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. Phase 2 projects would include water system improvements in existing water service areas and are subject to environmental review in this document. The project would not be growth inducing and would not increase demand for utilities in the service areas.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The overall project is intended to improve the existing water systems that were consolidated into and now owned and operated by the CACWD. The Phase 1 and Phase 2 projects would not be growth inducing and would not increase demand for water. The Phase 2 projects would not include new water sources, and are primarily limited to transmission, treatment and storage improvements. Existing water supplies are sufficient to meet existing demands as well as pre-Valley Fire demands and no new entitlements are required. The Phase 1 and Phase 2 projects would reduce overall water demands in the CACWD by correcting existing leaks in the system that would be a benefit to overall water supplies, especially in dry and multiple dry years.

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The Phase 2 project would not alter the use of existing septic systems in the project area. No provision of municipal wastewater collection currently exists or is proposed within the project area.

d. Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

No increase in solid waste generation would occur associated with Phase 2 as the project would not increase solid waste demands or impair attainment of solid waste reduction goals. Any demolition materials or spoils would be processed according to state and local regulations.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

The project would comply with federal, state and local statutes and regulations related to solid waste.

Cumulative Impacts

There are no adverse cumulative environmental impacts to utilities and service systems resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to utilities and service systems have been identified; therefore, no mitigation is required.

