Sierra County Water Works District No. 1 P.O. Box 25 Calpine, CA 96124

SIERRA COUNTY (CALPINE) WATER WORKS DISTRICT NO. 1

Calpine Water System Improvements 2020 ENVIRONMENTAL INITIAL STUDY

December, 2019

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DRAFT

SIERRA COUNTY (CALPINE) WATER WORKS DISTRICT NO. 1 ENVIRONMENTAL INITIAL STUDY

- **1.** Project Title: Calpine Water System Improvement Project 2020
- 2. Lead Agency Name and Address:

Sierra County (Calpine) Water Works District No. 1 P.O. Box 25 Calpine, CA 96124

3. Contact Person and Phone Number:

James Murphy, Board Chairman 530 994-1076

4. Project Location:

Various Locations in the community of Calpine Calpine, Sierra County, CA

Township 21 North, Range 14 East Sections 17 and 20

Sierra County Assessor's Parcel Numbers:Existing Tank:012-180-044Existing Well No. 1:012-190-008

Proposed Tank:012-180-044 and 012-180-064Proposed Well:012-190-034Pipelines:Within County Roads

See Figure 1: "Calpine Water System Improvement Project 2020 Project Location Map."

5. Project Sponsor's Name and Address:

Sierra County (Calpine) Water Works District No. 1 P.O. Box 25 Calpine, CA 96124

6. General Plan Designation:

Rural Residential

7. Zoning:

R 2-5, Proposed Well Site R 5-10, Proposed New Tank Site



Figure 1

8. Description of Project:

Sierra County (Calpine) Waterworks District No. 1 or SCWWD1 proposes to carry out a project that is intended to help bring the system into compliance with State Waterworks Standards and add additional fire storage capacity to the water system. The proposed project will augment both the water district's domestic water source capacity and fire and domestic storage capacity. The project includes the construction of a new public water supply well, the addition of a 140,000 gallon welded steel water storage tank, the construction of new iron, manganese, and arsenic water treatment system and the construction of approximately 1600 ft of associated pipeline to connect the new well to the treatment system and the existing distribution system. The total area of disturbance includes approximately 0.5 acres.

Proposed pipeline will extend from the well location on Aspen Ct to the new treatment facility location. Pipeline will be located within or immediately adjacent to Aspen Ct and Main Street with an anticipated trench depth of 4 ft. Trench width is anticipated to be 24 inches.

The well and treatment system is expected to treat approximately 100 gpm. The well will be located near the end of Aspen Ct while the treatment plant will be located either adjacent to the existing Well #1 or on a vacant parcel located near the end of Main Street that the District would purchase. A small well building will be located in the vicinity of the proposed well to house controls and associated equipment. The new filtration system will include a new building to house filters and controls and an adjacent tank to collect and allow for the sedimentation and recycle of backwash water. The new water storage tank will be located adjacent to the existing 140,000 gallon tank. Anticipated depths of footings for the proposed structures will be less than 24 inches below existing ground surface.

The project will also include the acquisition of applicable parcels or easements to allow for construction of the various facilities. An easement will be purchased from the current land owner for purposes of the new well. For the treatment plant, the District will acquire land from an adjacent property owner in the form of a lot line adjustment. For the tank site, the District will acquire additional easement adjacent to the existing tank site which the District owns.

Each of the three sites will include tree removal and grading for pads of the new structures.

Access to the project will be by way of existing paved County roads. Project access will be from Hwy 89 along Main St to the specific project areas. Project staging will be within the footprints of the various construction sites such as adjacent to the existing tank, adjacent to Well #1, on the vacant parcel at the end of Main or adjacent to the proposed well site at the end of Aspen Ct. Other miscellaneous staging may take place along roads within the County Right of Way depending upon requirements of the County encroachment permit.

A. Project Purpose

The project will involve improvements to the existing water system in order to correct State Waterworks compliance violations and to add additional fire flow storage. The system currently utilizes two wells with a combined source capacity that does not keep up with maximum day demand. The addition of source capacity will prevent the potential depressurization of the water system during peak summer periods which could potentially put public health at greater risk. Both additional source capacity and additional storage capacity will provide increased fire flow capacity for the entire community. The project will assure provision of a safe and reliable source of drinking water in compliance with State Division of Drinking Water standards. The project as proposed will directly benefit all customers being served by the District in addition to providing fire suppression water that could be available for the surrounding community.

B. Background

i. Sierra County (Calpine) Water Works District No.1

The community of Calpine was originally built as a company facility of the Davies-Johnson Lumber Company in the early 1920's. Buildings were constructed to house, supply and entertain the company's workers. The community transferred from a company owned town to individual ownership in the late 1930's. The town currently comprises a Post Office, Community Hall, Fire Station, limited commercial buildings, and residential housing.

The community's water supply was Fletcher Creek until the 1980s, at which time the Surface Water Treatment Rule was implemented. In order to avoid extensive ongoing treatment of the surface water, wells were drilled to provide a potable water source for the community

ii. Existing Facilities

The Calpine water system includes approximately 147 connections serving about 250 residents. The distribution system comprises asbestos cement and steel pipe in a grid pattern throughout the community. The distribution system pipes range in size from 1.5 to 8 inches in diameter. The current water system consist of 2 wells and a 140,000 gallon welded steel water storage tank. The system operates as one pressure zone, and does not have any booster pumps or pressure regulating valves. Operating pressures range from about 50 to 101 pounds per square inch (psi) during normal operating conditions. The locations of the existing tank and wells can be seen in Figure 1.

C. Project Characteristics

The proposed Calpine Water System Improvement Project includes improvements to an existing water system that will improve reliability and compliance with drinking water standards and available fire storage. The project includes the drilling of one new well, the construction of a new water storage tank, the installation of pipeline to connect the new well to the distribution system, and the construction of treatment facilities to treat the well water for iron, manganese and arsenic. Locations of proposed new system improvements are shown on Figure 2, Location of Existing Facilities.

The project shall include:

i. New Water Storage Tank

A new 140,000 gallon welded steel water storage tank will be installed adjacent to the existing water storage tank. The footprint of the new tank will be primarily within areas previously disturbed during the construction of the original tank. The construction of the tank will require grading for the tank pad, construction of a tank foundation, the fabrication of the tank, and the connection of the tank to the pipeline leading to the distribution system.

The existing is on a small parcel that is owned by the District. The proposed new tank will be adjacent to the existing tank parcel but on an easement obtained from the adjacent land owner.

ii. New Well and Treatment System

A new well and treatment system is to be constructed as part of the project. The well is to be located on a private parcel where a test well was previously constructed. An easement will be acquired from the property owner for purposes of constructing and operating the well.

The new treatment system will be constructed in a separate location with a connecting pipeline between the well and the treatment plant. The site for the treatment plant will either be purchased by the District, or an easement will be acquired. The the well and treatment system will include:

- Construction of a new well to a depth of approximately 600 ft
- Extension of a new electrical service to the well site
- Construction of well building for controls and above ground plumbing
- Construction of approximately 1600 ft of new pipeline and electrical conduit from the new well to the proposed treatment site.
- Construction of a new building to house water treatment equipment
- Installation of a water treatment system including pressure filters, valves and plumbing, chemical feed equipment, an exterior steel tank for backwash reclamation, pumping equipment and associated electrical and instrumentation.
- A back-up generator for the well.

iii. Area of Disturbance

The project is expected to include a total of approximately 0.5 acres of ground disturbance as calculated below:

Water Storage Tank (100ft x 100ft) Pipelines (1600 I.f. x 5 ft.) <u>Well Site and Building (50ft x 30ft)</u> Total Area of Disturbance 10000 square feet = 0.23 acres 8000 square feet = 0.20 acres 1500 square feet = 0.03 acres 18400 square feet = 0.46 acres

9. Alternatives to the Proposed Project

(Discuss alternatives to the proposed project and the associated environmental impacts.)

With respect to meeting the stated project goals of improving the existing water system in order to correct deficiencies in source capacity and storage, the following alternatives have been considered.

A. Alternative 1, - Proposed Project

Alternative 1 is the proposed project as described above. It involves the development of a new well (at the end of Aspen Ct) and the construction of a new water storage tank adjacent to the existing storage tank. A new well is expected to provide additional source capacity that can be combined with the other existing sources. An additional source will also increase the overall input to the system to as much as 200,000 gallons per day. A new water storage tank would add additional storage to account for population growth and would provide additional fire storage. There will be potential environmental impacts associated with the construction of the new water storage tank, the development of a new well, the construction of the treatment facility and the addition of new pipeline.

B. Alternative 2, - Recondition Well No. 2 and Construct New Storage Tank

Alternative 2 considers the rehabilitation of well # 2 to increase the overall system source capacity rather than constructing a new well. Well rehabilitation is hoped to increase production but is not a guarantee. This, in conjunction with a new pump and controls is hoped to, at a minimum, secure production at rates higher than average use throughout the year. The potential for environmental impact with this alternative would be associated only with the construction of the new water storage tank since reconditioning of the existing well would require no ground disturbance or new facilities.

C. Alternative 3, - Surface Water Treatment and New Water Storage Tank

Alternative 3 reconsiders the use of surface water for the domestic water supply for Calpine. Rather than refurbishing an existing well or constructing a new one, this alternative focuses on the existing water rights and the available supply in Fletcher Creek. Since surface water is rarely associated with arsenic contamination, this alternative could be considered the most aggressive at confronting arsenic concerns. Treatment of water from Fletcher Creek could potentially be

accomplished through a slow sand filter or a membrane filtration system and transported to the distribution network on the west end of Main St. A component of this project would require the construction of a new 4" raw water pipeline that would bring water from the point where the old pipeline is disconnected from the system to the point of treatment. The potential for environmental impact with this alternative would be associated with the construction of the new water storage tank, the construction of a treatment system for the surface water, and the trenching for a new pipeline.