XX WILDFIRE

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

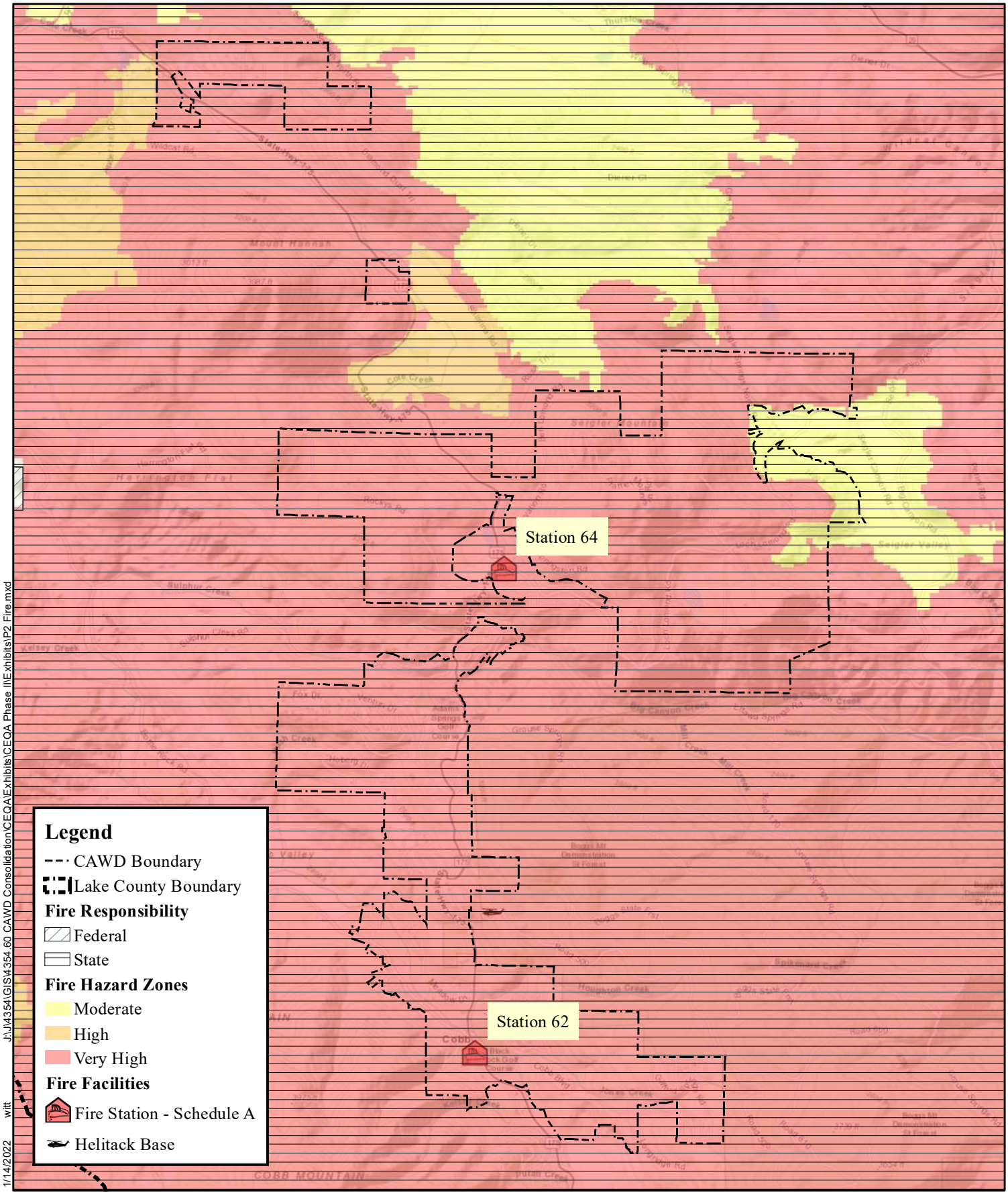
Environmental Setting

The project area is designated as a state fire responsibility area and is located almost entirely within a very high fire hazard zone, as shown on Figure XX-1. CalFire and the South Lake County Fire Protection District operates two fire stations near the project area and the Kelseyville Fire Protection District operates a fire station north of the CACWD. Cobb Station 62 is located at 16547 Hwy 175 and Loch Lomond Station 64 is located at 10331 Loch Lomond Road.

Lake County has been subject to multiple wildfires each year over the last several years. More than half of the county has burned since 2012. The Valley Fire destroyed large portions of the CACWD and the area continues to recover from that fire. Historic wildfires in the project area reported by CalFire since 2000 are listed below and shown on Figure XX-2.

Year	Fire Name	Acres
2000	Morgan	3,316
2000	Hidden Valley	3,960
2004	Geysers	12,244
2012	Wye	2,831
2013	McCabe	3,506
2015	Valley	76,084
2016	Sawmill	1,546
2016	Clayton	3,928
2017	Pocket	17,359
2017	Sulphur	2,206
2018	Mendocino Complex*	459,123
2020	LNU Lightning Complex*	1,032,649
*Multi-county		

The entire project area is included in the County's 2018 Lake County Emergency Operations Plan (currently being updated) and the Draft 2017 Lake Operational Area, Lake County Emergency Operations Plan, Urban and Wildland Interface Annex . Mutual aid and response agreements exist between all the local fire protection districts and are coordinated by the Office of Emergency Services during large-scale disasters, including wildfire.



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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Fire Hazard Zone: CalFire
Responsibility Area: CalFire