A significant disadvantage with this alternative include concerns that the project objectives may not be met since the reliability of Fletcher Creek during drought periods is in question.

D. Alternative 4, - New Well and Construct Water Tank in New Location

Alternative 4 would differ from other alternatives in that it would involve the construction of the new water storage tank in a location separate from the existing tank. This alternative would likely have greater environmental impacts when compared to constructing the tank adjacent to the existing due to the increased ground disturbance in previously undisturbed areas. Impacts would result from a new tank site, a new access road and a new pipeline from the tank to the distribution system. Since the new tank will have to be placed at the same elevation as the existing tank, suitable locations at this elevation are limited.

E. Alternative 5, New Well and Replace Existing Tank with Larger Tank

Alternative 5 would include the new well and treatment system but would include the removal of the existing water storage tank and replacement with a new larger tank that could provide for the desired storage volume. This alternative would have minimal difference in environmental impact in comparison to the proposed project, and the logistics of installing the tank would be difficult. The system currently only has one storage tank so if that tank needs to be taken out of service for inspection or maintenance the system is without water storage. If there are two tanks in the system one can be taken out of service with minimal impact to water customers. This alternative would eliminate the significant benefit that will come from having multiple tanks.

10. Other agencies whose approval is required (and permits needed):

- **A.** California State Water Resources Control Board, Division of Drinking Water (Permit Amendment)
- B. County of Sierra, Department of Public Works (Encroachment Permit)
- **C.** State of California Department of Forestry and Fire Protection (Less than 3 acre Conversion Exemption Permit)

11. Environmental Setting of the Project:

The proposed project is located in the town of Calpine, California (Figure 1). It is located

on the eastern slopes of the Sierra Nevada Mountain range in Sierra County, California. Sierra County is bordered by Plumas and Lassen Counties to the north, Nevada County to the south, Yuba County to the west, and Washoe County, Nevada to the east. The community is approximately 35 miles north of the Tahoe/Donner/Truckee area and is surrounded on three sides by private lands. The Tahoe National Forest makes up the northern and part of the eastern limits of the community.

The Calpine water system is located near the edge of a major valley in the Sierra Nevada Range. Due to the abundance of pine trees in the area, the local area has been logged over the years and has served as a major source of timber. The area west of Calpine is within the Sierra-Tahoe National Forest and is utilized for both recreation and selected timber harvesting. The area east of Calpine is used for seasonal grazing and other agricultural purposes. The community of Calpine itself is a quiet residential area (the lodge being the only quasi-commercial facility). The mountain setting and large pine trees in town provide an aesthetic resource which residents value and appreciate.

Water system improvements will not significantly affect the land uses noted above. None of the existing or proposed water system facilities are located within wetlands, flood plains, stream crossings or known historical sites. Any necessary improvements would be adequately distanced and buffered from sensitive lands to prevent negative impacts. Impacts of any required improvements to forest land and/or range land are expected to be negligible.

The project ranges in elevation from approximately 5,160 feet at the tank and approximately 5,030 feet at the well.

The Project area is characterized by The Eastside Pine Alliance, dominated by Ponderosa Pine (Pinus ponderosa) or occasionally by Jeffrey Pine (P. jeffreyi). The north facing slopes that hold more moisture support Mixed Conifer species including White Fir (Abies concolor), Incense cedar (Calocedrus decurrens) lodgepole Pine (Pinus contorta var. murrayana), and red Fir (A. magnifica).

Dominant shrubs include bitterbrush (Purshia tridentata), mountain sagebrush (Artemisia tridentata var. vaseyana), manzanita (Arctostaphylos patula), and rabbitbrush (Ericameria nauseosa). Perennial forbs such as woolly mules-ears (Wyethia mollis) and balsamroot (Balsamorhiza spp.) occur on the forest floor.

The following pages include photographs of the various project features and their surrounding environments.



Figure 2: Proposed Well Site



Figure 3: Existing tank with proposed tank site to the right.



Figure 4: Proposed Treatment Plant Site (Next to Well 1)



Figure 5: Existing Well #1 Site

Environmental Factors Potentially Affected:

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

	Land Use and Planning	Transportation/Circulation	Public Services
	Population and Housing	Biological Resources	Utilities and Service
Sys	stems		
	Geophysical	Energy and Mineral Resources	Aesthetics
	Water	Hazards	Cultural Resources
	Air Quality	D Noise	Recreation
	Greenhouse Gas Emissions	Mandatory Findings of Significance	e 🛛 Agricultural Resources

Determination.

(To be completed by the Lead Agency.)

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 the mitigation measures described on the attached sheets have been added to the project. A 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 significant effect(s) 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

Wise, acting Chas Signature

12.14.19

Date

Salli Wise Printed Name <u>Sierra County Waterworks District No. 1</u> For

Evaluation of Environmental Impacts:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) "Potentially Significant Impact" is appropriate if an effect is significant or potentially significant, or if the lead agency lacks information to make a finding of insignificance. If there are one or more "Potentially Significant Impact" entries when the determination is made, EIR is required.

4) "Potentially Significant Unless Mitigated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact". The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses", may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). Earlier analyses are discussed in Section XVII at the end of the checklist.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). See the sample question below. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

7) This is only a suggested form, and lead agencies are free to use different ones.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS Would the proposal:				
a. Have a substantial adverse effect on a scenic vista?				×
b. Substantially damage scenic resources, including, but not limited to, tree, rock outcroppings, and historic buildings within a scenic state highway?				×
c. Substantially degrade the existing visual character or quality of the site and its natural surroundings?			×	
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				×

a., b., d., No Impact. The new water storage tank will be placed behind the existing tank and is located in a wooded area only visible to the adjacent home and from the tank access road. The new tank will involve the removal of some trees, but this will only be visible from the access road and by the adjacent neighbor. The well site will be visible to the adjacent homes, but generally will be unseen by the public. The project will not involve the removal of any rock outcroppings or historic buildings and is not within a scenic state highway. The project properties are not designated as a scenic vista and are not visible from any designated scenic highways or vistas.

c. Less Than Significant Impact The new treatment plant will be constructed along an existing road within a residential neighborhood where it will be visible by the residents of the area. The treatment plant will be adjacent to existing well facilities with a building style that will generally match the existing structures and other homes in the area.

Conclusions:

Impacts associated with aesthetics are considered less than significant.

Mitigation Measures:

No mitigation is required for the aesthetics section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
2. AGRICULTURAL AND FORESTRY RESOURCES Would the proposal:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?				×
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				×
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				×
d. Result in the loss of forest land or conversion of forest land to non-forest use?				×
e. Involve other changes in the existing environment which, due to their location or nature,				

environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to nonforest use?

Discussion of Checklist Answers:

a., b., c., d., e. No Impact. According to the Farmland Mapping and Monitoring Program of the California Resources Agency's California Important Farmland Finder, neither the community of Calpine nor any of the project improvement locations are within identified farmland areas. The project area is not zoned for agricultural use and does not include any land areas under Williamson Act contracts. The project does not conflict with timberland zoning and will not cause rezoning of any lands. The project will not result in any conversion of farmland to non-agricultural uses or forest land to nonforest use. The project will not have any affect on the suitability of the surrounding areas as a timber resource. The project will not affect any other forested areas or convert any areas to non-forest use.

Conclusions:

Impacts associated with agricultural and forestry resources are considered less than significant.

X

Mitigation Measures:

No mitigation is required for the agricultural and forestry resources section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
3. AIR QUALITY Where available, the significance criteria established by the applicable air quality management or pollution control district may be relied upon to make the following determinations. <i>Would the proposal:</i>				
a. Conflict with or obstruct implementation of the applicable air quality plan?				×
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			×	
c. 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			×	
d. Expose sensitive receptors to substantial pollutant concentrations?				×
e. Create objectionable odors affecting a substantial number of people?				×

Discussion of Checklist Answers:

a., d., e. No Impact. Once completed, the new well, treatment system, water storage tank, and pipelines will not generate any significant air pollutants or odors, and will require no additional vehicular traffic. System operators already visit the site for operation of existing facilities and the presence of new facilities should create no increased frequency of site visits.

b., c. Less Than Significant Impact. Sierra County is located within the Sacramento Federal Ozone Nonattainment Area (SFONA) -- an area where the air quality does not currently meet the federal 8-hour ozone standard. This standard was established by U.S. EPA as a requirement of the federal Clean Air Act to adopt standards for pollutants harmful to public health and the environment.

The Northern Sierra Air Quality Management District (NSAQMD) is responsible for the management of air quality in Sierra County, including the project area. It is the District's

position that any "nonattainment designation" based on the federal or state air quality standards is a significant air quality environmental issue since all sources in the area, including direct and indirect sources, contribute emissions that result in air quality deterioration. Therefore, the nonattainment status should be addressed in environmental documents within the CEQA process as a basis to establish thresholds of significance.

Since there will be no air emissions associated with the operation of the proposed project facilities once construction is complete, this analysis is focused on construction activities only. Emissions from project activities were estimated using the Road Construction Emissions Model, Version 8.1.0 software developed by the Sacramento Metropolitan Air Quality Management District. The table below shows estimated project air emissions along with thresholds of significance for modeled pollutants. As shown in the table, all projected project emissions are below the thresholds of significance specified by NSAQMD Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects (2009). Though, NOx is in the Level B threshold of significance it is still below the Level C threshold of significance. Therefore, no mitigation is required.

According to the Northern Sierra AQMD (Guidelines For Assessing and Mitigating Air Quality Impacts of Land Use Projects, 2009), thresholds of significance are based on a source's projected impacts and are a basis from which to apply mitigation measures. In setting these thresholds, the District considered the health-based air quality standards, strategies for attaining air quality standards, historical CEQA project review data in Sierra County, statewide regulations to achieve emission reduction targets for GHG, and Sierra County's special geographic and land use features.

			<u></u>		
Pollutant	Status (Attainment, Nonattainment, Unclassified, CARB, 2009)	Criteria Pollutant Thresholsds Contruction Phase (NSAQMD, 2009) (Lbs/Day)	Project Emissions (Lbs/Day)	Greenhouse Gas Threshold (NSAQMD, 2009) (MT CO2e/Yr)	Project Emissions (MT CO2e/Yr)
Reactive Organic Gases (ROG)	Unclassified	<24 Level A	3.08		
Carbon Monoxide(CO)	Unclassified		22.31	Net Vet	20.7
Oxides of Nitrogen (NOx)	Attainment	24-136 Level B	28.13	Established	32.7
Particulate Matter (PM ₁₀)	Non-attainment	<79 Level A	1.52		
Particulate Matter (PM _{2.5})	Unclassified		1.39		

Table 3.1Pollutant Status and Threshold of Significance

As shown in Table 3.1, estimated project emissions are below the threshold for the NSAQMD criteria pollutants.

PM-10 is also associated with dust generated during construction. The project will require some grading and excavation for the tank site, and pipeline construction. Dust created during grading and excavation could have a potential to create short-term air quality impacts. The NSAQMD has prepared recommendations for dust control measures for construction projects involving ground disturbance and vegetation removal. Although not required as a mitigation due to the threshold status of the project, the following recommendations will be included in the project Technical Specifications:

Recommended Dust Control Plan Conditions

For areas to be disturbed of any size, Rule 226, Dust Control, establishes standards to be met by activities generating fugitive dust. Minimum dust control requirements, summarized below, are to be initiated at the start and maintained throughout the duration of construction:

- 1. The applicant shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.
- 2. All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and causing a

public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily, with complete site coverage.

- 3. All areas with vehicle traffic shall be watered or have dust palliative applied as necessary for regular stabilization of dust emissions.
- 4. All on-site vehicle traffic shall be limited to a speed of 15 mph on unpaved roads.
- 5. All land clearing, grading, earth moving, or excavation activities on a project shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 mph.
- 6. All inactive portions of the development site shall be covered, seeded, or watered until a suitable cover is established. Alternatively, the applicant may apply County-approved nontoxic soil stabilizers (according to manufacturers specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with the local grading ordinance.
- 7. All material transported off-site shall be either sufficiently watered or securely covered to prevent public nuisance, and there must be a minimum of six (6) inches of freeboard in the bed of the transport vehicle.
- 8. Paved streets adjacent to the project shall be swept or washed at the end of each day, or more frequently if necessary, to remove excessive or visibly raised accumulations of dirt and/or mud which may have resulted from activities at the project site.
- 9. Prior to final occupancy, the applicant shall re-establish ground cover on the site through seeding and watering in accordance with the local grading ordinance.

Conclusions:

Impacts associated with air quality resources are considered less than significant.

Mitigation Measures:

No mitigation is required for the air quality section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES				
Would the proposal:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?		×		
b. Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				×
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means?				×
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native residents or migratory wildlife corridors or impede the use of native wildlife nursery sites?		×		
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				×
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local regional or state habitat conservation plan?				×

Response to questions:

(a): A Biological Assessment titled "Biological Evaluation/Biological Assessment for Plant and Animal Species for Calpine Tank and Well Projects" was prepared in support of the water system improvement project and is included as Attachment 1. The biological survey included a comprehensive assessment of the project areas and adjacent habitats including the proposed well site, potential water treatment plant sites, pipeline alignments and storage tank locations to determine the presence/absence of threatened, endangered, and/or other special-status species and for the potential for the project to have an adverse effect on such special-status species. The field survey was carried out on May 17, 2019.

A review of Threatened, Endangered, Candidate, and Proposed (TECP) species with potential to occur in the Project area was conducted using the U.S. Fish and Wildlife Service (USFWS) online consultation program IPAC (http://www.fws.gov/ipac/ 8 May and June 2019).

Although no Threatened, Endangered, Candidate, or Proposed plant species were identified on database searches, appropriate habitat for local species of concern were identified during field surveys and there are species of local concern in close proximity to the Project area.

For animals, the IPAC database suggested the following state-listed species may have potential to occur in or near the Project area:

Foothill yellow-legged frog (Rana boylii)- State candidate threatened

The Project area has no stream habitat to support this species. There is a lowprobability that activities associated with the Project will have effects on this species. Therefore, there will be no direct, indirect, or cumulative impacts to the foothill yellow legged frog.

Greater sandhill crane (Antigone canadensis tabida)- State Threatened

The Project area has no associated wetlands and is in a developed urban area and since sandhill crane habitat and known and expected locations of sandhill cranes are distant from proposed activities there would be no direct effects from the proposed activities. Therefore, there will be no direct, indirect, or cumulative impacts to the Sandhill crane

Great Grey owl (Strix nebulosi)- State Endangered

The proposed action area occurs exclusively within Jeffrey pine habitat types. There are no suitable old growth stands within the Project area, nor within a quarter mile analysis buffer. There are no meadows immediately adjacent to the proposed action area that would be considered suitable great gray owl foraging habitat. There are no old growth stands suitable for great grey owl nesting or roosting in the project area or within ¼ mile of the proposed project. Since there is no suitable habitat for nesting, roosting, or foraging great grey owls within or adjacent to Project there would be no direct or indirect effects to great grey owl or its habitat if the proposed action is implemented.

Conclusions of the report were that the proposed project would have no impact to any sensitive plant or animal species provided specific protection measures were implemented. Recommended protection measures are included in the mitigation measures discussed at the end of this Section.

(b)-(c): The project will not have a substantial adverse effect on any waters of the state or sensitive natural communities including riparian habitat identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS. The project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means.

Therefore, there would be **No Impact**.

(d): The project will not interfere with the movement of any native resident or migratory wildlife species or with established native residents or migratory wildlife corridors, or impede the use of native wildlife nursery sites. An understanding of the habitat requirements for species potentially utilizing the project areas were factors considered in the impact assessment.

While no sensitive species were observed, numerous raptor species could potentially nest in the vicinity of the project site prior to construction. Raptor nests are protected under the Migratory Bird Treaty Act (MBTA) and by Section 3503.5 of the California Fish and Game Code. Disturbing an active raptor nest would violate these statutes and would be considered a significant impact.

SCWWD1 will have a qualified biologist conduct a pre-construction raptor and migratory bird survey no earlier than two weeks prior to the initiation of construction activities or other site disturbances. Construction activities will not interfere substantially with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Should any raptors and/or migratory birds be observed prior to construction, SCWWD1 will immediately consult with the CDFW to obtain guidance on minimizing any potential impact such as establishing a buffer zone around any active nest. Any wildlife encountered during construction activities will be herded away from the project site.

Implementation of the mitigation measure outlined below will reduce potential impacts to a **Less Than Significant with Mitigation** level.

(e)-(f): The proposed project will not have a substantial adverse effect on any species identified as a rare, endangered, threatened, or other special-status species identified in local or regional plans, policies, or with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan regulations or by CDFW or USFWS or other approved local, regional, or state conservation plan. Any improvements within the project area will have no adverse impacts on sensitive biological resources.

Therefore, there would be **No Impact**.

Mitigation Measure(s) - The following mitigation measures shall be incorporated into

the project:

The Conservation Measures and Best Management Practices (BMPs) outlined below will avoid potential impacts to plant and/or wildlife and their habitats. Sierra County Waterworks District No. 1 has incorporated these Environmental Commitments and BMPs into the project design to minimize any water quality or biological impacts.

- SCWWD1 will have a qualified biologist conduct a pre-construction raptor and migratory bird survey during the nesting season no earlier than two weeks prior to the initiation of construction activities. Should any specialstatus birds be observed, SCWWD1 will immediately consult with the CDFW and USFWS to obtain guidance on minimizing any potential impact such as establishing a buffer zone around any active nest. Other specialstatus plant and animal species would be considered during the survey.
- Equipment used in the project will be clean of soil, seeds, vegetative material, or other debris that could contain or hold seeds of non-native invasive species.
- Proposed lay down sites will be located in disturbed or graded areas. All construction equipment and vehicular traffic will remain in graded areas and on the existing roadways.
- The amount of ground and vegetation disturbance in the construction areas will be minimized. All construction activities associated with the project will occur within the limits of the new well site, treatment facility, pipeline alignments and water storage tank in upland areas.
- Best Management Practices (BMPs) will be incorporated into the project plans and specifications. On completion of the work, all areas will be left in a condition that would allow recolonization of natural vegetation, provide for proper drainage, and prevent erosion.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES Would the proposal:				
 a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? 				×
 b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? 				×
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				×
d. Disturb any human remains, including those interred outside of formal cemeteries?				×

Setting:

A Cultural Resource Study titled "Sierra County Water Works District #1 (Calpine) Tank and Well Projects Cultural Resource Study" was prepared in support of the water system improvement project by Susan Lindström, Ph.D. (RPA), Consulting Archaeologist. Ms. Lindström conducted the prefield research, field survey and report preparation. She meets the Secretary of Interior's Professional Qualifications Standards (48 FR 44738-44739) for archaeology, history and related disciplines. She has 44 years of professional experience in regional prehistory and history, holds a doctoral degree in anthropology/archaeology and has maintained certification by the Register of Professional Archaeologists (RPA, former Society of Professional Archaeologists) since 1982.

Since the project is situated in Sierra County and is being carried out by a public agency the cultural resource study needs to comply with Sierra County mandates under the California Environmental Quality Act (CEQA Section 5024, Public Resource Code). The project is being partially funded through the Drinking Water State Revolving Fund (SRF) program, which is under the State Water Resources Control Board (SWRCB), with partial funding coming through U.S. Department of Agriculture (USDA) Rural Development. The SRF program involves federal money from the Environmental Protection Agency (EPA) that the SWRCB distributes, so the SWRCB requires CEQA environmental compliance plus some other federal statutes under the USDA including compliance for cultural resources under the National Historic Preservation Act of 1966 (as amended 16 USC§ 470 et seq.).