NORTH

0 1,000 2,000 4,000 Feet

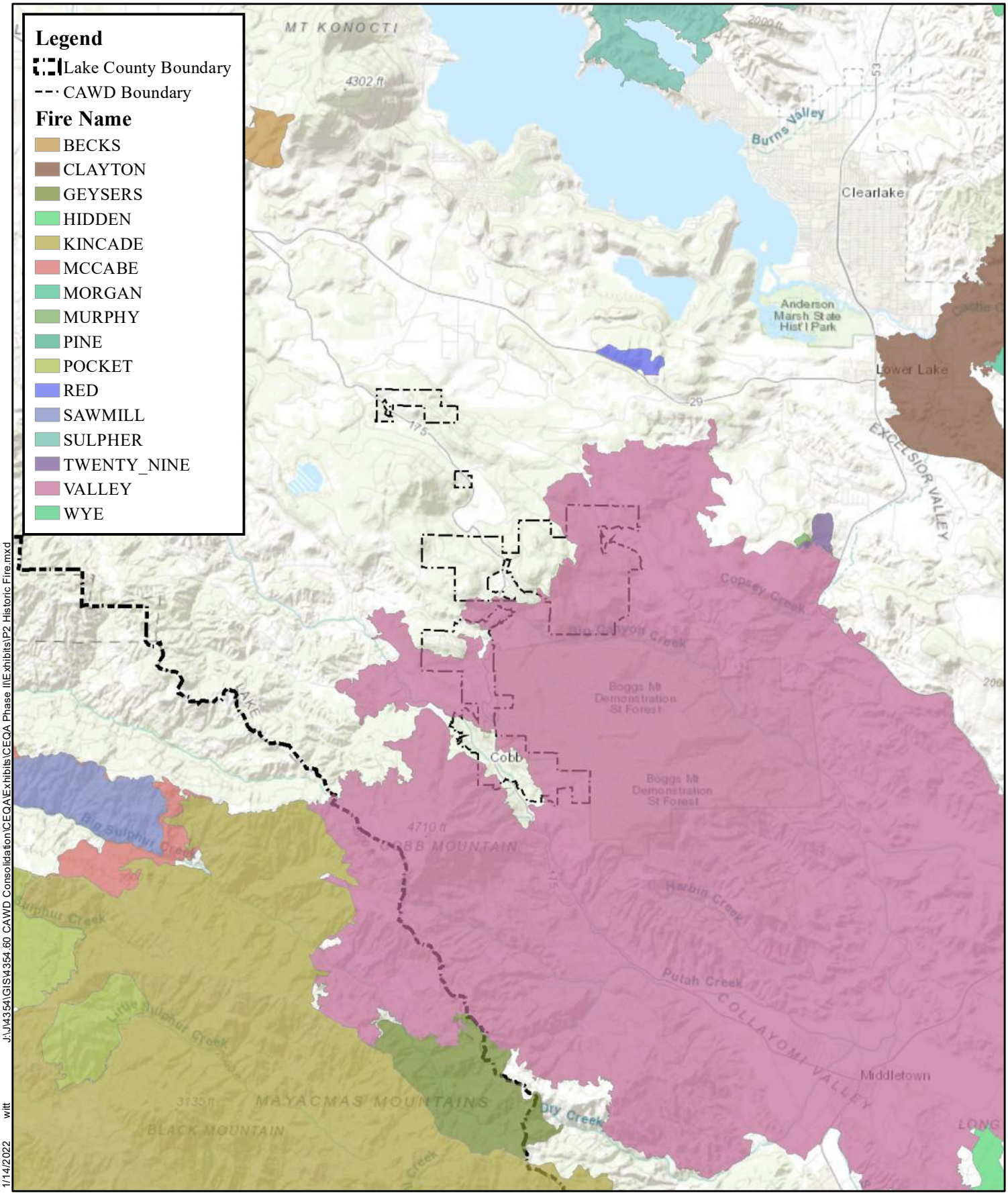
Brelje & Race

FIGURE XX-1

FIRE HAZARD ZONE

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022



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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Historic Fires: CalFire (2018)

NORTH

0 0.5 1 2 Miles

Brelje & Race

FIGURE XX-2
POST 2000 WILDFIRES OVER 100 ACRES

CAWD - CONSOLIDATION PHASE 2

JANUARY 2022

Analysis

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The Phase 2 projects would not substantially impair an adopted emergency response plan or emergency evacuation plan. The overall project would bolster water availability across the existing water service areas by improving water main reliability and increasing the number of available fire hydrants, improving firefighting capacities within the service acre. The Phase 2 project would not have any long-term impact to emergency access since roadways would be restored to existing conditions. Construction in roadways could impact emergency response during construction due to equipment or trenches reducing access. Mitigation Measure TT2, in the Transportation section, requires the contractor to maintain emergency access and would reduce such impact to less than significant.

b. Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The project modifies existing infrastructure and includes construction of below ground water mains to improve water service within the existing water service areas. The Phase 1 and Phase 2 projects would improve firefighting capacity by increasing water reliability through storage and distribution improvements and increasing water availability for firefighting via fire hydrants.

c. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The Phase 2 project would modify existing infrastructure, including construction of below ground water mains to improve water service within the existing water service areas. The project would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk. The project would improve firefighting ability by increasing water system reliability and water available via fire hydrants.

d. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The Phase 2 projects would not alter existing risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The project would increase firefighting capabilities in the area.

Cumulative Impacts

There are no adverse cumulative environmental impacts from wildfire resulting from implementation of the proposed project.

Mitigation Measures

Please see Mitigation Measure TT1 contained in the Traffic section.

XXI MANDATORY FINDINGS OF SIGNIFICANCE

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

With implementation of the mitigation measures provided in this document, the Phase 2 projects are not expected to have a significant adverse impact on the habitat of any plant or animal species, humans or historic or prehistoric resources. Furthermore, the project would not substantially degrade the environment or reduce the level of an endangered or otherwise important plant or animal population below self-sustaining levels. This impact is considered less than significant with incorporation of the proposed mitigation measures.

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Implementation of the proposed mitigation measures would reduce impacts to less than significant levels. Because no impact is considered to be individually significant, there would be no contribution to a significant cumulative effect and there are no similar projects in the project area that would result in cumulatively considerable effects. Therefore, this impact is less than significant with incorporation of the proposed mitigation measures.

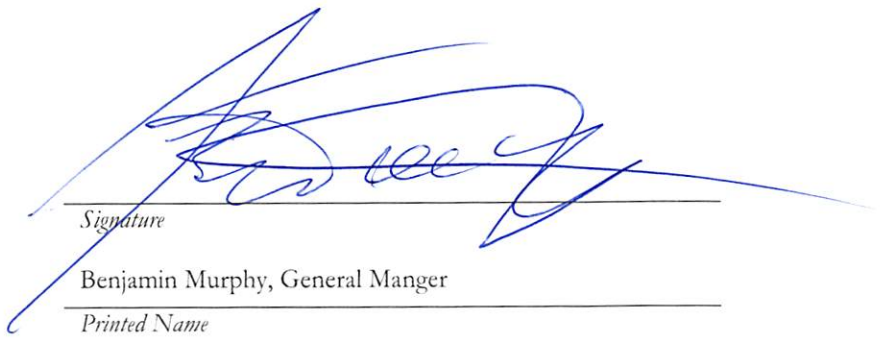
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The overall project is specifically intended to improve existing drinking water systems that serve the existing communities. With implementation of the mitigation measures provided in this document, the project is not expected to cause substantial adverse effects on human beings either directly or indirectly.

DETERMINATION

On the basis of this initial evaluation:

- □ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- □ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- □ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- □ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

1/19/2022

Date

Benjamin Murphy, General Manger

Printed Name

For:

Cobb Area Water District

DOCUMENT PREPARATION AND SOURCES

2018 Lake County Emergency Operations Plan. Office of Emergency Services. May 1, 2018.

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Lake County General Plan. Lake County Community Development Department. 2008.

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Lake County Community Development GIS.
http://www.lakecountyca.gov/Government/Directory/Community_Development/Planning/Maps_GIS.htm

Lake County Air Quality Management District

Lake County Important Farmland 2016. California Department of Conservation Farmland Mapping and Monitoring Program. 2016.

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Lake County Airport Land Use Compatibility Plan

Lake County Hazardous Waste Management Plan. 1989.

Lake County Environmental Health Division

Soil Survey. United States Department of Agriculture, Natural Resources Conservation Service. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Websites

http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/

https://www.energy.ca.gov/renewables/history.html

https://www.energy.ca.gov/2018_energypolicy/

https://www.energy.ca.gov/almanac/electricity_data/us_per_capita_electricity.html

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http://www.ecdms.energy.ca.gov/elecbycounty.aspx

https://www.lakecountyca.gov/Assets/Departments/CDD/Area+Plans/Cobb+Mountain+Area+Plan.pdf?method=1

https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2018/10-18_PowerContent.pdf

https://www.energy.ca.gov/2018publications/CEC-100-2018-001/Exec_Sumry_CEC-100-2018-001-V2-CMF.pdf

http://www.arb.ca.gov/desig/adm/adm.htm

https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_trends_00-14_20160617.pdf

Prepared by:

Justin Witt—Environmental Planner

APPENDIX A: MITIGATION MONITORING AND REPORTING PLAN

CACWD Consolidation Phase 2 Improvements
January 2022

Pursuant to Section 21081.6 of the State CEQA Guidelines[1], the mitigation measures listed in this Mitigation Monitoring and Reporting Plan (MMRP) are to be implemented as part of the proposed project. The MMRP identifies the time at which each mitigation measure is to be implemented and the person or entity responsible for implementation. The initials of the designated responsible person will indicate completion of their portion of the mitigation measure. The Cobb Area County Water District's (CACWD) General Manager's signature on the Certification of Compliance will indicate complete implementation of the MMRP.

The mitigation measures included in the MMRP are considered conditions of approval of the proposed project. The CACWD agrees to implement the mitigation measures proposed in the MMRP. Implementation of the mitigation measures included in the MMRP is expected to avoid, minimize, rectify, reduce, or compensate potentially significant impacts to a less than significant level.

The CACWD Consolidation Improvements project will be funded and constructed over several years and the CEQA review process was also phased. Phase 1 projects were assessed at a project level of review in 2020 and the Phase 2 projects were assessed at the program level at that time. Mitigation Measures for both phases are generally the same. This document contains all mitigation measures specific to Phase 2 projects.

TIME OF IMPLEMENTATION

Project Design:	The mitigation measure will be incorporated into the project conditions of approval prior to approving the project.
Preconstruction:	The mitigation measure will be implemented prior to construction.
Construction:	The mitigation measure will be implemented during construction.