The Cultural Resources Study describes activities in the project vicinity during different historic periods. Time periods discussed in the report include the prehistoric period, Native American period and euroamerican. The report discusses activities performed including including extensive prefield research, Native American outreach and field research.

Response to questions:

a., b., c., d. No Impact.

Neither prefield research nor archaeological field survey identified any existing cultural resources within the project area. With the completion and submittal of the report, federal, state and county requirements for a cultural resource inventory have been accomplished. The report concludes that no further study or special operational constraints need be imposed upon the project sponsor.

Impacts (Finding of Effect)

The Cultural Resources Study concludes that in terms Section 106 guidelines, there will be no impacts to significant cultural resources identified within the project area and a finding of "no historic properties affected" is recommended, i.e., no properties are within the area of APE, including below the ground.

Native American Outreach

The Cultural Resources Study document outreach and correspondence with several tribes with potential connections to the region. No specific knowledge or concerns were expressed regarding the project area in any of the tribal communications.

Conclusions:

Impacts associated with cultural resources are considered less than significant.

Mitigation Measures:

No mitigation is required for the cultural resources section.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
		×	
		×	
		×	
		×	
		×	
		×	
			×
			×
	Potentially Significant Impact	Potentially Significant ImpactLess Than Significant with Mitigation Incorporated	Potentially Significant ImpactLess Than Significant with Mitigation IncorporatedLess Than Significant ImpactNorporated <td< td=""></td<>

d., e. No Impact. Locations of project improvements are associated with DLE-Delleker-Kyburz-Trojan soils which consist of sandy loam, sandy clay loam, loam, gravelly sandy loam, gravelly clay loam, weathered bedrock, and unweathered bedrock (Web Soil Survey, Sierra County, USDA NRCS). Soils in the project area are generally well drained. The USGS Swelling Clays Map of the Conterminous United States (USGS Miscellaneous Investigations Series Map I-1940, 1989) shows the Calpine region in an area described as "Unit contains little or no swelling clay." No expansive soils are anticipated to be encountered on the project. There is no septic tank or wastewater disposal anticipated in the project.

a., b., c. Less Than Significant Impact. There are no known faults in the Calpine

area, there are known faults in the Sierra County region(USGS Quaternary Fault and Fold Database for the United States, 2013).

The nearest identified faults to the project area are to the west of Calpine. The faults are located along the eastern side of the northern Sierra Nevada mountain range. According to California Geologic Survey, the region is of low earthquake shaking potential. These regions are distant from known, active faults and will experience lower levels of shaking less frequently. (California Geologic Survey, Earthquake Shaking Potential for California, 2003). There are no Fault-Rupture Hazard Zones near the project area (CGS Special Publication 42).

Permanent erosion control for all cut slopes, fill slopes, ditches, utility trenches, and all graded areas not protected with gravel or paving will consist of seeding, fertilizing and mulching. (See Section 7 of this Initial Study for additional discussion regarding erosion.) The organic top soil in all graded areas will be stripped and stockpiled and used as the top layers in fill areas.

Pipeline construction will involve excavation and backfill of trenches. As is standard with all construction projects of this type, trenching and backfill operations will include surface restoration either with paving, gravel, or other permanent erosion control measures.

Conclusions:

Impacts associated with geology and soils are considered less than significant.

Mitigation Measures:

No mitigation is required for the geology and soils section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
7. GREENHOUSE GAS EMISSIONS Would the proposal:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			×	
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			×	

a., b. Less Than Significant Impact. The proposed project will temporarily generate greenhouse gas emissions during the course of construction of the water system improvements. Construction activities would result in temporary short-term greenhouse gas emissions associated with vehicle trips from construction workers and operation of construction equipment. Greenhouse gases of primary concern include carbon dioxide (CO_2) , methane (CH_4) , and nitrous oxide (N_20) .

Road Construction Emissions Model, Version 8.1.0 software was used to estimate the greenhouse gas emissions during construction of the proposed project. The Northern Sierra Air Pollution Control District has not yet established significance thresholds for GHG emissions from project operations, therefore these construction related greenhouse gas emission estimates are for informational purposes. The most significant greenhouse gas emissions are generated as non-biogenic carbon dioxide. These are largely associated with burning fuels to run construction equipment and transport construction workers. Because of the relatively short duration of this project, impacts associated with greenhouse gas emissions and their potential contribution to global climate change are considered less than significant.

Conclusions:

Impacts associated with greenhouse gas emissions are considered less than significant.

Mitigation Measures:

No mitigation is required for the greenhouse gas emissions section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
8. HAZARDS AND HAZARDOUS MATERIALS Would the proposal:				
a. Create a significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous materials?				×
b. Create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			×	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one quarter mile of an existing or proposed school?				×
d. Be located on a site which is included on a list of hazardous materials sites compiled pusuant to Government Code Section 65962.5 and as a result, would it create a significant hazard to the public or the environment?				×
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				×
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				×
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				×
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residiences are intermixed with wildlands?				×

a., c., d., e., f., g., h. No Impact. None of the various project sites are listed as a hazardous materials site. The project does not propose a use or activity that involves hazardous materials. It is not located near any airports or schools. The project will not interfere with an adopted emergency response plan or evacuation plan. Because of its location, the project will not expose people or structures to wild land fire hazards, however, because of the nature of the project, the project will result in enhanced fire protection and suppression capabilities.

b. Less Than Significant Impact. During construction there is a risk of accidental release of hazardous substances such as fuel or oil from spillage. As with all projects of this type, implementation of Best Management Practices (BMP's) for Hazardous Waste Management including storage, containment, clean-up, and disposal to avoid potential accidental releases will be included in the contract specifications.

Conclusion:

Impacts associated with hazards and hazardous materials are considered less than significant.

Mitigation Measure:

No mitigation is required for the hazards and hazardous materials section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
9. HYDROLOGY AND WATER QUALITY Would the proposal:				
a. Violate any water quality standards or waste discharge requirements?			×	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net defecit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			×	
c. Substantially alter the existing drainage pattern of the site or area, including through the alternation of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			×	
d. Substantially alter the existing drainage pattern of the site or area, including through the alternation of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			×	
e. 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?			×	
f. Otherwise subtantially degrade water quality?				×
g. Place housing within a 100-year flood hazard area as mapped on a Federal Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				×
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				×
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				×

g., **h.**, **i. No Impact.** The project does not involve any structures within a 100-year flood hazard area. The project does not involve the construction of any levee or dam, therefore the project will not increase 100-year flood hazards or flooding risks as a

result of the failure of a levee or dam.

a., b., c., d., e., f. Less Than Significant Impact. There will be a modest increase (approximately 3,200 square feet) in the amount of impervious surface as a result of this project including the well, treatment system and tank site. This is considered a less than significant impact. Given the location, geology and depth of excavations associated with the project, construction of the underground utilities will not affect groundwater movement, quantity, or quality. Similarly, the project will not affect the amount, current, or course of any surface water.

The project will involve construction of one new well to provide additional domestic water to the Calpine system. This will be in addition to the existing wells currently in service. Based upon findings from the earlier constructed test well, the new well will have a capacity that is considerably less than the sustainable yield determined by the hydrogeologist.

Wells in Sierra Valley have encountered two aquifers: a shallow unconfined to semiconfined aquifer, typically less than 100 feet thick, but at places thicker, and a deeper confined aquifer which is the primary source of water to irrigation wells. The fine-grained lake deposits that overlie the confined aquifer range in thickness from about 200 to 400 feet and form an effective aquitard between the upper and loweraquifers. Many irrigation wells in Sierra Valley are drilled to 550 to 850 feet in depth in order to adequately penetrate the confined aquifer.

The new well for Calpine will be drilled in the deeper hard rock zone where yield is dependent upon the ability to find water bearing fractures. It is unclear due to the significant differences in geology, but based upon depth, this hard rock zone may be hydraulically connected to the deeper, confined, unconsolidated aquifer in Sierra Valley.

Construction activities required to implement the project could pose a threat of shortterm increases in erosion, sedimentation, and other types of construction-related water pollution. Because the project will not involve more than one acre of total disturbed area, a Stormwater General Construction Permit will be not required. Although a Stormwater Pollution Prevention Plan is not anticipated for this project, appropriate BMPs will be incorporated into the Plans and Specifications. Implementation of the associated BMPs will reduce potential temporary adverse effects to less than significant levels.

Conclusions:

Impacts associated with hydrology and water quality are considered less than significant.

Mitigation Measures:

No mitigation is required for the hydrology and water quality section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
10. LAND USE PLANNING				
Would the proposal:				
a. Physically divide an established community?				×
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or Land Use Code) adopted for the purpose of avoiding or mitigating an environmental effect?				×
c. Conflict with applicable habitat conservation plan or natural community conservation plan?				×
d. Affect agricultural resources or operations (e.g. impacts to soils or farmlands, or impacts from incompatible land uses)?				×

a., b., c., d. No Impact. This project involves the construction of water system facilities to provide continued water service within the Sierra County, Calpine service area. It will continue to provide drinking water and fire protection to the existing established community.

Land use planning for Calpine is regulated through the Sierra County General Plan. The area is included as one of the County's Community Plans. The General Plan Land Use is defined as Rural Residential. From the Land Use/Circulation Diagrams and Standards of the County's General Plan:

Rural Residential (RR)

This designation is applied to urban or urbanizing areas suitable for single-family residential neighborhoods, with individual homes on lots ranging in area from one acre to ten acres.

Typical land uses allowed include: one family dwelling, private automobile garage and/or carport, accessory buildings and uses, guest houses for non-commercial use, orchards, kennels for boarding and/or raising of household pets.

The Calpine project area has zoning designations of R-2-5, R 5-10 and F. which include Rural (with lot size noted) and Forest. Allowable uses in the region include single-family and multi-family uses, growing and harvesting of agricultural and forest products, grazing of livestock, and general farming.

The proposed Calpine Water System Improvement Project is consistent with the Goals and Policies of the Sierra County General Plan.

As an improvement to the existing water system, the project will not be in conflict with habitat conservation or natural community conservation plans.

Since there are no agricultural activities within the project area, there will be no affect on agricultural resources or operations.

Conclusions:

Impacts associated with land use and planning are considered less than significant.

Mitigation Measures:

No mitigation is required for the land use and planning section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
11. MINERAL RESOURCES Would the proposal:				
a. Result in the loss of availability of known mineral resources that would be of value to the region and the residents of the state?				×
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				×

a., b. No Impact. The project will involve the continued provision of drinking water to an existing community. There are no mineral resource locations or active or past producers of mineral resources in the project areas.

Conclusions:

Impacts associated with mineral resources are considered less than significant.

Mitigation Measures:

No mitigation is required for the mineral resources section.
Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
12. NOISE Would the proposal result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				×
b. Exposure of persons to or generation of excessive groundbourne vibration or groundborne noise levels?				×
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				×
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			×	
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 expose people residing or working in the project area to excessive noise levels?				×
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise				

Discussion of Checklist Answers:

a., b., c., e., f. No Impact. The General Plan Noise Element establishes maximum allowable noise levels for different types of land uses. Once completed, the project will produce no additional noise over the amount associated with the current operation of the water system, which are well within the County's allowable noise levels. The project site is not located within an airport land use or near a private or public airport.

d. Less Than Significant Impact. Temporary noise will occur during construction of the well, tank, and pipelines. This will include the use of heavy equipment such as excavators and backhoes, and smaller equipment such as generators, welders, and compressors. The Noise Element of the Sierra County General Plan does not include standards associated with the actual construction of a project.

Conclusions:

levels?

Impacts associated with noise are considered less than significant.

X

Mitigation Measures:

No mitigation measure is required for the noise section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
13. POPULATION AND HOUSING Would the proposal:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or infrastructure)?				×
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				×
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				×

Discussion of Checklist Answers:

a., b., c. No Impact. The purpose of the project is to provide an increase in potable water to the Calpine service area. The proposed improvements will increase capacity to accommodate additional infill development, however the project will not extend service into areas not already served by the system. Although the project could accommodate growth, it is not considered to either directly or indirectly induce growth since there is an ongoing expectation that water service has been and will continue to be available. The project will not displace any existing housing or people or affect the affordability of housing.

Conclusions:

Impacts associated with population and housing are considered less than significant.

Mitigation Measures:

No mitigation is required for the population and housing section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
14. PUBLIC SERVICES				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmetal 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?				×

Discussion of Checklist Answers:

a.i, a.ii., a.iv., a.v. No Impact. This project is, by definition, an improvement of the Calpine water system. The project will result in the enhancement of fire protection services by providing source water and storage for fire suppression. The project will have no affect on any other public facilities or services.

Conclusions:

Impacts associated with public services are considered less than significant.

Mitigation Measures:

No mitigation is required for the public services section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
15. RECREATION Would the proposal:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				×
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				×
Discussion of Checklist Answers:				

a., b. No Impact. The project will have no impact on existing recreational facilities nor create the need for future facilities.

Conclusions:

Impacts associated with recreation are considered less than significant.

Mitigation Measures:

No mitigation is required for the recreation section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
16. TRANSPORTATION/TRAFFIC <i>Would the proposal:</i>				
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., results in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?			×	
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				×
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				×
d. Substantially increase hazardous due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				×
e. Result in inadequate emergency access?				×
f. Result in inadequate parking capacity?				×
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				×

Discussion of Checklist Answers:

b., c., d., e., f., g. No Impact. The project will not have any affect on emergency access, access to nearby uses, or alternative transportation. The project will not affect air traffic patterns. No increase in traffic hazards are expected.

d. Less Than Significant Impact. During construction there will be an increase in vehicle trips to the project site associated with the contractor's activities. The contractor's vehicles, including equipment, material transport, and personnel, will access the sites from Highway 89 and Main Street. As is the standard with this type of project, the contractor will be required to submit a Traffic Control Plan for approval by Sierra County prior to start of construction. The Traffic Control Plan will require the contractor maintain a reasonable level of traffic circulation throughout the course of construction.

Conclusions:

Impacts associated with transportation/traffic are considered less than significant.

Mitigation Measures:

No mitigation measure is required for the transportation/traffic section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
17. UTILITIES AND SERVICE SYSTEMS <i>Would the proposal:</i>				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				×
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				×
c. Require or result in the construction of new stormwater drainage facilities or expansion of exisitng facilities, the construction of which could have significant environmental effects?				×
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements necessary?				×
e. 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?				×
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				×
g. Comply with federal, state, and local statutes and regulations related to solid waste?				×

Discussion of Checklist Answers:

a., b., c., d., e., f., g. No Impact. The project will result in improvements to the Sierra County (Calpine) Water Works District No.1 water system by providing additional source and storage as well as treatment in compliance with the State and Federal maximum containment levels. The project service area is currently utilizing individual septic leachfield systems for wastewater disposal. Construction of a new well and water

storage tank will not result in the need for any additional wastewater treatment. There will be no storm water drainage facilities for this project. Following construction, the project will not generate any appreciable amount of solid waste. Solid waste generated during construction will be disposed of by the contractor at the local refuse landfill.

Conclusions:

Impacts associated with utility and service systems are considered less than significant.

Mitigation Measures:

No mitigation measure is required for the utility and service systems section.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
18. MANDATORY FINDINGS OF SIGNIFICANCE				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				×
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, and the effects of probable future projects.)				×
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				×

Discussion of Checklist Answers:

As discussed in sections 1 through 16 above, the project will not significantly impact habitat of fish, wildlife, or plant species, rare or endangered species, historical or cultural resources, nor will it create substantial adverse impacts on human beings. The project will not create cumulative impacts with the inclusion of the project's improvement standards.

Conclusions:

The project will not create a significant adverse impact on the environment.

REFERENCES: The following references used in preparing this report have not been attached to this report. The reference material listed below is available for review upon request of Sierra County Water Works District No. 1, P.O. Box 25 Calpine, CA 96124

- Sierra County General Plan
- Sierra County Water District No. 1, Calpine Preliminary Engineering Report, Preliminary Engineering Report for Water Facilities, Sauers Engineering, Inc., February 2007
- Hydrogeologic Review of the Proposed Meadow Ranch Project, near the Community of Calpine, Sierra County, California, InterFlow Hydrology, Inc., February 2007
- Fault-Rupture Hazard Zones in California, Special Publication 42, California Geologic Survey, Interim Revision 2007
- Guidelines For Assessing and Mitigating Air Quality Impacts of Land Use Projects, NSAQMD, August 2009
- Regulation VIII, Air Quality Zoning, NSAQMD, October 1991
- Earthquake Shaking Potential Map for California, California Geologic Survey, 2016
- U.S. Quaternary Faults and Folds Database, USGS, May 2018
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- Fletcher Creek Floodplain Information, Best Available Maps, California Department of Water Resources, May 2018
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- Daily Emissions Estimates and Total Emission Estimates by Phase for Calpine Water System Improvement Project, Road Construction Emissions Model, Version 8.1.0, May 2018
- California Department of Conservation, California Important Farmland Finder (CIFF), Map of Project Area, June 2018
- The USGS Swelling Clays Map of the Conterminous United States, USGS Miscellaneous Investigations Series Map I-1940, 1989
- Sierra County Online Land Use GIS Map, May 2018
- Flood Insurance Rate Map, Yuba County Ca, Map Index, Federal Emergency Management Agency, June 2018

ATTACHMENTS:

- 1. Biological Evaluation/Biological Assessment for Plant and Animal Species for Calpine Tank and Well Projects. Overlin Botanical Consulting, LLC, June 10, 2019
- Sierra County Water Works District #1 Calpine Tank and Well Projects Cultural Resource Study, Susan Lindström, Ph.D. (RPA), Consulting Archaeologist, September, 2019

REPORT PREPARATION

This Initial Study was prepared under contract with the Sierra County Water Works District No. 1 (Calpine) by Sauers Engineering, Inc. Principal author was Dean Marsh, P.E.

Prepared by: Dear Marsh

Date: December 11, 2019

ATTACHMENT 1

BIOLOGICAL EVALUATION/BIOLOGICAL ASSESSMENT FOR PLANT AND ANIMAL SPECIES

Biological Evaluation/Biological Assessment for **Plant and Animal Species**

for Calpine Tank and Well Projects Sierra County, California

Prepared by:

Ammie Out

Annie Overlin, Botanist Overlin Botanical Consulting, LLC July 3, 2019 Date

I. Introduction

A. About This Document

This Biological Evaluation (BE) has been conducted to determine the potential direct or indirect effects of the proposed Calpine tank and well project on federally listed endangered, threatened, proposed, candidate, and species of concern that are known or expected to occur within the Project area.

The Biological Evaluation (BE) specifically addresses whether the proposed action would result in a trend toward any sensitive plant or animal species becoming federally listed.

Special-status plant species include:

- CNPS (California Native Plant Society) Inventory List 1A (presumed extinct in California)
- CNPS List 1B (plants rare, threatened, or endangered in California and elsewhere)
- List 2 (plants rare, threatened, or endangered in California, but more common elsewhere). These species fall within state regulatory authority under the provisions of the California Environmental Quality Act (CEQA) Guidelines.
- CNPS Inventory List 3 (plants about which more information is needed, a review list)
- List 4 (plants of limited distribution, a watch list) are considered to be of lower sensitivity, and generally do not fall under specific state or federal regulatory authority.