RESPONSIBLE PERSONS AND DEPARTMENTS

The CACWD as Lead Agency will be responsible for ensuring overall implementation of the MMRP through oversight of the CACWD's compliance with the MMRP. The CACWD's General Manager will sign off on the mitigation measures included in the MMRP. Periodically, other CACWD staff, consultants or regulatory agencies will be involved in the implementation of specific mitigation measures. In these instances, the staff, department, or agency will be identified in the MMRP.

CERTIFICATION OF COMPLIANCE

The CACWD will be responsible for providing signatures on the Certification of Compliance. The Certification of Compliance is a double-check to ensure that the MMRP was fully implemented.

RECORD KEEPING

The CACWD's General Manager will maintain the records of the MMRP. When the MMRP is fully implemented, the original signed copy will be maintained by the CACWD.

1 California Code of Regulations Title 14.

CERTIFICATION OF COMPLIANCE

Complete the Certification of Compliance after mitigation measures have all been initialed. Use this Certification of Compliance to ensure the full implementation of each mitigation measure.

Project Design

The CACWD's General Manager has reviewed the project design, the plans, and the contract special provisions to verify that designated mitigation measures have been incorporated.

Signature & title Date

Preconstruction

The CACWD's General Manager has reviewed the project design, the plans, and the contract special provisions to verify that designated preconstruction mitigation measures have been implemented prior to commencing construction.

Signature & title Date

Construction

The CACWD's General Manager has verified that designated mitigation measures were implemented during construction.

Signature & title Date

AIR QUALITY

Mitigation Measure AQ1

The following Feasible Control Measures, as described by the Bay Area Air Quality Management District, shall be implemented during construction to minimize fugitive dust and emissions:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day or be covered.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed or stabilized as soon as possible. Building slabs shall be poured as soon as possible after grading unless seeding or soil binders are used to stabilize the pad.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
8. A publicly visible sign shall be posted with the telephone number and person to contact at the CACWD regarding dust complaints. This person shall respond and take corrective action within 48 hours. The LCAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials _____ Date _____

Construction: The CACWD's General Manager or construction inspector shall ensure that Mitigation Measure AQ1 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials _____ Date _____

BIOLOGICAL RESOURCES

Mitigation Measure BIO1

The following measures will avoid and/or mitigate for potential impacts to special-status plants due to vegetation removal at select locations:

1. A pre-construction plant survey should be performed in all locations where work will occur beyond the limits of the roadway or will require some vegetation removal to access. Surveys should be performed during the blooming period for each of the species, which can vary from year to year. To ensure coverage of the fifty-three species with potential to occur, surveys the year prior to construction activities are recommended to occur in February, May, and July.
2. If special status plants are found, they should be completely avoided; orange construction fencing should be placed around the plants to ensure impacts during activities do not occur. In the event a non-federal-listed plant cannot be completely avoided then a relocation or propagation plan must be prepared and implemented prior to activities in those areas or it may be salvaged and transplanted following work in that area (shrub or manzanitas only). Should federal listed species be found and be unavoidable, consultation with the U.S. Fish and Wildlife Service is necessary to determine appropriate permitting and compensatory mitigation. Avoidance, salvage/transplanting, or reseeding (propagation) will ensure no significant impacts to special status plants occur..

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the mitigation measure is implemented prior to commencing construction.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that the mitigation measure is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Mitigation Measure BIO2

To reduce potential impacts to bat species (western red bat, hoary bat, long eared myotis, and fringed myotis), the following mitigation measures shall be implemented.

1. Prior to activities in areas where bat roosts may be present and subject to disturbance during the maternity season between April and September, a qualified bat biologist shall perform a pre-construction roost survey (dusk emergence survey) no more than 10 days prior to the start of activities to avoid potential impacts to active maternity sites and/or pregnant females.
2. If a maternity roost is located whether solitary or colonial, that roost shall remain undisturbed until September 1 or until a qualified biologist has determined that the roost is no longer active. A no-disturbance buffer may be established around the roost at the direction of the biologist.
3. Tree removal may have the potential to impact non-maternity roosting bats that may be present. As such, any felled trees should be left overnight prior to removal from the site or on-site chipping to allow any bats to exit the roost.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the avoidance or preconstruction surveys are implemented prior to commencing construction.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that the mitigation measure is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Mitigation Measure BIO3

To avoid impacts to migratory nesting birds, bald eagle and purple martin, the following mitigation measures shall be implemented.