Specific mitigation considerations are generally required for species with federal or state protection or that are in List 1 and 2 categories.

The BE was prepared in accordance with direction for Threatened and Endangered species (Fish and Game Code 1995 §2050 et seq., 14 CCR §670.1 et seq), Candidate species (50 CFR 17.12 for plants, 59 FR 58982 November 15, 1994 for animals), and animal species that are "fully protected" in California (Fish and Game Code, §3511, §4700, §5050 and §5515).

II. Description of Proposal

A. Project Location and Background

The Sierra County Waterworks District No. 1 (Calpine) is the public water provider in the community of Calpine, CA. The project is located within the limits of Calpine community in Sierra County in northeastern California. All applicants seeking Clean Water or Drinking Water SRF financing for construction projects from the State Water Resources Control Board (State Water Board), Division of Financial Assistance (DFA), must comply with both California Environmental Quality Act (CEQA) and the federal cross-cutting regulations.

B. Proposed Action

The Project consists of constructing a new water storage tank, a new public water supply well, a well water treatment facility and interconnecting pipeline. Construction will consist of tree removal within new well site, tank site and treatment plant site, associated grading activity, drilling of a new well, and construction of buildings to house associated well equipment and water treatment plant facilities.

III. Description of the Project Area

Geology and Land Forms

The Sierra County Water Works project is located at the convergence of the western Basin and Range and southern Cascade Range within the town limits of Calpine, CA. Geology consists largely of Pleistocene and Pliocene basalt flows and Quaternary stream and basin alluvial fill deposits. Adjacent forest is growing within (Eastside Pine alliance) in andesite and basaltic andesite of the likely Mountain Volcano (Tlma).

Climate

The elevation of the site averages 5000 feet aml. Precipitation averages 24.9 inches of precipitation (Stream Stats 2019).

Soils

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey identified two map units within the project area: the Coolbrith silt loam, 0-2% slopes which are somewhat poorly drained soils of 0-10 inches of silt loam have 0-7 to a course gravelly sand at 68 inches. The runoff class is medium, and has a depth to water table of more than 80 inches. The Delleker Sandy loam consists of sandy loam to sandy clay loam. Typical profiles will have 0-13 inches of sandy loam, 13-60 inches of sandy clay loam. These soils are well drained with the water table below 80 inches.

Hydrology

Floods for the sites would be produced by rapid early spring warming or by rain-on-snow during warm winter storms.

Vegetation and Existing Conditions

The Project area is characterized by The Eastside Pine Alliance, dominated by Ponderosa Pine (*Pinus ponderosa*) or occasionally by Jeffrey Pine (*P. jeffreyi*). The north facing slopes that hold more moisture support Mixed Conifer species including White Fir (*Abies concolor*), Incense cedar (*Calocedrus decurrens*) lodgepole Pine (*Pinus contorta* var. *murrayana*), and red Fir (A. *magnifica*).

Dominant shrubs include bitterbrush (*Purshia tridentata*), mountain sagebrush (*Artemisia tridentata* var. *vaseyana*), manzanita (*Arctostaphylos patula*), and rabbitbrush (*Ericameria nauseosa*). Perennial forbs such as woolly mules-ears (*Wyethia mollis*) and balsamroot (*Balsamorhiza* spp.) occur on the forest floor. A small ephemeral drainage with several species of non-hydrophytic species was observed. Dominant species include yarrow (*Achillea millefolia*), mugwort (*Artemisia ludoviciana*), and wild rose (*Rosa woodsia*). During peak runoff, there was no water and soils were not hydrophilic.

The majority of the project is within a neighborhood dominated by ruderal species and bare ground. This habitat consists of bare dirt, dirt roads, and developed zones (landscape plantings, lawns, etc.). These areas are sparsely vegetated with native and non-native species.

IV. Survey Approach and Results

Prior to conducting field surveys, Overlin Consulting, compiled a list of special status plant and animal species known from the vicinity of the Project site by conducting a database search of the Project area in the California Natural Diversity Database (CNDDB). Additional species lists and information reviewed in preparation for field surveys included California state noxious weeds lists, The California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Plants, CalFlora, and websoil survey. The results of these database queries were used to formulate a list of sensitive species with potential to occur in the Project area. This list is provided in Table 1. This pre-field review was then used to focus field investigations on the targeted species (Table 2) and their known habitats.

Table 2 includes habitat requirements and the rationale for inclusion or exclusion from further analysis in this document.

The description of biological resources in the Project area is based on field surveys conducted by biologist Annie Overlin on May, 17 2019. The field effort included a general pedestrian survey within the survey buffer and a 1/4 mile radius intuitive control survey focusing on habitat for sensitive animal species beyond the buffer.

A. Consultation to Date (plants and animals)

Sensitive Plants and Animals

A review of Threatened, Endangered, Candidate, and Proposed (TECP) species with potential to occur in the Project area was conducted using the U.S. Fish and Wildlife Service (USFWS) online consultation program IPAC (http://www.fws.gov/ipac/ 8 May and June 2019).

Although no Threatened, Endangered, Candidate, or Proposed *plant* species were identified on database searches, appropriate habitat for local species of concern were identified during field surveys and there are species of local concern in close proximity to the Project area.

For animals, the IPAC database suggested the following state-listed species may have potential to occur in or near the Project area:

Foothill yellow-legged frog (*Rana boylii*)- *State candidate threatened* Greater sandhill crane (*Antigone canadensis tabida*)- *State Threatened* Great Grey owl (*Strix nebulosi*)- *State Endangered*

Noxious weeds

In California, there are two references for the status of weed species in the state; California Invasive Plant Council (Cal-IPC) Inventory categorizes non-native invasive plants that threaten the state's wildlands and California Department of Food and Agriculture (CDFA) noxious weeds considered threats to the well-being of the state with a primary focus on agricultural land.

During field investigations, one C-rated noxious weed field bindweed (*Convolvulus arvensis*) and invasive species bull thistle (*Cirsium vulgare*) (Cal-IPC Moderate) not assigned a rating by CDFA were observed.

Table 1. SPECIES EVALUATED FOR THE BIOLOGICAL EVALUATION

A. Animals

MAMMALS

*Euderma maculatum (spotted bat)

*Corynorhinus townsendii (Townsend's big-eared bat)

*Lasiurus blossevillii (western red bat)

*Lepus americanus tahoensis (Sierra Nevada snowshoe hare)

*Lepus townsendii townsendii (western white-tailed jackrabbit)

**Aplodontia rufa californica* (Sierra Nevada mountain beaver)

*Vulpes vulpes necator (Sierra Nevada red fox)

*Gulo gulo (California wolverine)

*Martes pennanti (Pacific fisher)

*Taxidea taxus (American badger)

BIRDS

**Accipter gentilis* (northern goshawk)

Antigone canadensis tabida (Sandhill crane)

*Aquila chrysaetos (golden eagle)

*Haliaeetus leucocephalus (bald eagle)

*Falco peregrinus anatum (American peregrine falcon)

*Asio otus (long-eared owl)

*Psiloscops flammeolus (flammulated owl)

Strix nebulosa (great gray owl)

*Strix occidentalis occidentalis (California spotted owl)

*Cypseloides niger (black swift)

*Selasphorus rufus (rufous hummingbird)

*Picoides albolarvatus (white-headed woodpecker)

**Contopus cooper*i (olive-sided flycatcher)

**Empidonax traillii* (willow flycatcher)

*Setophaga petechia (yellow warbler)

REPTILES

*Rana sierrae (Sierra Nevada yellow legged frog)

Rana boylii (Foothill yellow legged frog)

FISH

*Oncorhynchus clarkii henshawi (Lahontan cutthroat trout)

B. Plants

*Androsace occidentalis simplex (Western rock jasmine)

*Artemisia tripartita (Three-tip sagebrush)

* Astragalus austiniae (Austin's astragalus)

*Botrychium ascendens (Upswept moonwort)

*Botrychium crenulatum (Scalloped moonwort)

*Botrychium lunaria (Common moonwort)

6

*Botrychium minganense (Mingan moonwort) *Bruchia bolanderi (Bolander's bruchia) **Carex davyi* (C. constanceana) (Davy's sedge) **Carex limosa* (mud sedge) *Claytonia megarhiza (fell fields claytonia) -*Epilobium howellii Subalpine fireweed **Erigeron miser* (starved daisy) *Glyceria grandis (American manna grass) *Ivesia aperta aperta Sierra Valley ivesia *Ivesia aperta canina Dog Valley ivesia Ivesia sericoleuca (Plumas ivesia) *Juncus luciensis (Santa Lucia dwarf rush *Lewisia longipetala (long-petaled lewisia) *Meesia uliginosa (broad-nerved hump moss) *Mertensia oblongifolia var. oblongifolia (sagebrush bluebells) Packera indecora (Senecio indecorus) (rayless mountain ragwort) **Pyrrocoma lucida** (sticky pyrrocoma) *Phacelia stebbinsii (Stebbins' phacelia) *Shevock rockmoss (Orthotrichum shevockii) *Spjut's brittle-moss (Orthotrichum spjutii) williamsii) **Potamogeton epihydrus* (Nuttall's ribbonleaved pondweed) **Rhamnus alnifolia* (alder buckthorn) *Rorippa subumbellata (Tahoe yellow cress) *Silene occidentalis (Western campion) *Scutellaria galericulata (marsh skullcap) Trifolium lemmonii

The plant and wildlife species listed above shown in bold are designated as those species known to occur, or have the potential to occur, within Project area and will be analyzed to determine direct, indirect, or cumulative effects to their populations. Species marked with (*) are not known to occur within the Project area and after reviewing the Tahoe National Forest Sensitive Plants Field Guide (Weixelman 1991), California plant databases: California Natural Diversity Database (CNDDB), Calflora, and the California Native Plant Society (CNPS) that the habitat type is not present within the project area and/or that these species do not occur nor have the probability of occurring in Sierra County, California, where the project is located. Therefore there will be **no direct, indirect, or cumulative impacts** to these species from the proposed project and no further analysis will be conducted.