1. Tree removal and roadway construction should be initiated during the non-nesting season from September 1 to January 31.
2. If work cannot be initiated during this period, or if there is a break in activity lasting more than 14 days after February 1, then nesting bird surveys shall be performed within 500 feet of proposed activities.
3. If nests are found, a no-disturbance buffer shall be placed around the nest until young have fledged or the nest is determined to be no longer active by the biologist. The size of the buffer may be determined by the biologist based on species and proximity to activities; larger buffers up to 500 feet are recommended for special status raptor species.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the avoidance or preconstruction surveys are implemented prior to commencing construction.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that the mitigation measure is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Mitigation Measure BIO4

To avoid impacts to Northern Spotted Owl, the following mitigation measures shall be implemented.

1. All construction related activities, including tree removal and/or road construction (grading or paving) should be performed outside the nesting season for northern spotted owl in areas where it may occur (Starview). The nesting season for northern spotted owl is from March 15 to August 31. Alternatively, protocol-level surveys may be performed. A minimum of 6 surveys is required; alternatively, the applicant may apply for Section 2081 take coverage from the CDFW.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the avoidance or protocol level surveys and resulting recommendations are implemented prior to commencing construction.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that the mitigation measure is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Mitigation Measure BIO5

To reduce potential impacts to special-status amphibians and reptiles (California giant salamander, red-bellied newt, foothill yellow-legged frog, and western pond turtle), the following mitigation measures shall be applied.

1. A pre-construction survey for special status amphibians and reptiles shall be conducted within 48 hours of ground disturbing activities if within 100 meters (328 feet) of any aquatic habitat and outside existing hardscape area and/or private property. Surveys are to be conducted by approved qualified biologist with experience surveying for each species. If any species is found on the project site, it should be allowed to leave the area on its own. If the animal does not leave the area on its own, CDFW should be contacted. Non-listed species if found, may be relocated to suitable habitat outside the project Site.
2. Tightly woven fiber netting or similar material shall be used for erosion control or other purposes to ensure amphibian and reptile species do not get trapped. Plastic monofilament netting (erosion control matting), rolled erosion control products, or similar material should not be used. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
3. All over-water work shall be performed during the dry season, unless otherwise authorized by state issued permits.
4. If the stream contains standing or flowing water during the dry season, a catch basin shall be installed to prevent discharge of materials and/or equipment into the live waterway that may impact aquatic species.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the avoidance or preconstruction surveys are implemented prior to commencing construction.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that the mitigation measure is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Mitigation Measure BIO6

The following measures shall be implemented to avoid and/or mitigate potential direct and indirect impacts to wetland and non-wetland waters of the United States and their associated riparian habitat in the project area. Implementation of these measures will ensure impacts are less than significant.

1. Orange construction fencing shall be placed around all existing wetland, riparian and stream vegetation to avoid potential impacts to these sensitive vegetation communities during construction-related activities. Placement of exclusion fencing shall be performed under the direction of a biologist to ensure maximum avoidance of sensitive vegetation communities.
2. In addition to orange construction fencing, silt fence shall be installed and maintained between the work area and non-wetland waters of the United States located within fifty (50) feet to prevent any contaminants from entering the waterway.
3. Best management practices shall be employed including the preparation of spill prevention plan for work occurring within 100-feet of waterways to prevent discharge or spilling of materials or liquids into sensitive habitats.
4. If work occurs within the riparian corridor of Jones Creek and its tributaries and water mains cross these creeks either under existing bridges or culverts, both the CVRWQCB and CDFW shall be notified of any proposed improvements that will alter the beds and banks of any stream, will result in removal of any riparian vegetation, or for any grading or construction that would potentially result in a discharge of pollutants to waters of the State or Waters of the US. Permits would not be required for trenchless directional drilling if sensitive habitat is completely avoided.
5. To the extent feasible, all work within the riparian corridor should be performed outside the rainy season, in order to avoid and minimize any potential sediment discharges to receiving waters.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the recommended avoidance measures are implemented prior to commencing construction. If permits are required, the General Manager will verify that they are obtained prior to construction.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that mitigation measure and any resulting permit terms are being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

CULTURAL RESOURCES

Mitigation Measure CR1

The project plans and specifications shall provide that in the event prehistoric-era or historic-era archaeological site indicators are unearthed during the course of grading, excavation and/or trenching, all ground disturbing work in the 60 feet of the discovery shall cease and all exposed materials shall be left in place. After cessation of excavation, the contractor shall immediately contact the CACWD. The CACWD shall contact a qualified professional who meets the Secretary of the Interior's Standards for Archaeology and the requirements under 36 CFR 800.13 followed. Work shall not commence in the vicinity of the inadvertent discovery until a qualified archaeologist completes a significance evaluation of the find(s) pursuant to Section 106 of the National Historic Preservation Act (36 CFR 60.4).