Table 2. SPECIAL STATUS SPECIES POTENTIALLY OCCURRING IN OR NEAR THE PROJECT AREA

Species	Federal listing	State listing	CNPS listing	Habitat	Potential occurrence in the Project area.
Antigone canadensis tabida (Sandhill crane)	NONE	CT	NA	The sandhill crane nests in wetland habitats in NE CA, winters in the Central Valley, preferring grain fields within a four-mile radius of a shallow body of water used as a communal roost site and irrigated pasture as loafing sites.	Low. The last sighting of the Sandhill crane in the Sierra Valley was 2.2 KM NE of Satley in Sierra County in 2000. The Project area has no associated wetlands and is in a developed urban area and since sandhill crane habitat and known and expected locations of sandhill cranes are distant from proposed activities there would be no direct effects from the proposed activities. Therefore, there will be no direct, indirect,
<i>Strix nebulosa</i> (great gray owl)	None	CE	NA	The great grey owl occupies late-seral coniferous forests bordering meadows; red fir, Jeffrey pine, and lodgepole pine. This species requires large diameter snags in a forest with high canopy closure, providing a cool sub- canopy microclimate.	or cumulative impacts to the Sandhill crane Medium; nonbreeding individuals have been observed in Nevada and Sierra counties; no breeding records from Nevada or Placer counties (CNDDB 2013) California. Permanent resident of the Sierra Nevada in small portions of Tuolumne, Mariposa, Madera, and Fresno Counties See discussion below
Rana boylii (Foothill yellow legged frog)	None	SCT	NA	The foothill yellow-legged needs at least some cobble sized substrate for egg- laying along partially shaded shallow streams and riffles in a variety of habitats.	Low probability. Within close proximity of the Project area, this species was last seen 9 miles SE of Calpine in 1961. In addition, the Project area has no stream habitat to support this species. There is a low-probability that activities associated with

					the Project will have effects on this species. Therefore, there will be no direct, indirect, or cumulative impacts to the foothill vellow legged frog.
<i>Ivesia sericoleuca</i> (Plumas ivesia)	NL	NL	1B.2	Perennial herb blooming May through October in vernally mesic meadows of the Coniferous forest and Great Basin Scrub habitat zones. 1310 - 2200 meters	This species has been observed within 500 m of the Project area. However, meadows are not present within project Area and this species was not observed during field investigations. Therefore, there will be no direct, indirect, or cumulative impacts to the Plumas ivesia.
<i>Pyrrocoma lucida</i> (sticky pyrrocoma)	NL	NL	1B.2	Perennial herb blooming July through October in alkaline clay within meadows of the Coniferous forest and Great Basin Scrub habitat zones. 700 - 1950 meters	This species has been observed within 500 m of the Project area. However, alkaline clay meadows are not present within Project area and this species was not observed during field investigations. Therefore, there will be no direct, indirect, or cumulative impacts to sticky pyrrocoma.
<i>Trifolium lemmonii</i> (Lemmon's clover)	NL	NL	4.2	Perennial herb in sagebrush scrub and yellow pine forest	This habitat was observed within the Project area, however, this species was not observed during field surveys. Therefore, there will be no direct, indirect, or cumulative impacts to the Lemmon's clover.

* Key to status codes:

FE Federal Endangered FT Federal Threatened FC Federal Candidate FSS US Forest Service Sensitive CE State Endangered CT State Threatened SCE State Candidate Endangered SSC CDFG Species of Special Concern

California Native Plant Society ("CNPS") List

1B.1 Rare, threatened or endangered in California and elsewhere. Fairly endangered in California.

- 1B.2 Rare, threatened or endangered in California and elsewhere. Moderately threatened in California.
- 1B.3 Rare, threatened, or endangered in California and elsewhere. Not very endangered in California.
- 2.1 Rare, threatened or endangered in California, but more common elsewhere. Fairly endangered in California.
- 2.2 Rare, threatened or endangered in California, but more common elsewhere. Moderately threatened in California.
- 2.3 Rare, threatened, or endangered in California, but more common elsewhere. Not very endangered in California.

Great gray owl (*Strix nebulosa*) is a state Endangered species considered sensitive by the USFS. It is a rarely observed resident between about 2,500 to 8,000 feet in the Sierra Nevada, from Plumas County south to the Yosemite region. An estimated 100-200 pairs of GGOWs occur in California with a limited geographic distribution centered in Yosemite National Park (YNP) and adjacent National Forest lands in the central Sierra Nevada. This species has occasionally been reported in northeastern California (including the Tahoe, Eldorado and Plumas National Forests) and in the Warner Mountains (Zeiner et al 1990).

Great gray owls generally breed in mature red fir, mixed conifer, or lodgepole pine habitats, most often in the vicinity of large, wet meadow complexes where they forage on small mammals. Peak egglaying of great gray owls is generally from March through May. Incubation is approximately 30 days, and fledging occurs after 21 days (CDFW 2005). This species is highly sensitive to human disturbance when nesting, and since they do not breed in years of low rodent abundance, their populations are especially vulnerable to reproductive failures due to human disturbance (Beedy and Pandolfino 2013). Great gray owls use trees in dense forest stands for roosting cover and small trees and snags at the edges of meadows for foraging. In California, nests are generally located within 840 feet of the forest edge, averaging 500 feet (Beck and Winter 2000).

The nearest documented occurrence is from 2000, approximately 7-8 miles south of the Project area. A pair, nest, and eggshells were observed in 2000 in the Tahoe National Forest, noted by M. Wells (CNDDB Element occurrence report, 2019). According to Dudek, a sighting was reported in Summit Valley just north of the Placer/Nevada county line (Dudek via R. Miller, personal communication, 2007. In addition, the species has been documented historically in the Tahoe National Forest near Independence Lake (Dudek via K. Whitlock pers. Comm).

The proposed action area occurs exclusively within Jeffrey pine habitat types. There are no suitable old growth stands within the Project area, nor within a quarter mile analysis buffer. There are no meadows immediately adjacent to the proposed action area that would be considered suitable great gray owl foraging habitat. There are no old growth stands suitable for great grey owl nesting or roosting in the project area or within ¼ mile of the proposed project. Since there is no suitable habitat for nesting, roosting, or foraging great grey owls within or adjacent to Project there would be no direct or indirect effects to great grey owl or its habitat if the proposed action is implemented.

Protection measures

To further protect habitats, the proposed action would include the protection of active nests, eggs, and/or young of nesting birds from project-related construction activities, such as earthwork or vegetation trimming.

The following protection measures will be implemented to avoid direct impacts. To the extent possible, ground-disturbing activities and/or removal of vegetation should occur during the nonnesting season (defined as September 1 through March 14) to avoid impacts to active nests. No surveys or other avoidance measures for upland nesting breeding bird species would be necessary for construction activities conducted during the period of September 1 through March 14.

If any ground-disturbing activities or vegetation removal must occur during the avian breeding season (March 15 through August 31) breeding bird surveys will be conducted by a qualified biologist. Specifically, pre-construction breeding bird surveys will be conducted within 14 days of ground disturbance. Surveys will detect the nests of special-status as well as non-special-status birds, which are protected under the CFGC. An exclusion buffer will be established around any active nests that have the potential to be directly or indirectly impacted by the proposed project. The size of the buffer will be determined by the qualified biologist. The exclusion buffer would be maintained until the qualified biologist has determined that all young have fledged. In addition, all work will also comply with the Migratory Bird Act. Implementation of Protection Measure 8 will ensure that any potential direct impacts to upland nesting birds will be less than significant.

V. Effects Analysis

a. Direct & Indirect Effects

Direct impacts to Sensitive plants or animals could occur if project activities (such as the deployment of heavy equipment) overlap with Sensitive plant or animal occurrences and/or potential habitats. Additionally, equipment could compact soils, which could inhibit the emergence of reproductive structures, thus preventing exposure to sunlight and limiting the growth and potential for reproduction. Such disturbance, however, would be mitigated by integrated design features proposed to protect biological resources within the project area.

For these reasons, the project would have no direct effects on Sensitive plant or animal species. No indirect effects to Sensitive species or their potential habitat can be foreseen to result from project activities.

b. Cumulative Effects

Given that the project would cause neither direct nor indirect effects to Sensitive plant or animal species or their habitats, it would not contribute to any cumulative effects.

c. Determination of Effects

It is my determination that:

The proposed action would have **no impact** to any Sensitive plant or animal species.

VI. Literature Cited

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Photo 1. Tank Project Area



Photo 2. New Well site



Photo 3. Photo of pipe replacement area

ATTACHMENT 2

CULTURAL RESOURCE STUDY

SIERRA COUNTY WATER WORKS DISTRICT #1 CALPINE TANK AND WELL PROJECTS CULTURAL RESOURCE STUDY

Report prepared by

Susan Lindström, Ph.D. (RPA), Consulting Archaeologist Truckee, California

Report prepared for

Sauers Engineering

Nevada City, California

September 2019

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CONFIDENTIAL APPENDIX (bound under separate cover)

North East Information Center Resources: Correspondence/Maps/Archaeological Site Record

Note that this appendix contains confidential archaeological site information. To prevent the deliberate and/or inadvertent destruction of cultural resources, this information should be used for planning purposes only and should not be distributed to the public. Releasing information about the nature and location of archaeological resources is restricted under Section 304 of the National Historic Preservation Act (16 U.S.C. 470w-3) and Section 9 of the Archaeological Resources Protection Act (16 U.S.C. 470h; 36 CFR296.18).