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the ESA and monitoring agreements are implemented prior to commencing construction.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that mitigation measure is implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Mitigation Measure CR2

If human remains are encountered during grading, excavation or trenching, all construction activity shall cease and the contractor shall immediately contact the CACWD and the Lake County Coroner's Office. If the remains are determined by the Coroner's Office to be of Native American origin, the Native American Heritage Commission shall be contacted and the procedures outlined in CEQA §15064.5 (d) and (e) shall be implemented by the CACWD or its designee.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that mitigation measure is implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

GEOLOGY & SOILS

Mitigation Measure GS1

The project plans and specifications shall provide that in the event paleontological site indicators are unearthed during the course of grading, excavation and/or trenching, all ground disturbing work in the vicinity of the discovery shall cease and all exposed materials shall be left in place. After cessation of excavation, the contractor shall immediately contact the CACWD. The CACWD shall contact a qualified professional geologist or paleontologist immediately after the find. Such consultant shall conduct an evaluation of significance of the site, and assess the necessity for mitigation. The contractor shall not resume construction activities until authorization to proceed is received from the CACWD.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that mitigation measure is implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

HAZARDS & HAZARDOUS MATERIALS

Mitigation Measure HM1
The contractor shall be required to follow the provisions of § 5163 through 5167 of the General Industry Safety Orders (California Code of Regulations, Title 8) to protect the project area from being contaminated by accidental release of any hazardous materials.

In general, the Contractor shall maintain awareness of potential signs of soil and groundwater contamination throughout the project limits and shall notify the CACWD immediately upon discovery of any potential soil or groundwater contamination.

If hazardous materials are encountered during construction or occur as a result of an accidental spill, the contractor shall halt construction immediately, notify the CACWD, and implement remediation in accordance with the project specifications and applicable requirements of the Regional Board. Disposal of all hazardous materials shall be in compliance with current California hazardous waste disposal laws.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that mitigation measure is implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

NOISE

Mitigation Measure N1

The following measures shall be implemented at the construction site to reduce the effects of construction noise on adjacent residences:

- Noise-generating activities at the construction sites or in areas adjacent to the construction sites associated with the project in any way shall generally be restricted to the hours of 7:00 a.m. to 7:00 p.m.
- Equip all internal combustion engine driven equipment with intake and exhaust mufflers which are in good condition and appropriate for the equipment.
- Unnecessary idling of internal combustion engines shall be strictly prohibited.
- Staging of construction equipment and all stationary noise-generating construction equipment, such as air compressors and portable power generators, shall be staged as far as practical from existing noise sensitive receptors.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- Control noise from construction workers' radios to the point where radio noise is not audible at existing residences bordering the project site.
- Notify adjacent residents to the project site of the construction schedule in writing.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the noticing is implemented prior to commencing construction.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that the mitigation measure is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

TRANSPORTATION

Mitigation Measure TT1

The contractor shall develop and submit an appropriate Traffic Control Plan (TCP) in accordance with the California Manual of Uniform Traffic Control Devices (MUTCD) for review and approval by the CACWD, County and Caltrans for all project elements that impact traffic circulation in respective jurisdictions. The TCP shall also include notifying adjacent businesses and residents of the construction schedule and when it will impact access. The TCP shall ensure thru traffic and temporary driveway access during periods where active construction is not taking place.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that the mitigation measure is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Mitigation Measure TT2

The contractor shall provide advanced notice regarding timing, location and the duration of construction activities to local emergency responders. The contractor shall ensure emergency responders can have access through construction areas in roadways at all times.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the noticing is implemented prior to commencing construction.

Initials Date

Construction: The CACWD's General Manager or construction inspector shall ensure that the mitigation measure is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

TRIBAL CULTURAL RESOURCES

Mitigation Measure TCR1

Prior to initial ground disturbance, the applicant shall retain a project Tribal Cultural Advisor approved by the Tribe, to direct all mitigation measures related to tribal cultural resources.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the Tribal Cultural Advisor is approved prior to commencing construction.

Initials Date

Construction: The CACWD's General Manager will follow the Tribal Cultural Advisor's direction pertaining to tribal cultural resources during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Mitigation Measure TCR2

Ground disturbing activities occurring in conjunction with the project (including surveys, testing, concrete pilings, debris removal, rescrapes, punchlists, erosion control (mulching, waddles, hydroseeding, etc.), pot-holing or auguring, boring, grading, trenching, foundation work and other excavations or other ground disturbance involving the moving of dirt or rocks with heavy equipment or hand tools within the project area) shall be monitored on a full-time basis by qualified tribal monitor(s) approved by the Tribe. The tribal monitoring shall be supervised by the project Tribal Cultural Advisor. Tribal monitoring should be conducted by qualified tribal monitor(s) approved by the Tribe, who is defined as qualified individual(s) who has experience with identification, collection and treatment of tribal cultural resources of value to the Tribe. The duration and timing of the monitoring will be determined by the project Tribal Cultural Advisor. If the project Tribal Cultural Advisor determines that full-time monitoring is no longer warranted, he or she may recommend that tribal monitoring be reduced to periodic spot-checking or cease entirely. Tribal monitoring would be reinstated in the event of any new or unforeseen ground disturbances or discoveries.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the Tribal Cultural Advisor is approved prior to commencing construction and provided with the construction schedule 45 days prior to construction.

Initials Date

Construction: The CACWD's General Manager will follow the Tribal Cultural Advisor's direction pertaining to tribal cultural resources during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Mitigation Measure TCR3

The project Tribal Cultural Advisor and tribal monitor(s) may halt ground disturbance activities in the immediate area of discovery when known or suspected tribal cultural resources are identified until further evaluation can be made in determining their significance and appropriate treatment or disposition. There must be at minimum one tribal monitor for every separate area of ground disturbance activity that is at least 30 meters or 100 feet apart unless otherwise agreed upon in writing between the Tribe and applicant. Depending on the scope and schedule of ground disturbance activities of the project (e.g., discoveries of cultural resources or simultaneous activities in multiple locations that requires multiple tribal monitors, etc.) additional tribal monitors may be required on-site. If additional tribal monitors are needed, the Tribe shall be provided with a minimum of three (3) business days advance notice unless otherwise agreed upon between the Tribe and applicant. The on-site tribal monitoring shall end when the ground disturbance activities are completed, or when the project Tribal Cultural Advisor have indicated that the site has a low potential for tribal cultural resources.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Construction: The CACWD's General Manager will follow the Tribal Cultural Advisor's direction pertaining to tribal cultural resources during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Mitigation Measure TCR4

All on-site personnel of the Project shall receive adequate cultural resource sensitivity training approved by the project Tribal Cultural Advisor or his or her authorized designee prior to initiation of ground disturbance activities on the Project. The training must also address the potential for exposing subsurface resources and procedures if a potential resource is identified consistent. The Project applicant will coordinate with the Tribe on the cultural resource sensitivity training.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that cultural resource sensitivity training has occurred prior to construction.

Initials Date

Mitigation Measure TCR5

The project applicant must meet and confer with the Tribe, at least 45 days prior to commencing ground disturbance activities on the project to address notification, protection, treatment, care and handling of tribal cultural resources potentially discovered or disturbed during ground disturbance activities of the project. All potential cultural resources unearthed by project activities shall be evaluated by the project Tribal Cultural Advisor. The Tribe must have an opportunity to inspect and determine the nature of the resource and the best course of action for avoidance, protection and/or treatment of tribal cultural resources to the extent permitted by law. If the resource is determined to be a tribal cultural resource of value to the Tribe, the Tribe will coordinate with the project applicant to establish appropriate treatment and disposition of the resources with appropriate dignity which may include reburial or preservation of the resources. The project applicant must facilitate and ensure that the determination of treatment and disposition by the Tribe is followed to the extent permitted by law. No laboratory studies, scientific analysis, curation, or video recording are permitted for tribal cultural resources without prior written consent of the Tribe.

Implementation & Monitoring

Project Design: The CACWD's General Manager will verify that the mitigation measure is incorporated into the project plans and specification prior to issuing final project approvals.

Initials Date

Preconstruction: The CACWD's General Manager will verify that the Tribal Cultural Advisor is approved prior to commencing construction and provided with the construction schedule 45 days prior to construction.

Initials Date

Construction: The CACWD's General Manager will follow the Tribal Cultural Advisor's direction pertaining to tribal cultural resources during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date