SUMMARY

Sierra County Water Works District #1 is planning improvements involving 3.75 acres of their water system located in Calpine, California (Sierra County). The project intends to augment both the water district's domestic water source capacity and storage capacity with the construction of a new public water supply well, the addition of a 140,000 gallon welded steel water storage tank, the construction of a new iron, manganese, and arsenic water treatment system and the construction of approximately 1,500 feet of associated pipeline to connect the new well to the treatment system and the existing distribution system.

Since the project is situated in Sierra County, the cultural resource study needs to comply with Sierra County mandates under the California Environmental Quality Act (CEQA). The project is being partially funded through the Drinking Water State Revolving Fund program, which is under the State Water Resources Control Board, with partial funding coming through U.S. Department of Agriculture Rural Development. The state program involves federal money from the Environmental Protection Agency that the state distributes, so the state requires CEQA environmental compliance plus other federal statutes including compliance for cultural resources under the National Historic Preservation Act of 1966. Section 106 of the act requires consideration of the effects of an undertaking on cultural resources listed in or eligible for inclusion in the National Register of Historic Places within the project area of potential effect (APE).

Under these regulations, cultural resource studies are customarily performed in a series of phases, each one building upon information gained from the prior study. The inventory phase (*Phase 1*) involves a prefield records search and contacts with the appropriate Native American group(s) and historical society (*Phase 1A*), field reconnaissance/resource discovery (*Phase 1B*), and documentation of any cultural resources located within the project APE (*Phase 1C*). If cultural properties are present, their significance is evaluated according to eligibility criteria established in the National Register of Historic Places and/or California Register of Historical Resources (*Phase 2*). If project redesign to avoid impacts to significant resources is unfeasible, then mitigation measures are implemented (*Phase 3*). Mitigation (or data recovery) typically involves supplemental archival research, field excavation, photo documentation, mapping, archaeological monitoring, interpretation, etc.

The objectives of this study are designed to satisfy cultural guidelines pertaining only to *Phase 1A* and *Phase 1B*. Tasks included:

- review historical and archaeological background research of the project area;
- update a record search by the California Historical Resources Information System, North East Information Center at California State University, Chico;
- request a review of the Sacred Lands File by the Native American Heritage Commission and initiate contacts with local tribal organizations identified by the Commission;
- conduct systematic reconnaissance level cultural resource field survey of the project area;
- present findings in a technical report.

An intensive archaeological field survey was conducted on September 9, 2019. No known cultural resources or Native American concerns were identified during *Phase 1A* work and no resources were observed within the project area APE during the *Phase 1B* field reconnaissance.

Therefore, in terms federal Section 106 guidelines, there will be no impacts to significant cultural resources and a finding of "no historic properties affected" is recommended, i.e., no properties are within the project area, including below the ground.

In terms of state CEQA guidelines, it is recommended that the project should not alter or adversely affect the physical or aesthetic properties of any significant heritage structure, site, feature, or object. This project should not have the potential to cause a physical change that would affect unique ethnic cultural values or restrict religious or sacred uses. The potential effects of this project on cultural resources are not considered to be a significant effect on the environment.

No further study or special operational constraints need be imposed upon the project sponsor.

Although the project area has been subject to systematic surface archaeological investigations, it is remotely possible that buried or concealed cultural resources could be present and detected during project ground disturbance activities. If cultural resources are discovered, project activities should cease near the find and the project sponsor should consult a qualified archaeologist for recommended procedures. In the unlikely event that human remains are encountered during the proposed project, all activities should be stopped immediately, and the County Coroner's Office should be contacted

PROJECT BACKGROUND

PROJECT LOCATION AND DESCRIPTION

The Sierra County Water Works District #1 is proposing to augment its domestic water source capacity and storage capacity in the community of Calpine, California (Sierra County). Calpine is located along the base of the Sierra along the western edge of the Sierra Valley about four miles north of Sattley on State Route (SR) 89. The project area falls within Township 21 North, Range 14 East, sections 17, 19 and 20 M.D.M., USGS Calpine 7.5 Quad (figures 1-2).

The project includes the construction of a new public water supply well, the addition of a 140,000-gallon welded steel water storage tank, the construction of new iron, manganese, and arsenic water treatment system, and the construction of approximately 1,500 feet of associated pipeline to connect the new well to the treatment system and the existing distribution system. The project would also include the acquisition of applicable parcels or easements to allow for construction of the various facilities. Proposed pipeline would extend from the well location on Aspen Court to the new treatment facility location. Pipeline would be located within or immediately adjacent to Aspen Court and Main Street with an anticipated trench depth of four feet. Trench width is anticipated to be 24 inches. The well and treatment system are expected to treat approximately 100 gpm. The well would be located near the end of Aspen Court while the treatment plant would be located either adjacent to the existing Well #1 or on a vacant parcel located near the end of Main Street. A small well building would be in the vicinity of the proposed well to house controls and associated equipment. The new filtration system would include a new building to house filters and controls and an adjacent tank to collect backwash water. The new water tank would be located adjacent to the existing 140,000-gallon tank. Anticipated depths of footings for the proposed structures would be less than 24 inches below existing ground surface. Access to the project would be along existing paved county roads and from SR 89 along Main Street to the specific project areas. Project staging would be within the footprints of the various construction sites such as adjacent to the existing tank, adjacent to Well #1, on the vacant parcel at the end of Main Street, or adjacent to the proposed well site at the end of Aspen Court. Other miscellaneous staging may take place along roads within the county right-of-way.

Since the project is situated in Sierra County, the cultural resource study needs to comply with Sierra County mandates under the California Environmental Quality Act (CEQA Section 5024, Public Resource Code). The project is being partially funded through the Drinking Water State Revolving Fund (SRF) program, which is under the State Water Resources Control Board (SWRCB), with partial funding coming through U.S. Department of Agriculture (USDA) Rural Development. The SRF program involves federal money from the Environmental Protection Agency (EPA) that the SWRCB distributes, so the SWRCB requires CEQA environmental compliance plus some other federal statutes under the USDA including compliance for cultural resources under the National Historic Preservation Act of 1966 (as amended 16 USC§ 470 *et seq.*).



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Section 106 of the act requires consideration of the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places within the project area of potential effect (APE). The Calpine project APE covers approximately 3.75 acres, as shown on figures 1 and 2. (Note that acreage calculated along roads, which varies between 20 and 40 feet wide, has been averaged, and that the map representation scale depicted on figures 1 and 2 cannot reflect these nuances.) Project acreages and square and lineal footage for the six main project components are listed on Table 1.

Table 1. Project APE

Project Component	Acreage	Square Feet	Lineal Feet
Water tank site	0.65	28,158	n/a
Well Site #1	0.13	5,651	n/a
Well Site #3	0.39	16,910	n/a
Alternate Treatment Plant	1.22	52,979	n/a
Site			
Main St Pipeline	0.85	37,167	1,371
Aspen Ct Pipeline	0.5	22,098	700
Project Total	3.74	162,965	n/a

PROJECT AUTHORITY AND SCOPE

Regulatory Framework

The project would require the approval from several regulatory agencies and the acquisition of various project permits. The proposed project action therefore requires that environmental review must meet CEQA guidelines and federal requirements and environmental statutes under the National Environmental Policy Act (NEPA). In compliance with federal and state antiquities mandates, the project proponent, is required to consider potential project impacts on cultural resources. Cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties.

Federal Guidelines

The National Historic Preservation Act of 1966, as amended (16 USC§ 470 *et seq.*), is the primary federal legislation that outlines the federal government's responsibility regarding cultural resources. Section 106 of this act requires the federal government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places. Those resources that are on or eligible for inclusion on the National Register are referred to as historic properties.

The Section 106 process is outlined in the federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the federal agency takes to identify cultural resources and the level of effect that the proposed undertaking would have on historic properties. An agency must first determine if the action is the type of action that has the potential to affect historic properties. If so, the agency must identify the APE, determine if historic properties are

present within that APE, determine the effect that the undertaking would have on historic properties, and consult with the State Historic Preservation Office (SHPO) to seek concurrence on the agency's findings.

State Guidelines

As part of baseline environmental studies, the cultural resource investigation also needs to comply with guidelines developed by Sierra County under CEQA (Section 5024, Public Resource Code). The CEQA process is outlined in CEQA Guidelines Section 15060-15065. For the purposes of CEQA, significant "historical resources" and "unique archaeological resources" are defined as (Section 15064.5[a]):

(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 SS5024.1, 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.

Native American Outreach

Mandates under State of California Assembly Bill (AB) 52 specify that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. AB52 directs a lead agency (or their designated representative) to consult with the Native American Heritage Commission and request a search of the Sacred Lands Files. To complete the AB52 requirements, follow-up communications with all groups/individuals on the Commission's contact list are generally recommended to incorporate tribal opinions, knowledge and sentiments regarding the project.

In addition to state legislation, in some cases federal agencies are required through the Section 106 process to consult with Indian tribes concerning the identification of sites of religious or cultural significance and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

STUDY PROTOCOL AND OBJECTIVES

Within this regulatory context, cultural resource studies are customarily performed in a series of phases, each one building upon information gained from the prior study.

<u>Phase 1 Inventory</u>. First, archival research and an archaeological field reconnaissance are performed to inventory and record known cultural resources and identify potential project constraints. *Phase 1A* of the inventory involves prefield research, Native American consultation, the required records search at the appropriate archaeological clearing house, and a field survey (*Phase 1B*) to identify surface sites, features, buildings, and/or artifacts. If cultural resources are discovered, they are documented on the appropriate archaeological site record forms (*Phase 1C*).

<u>Phase 2 Evaluation</u>. Once cultural properties are recorded and if they may be subject to project-related impacts, their significance is evaluated according to criteria established by the National Register of Historic Places and/or the California Register of Historical Resources. For significant resources, a determination of project impacts is assessed and detailed measures to mitigate impacts are proposed. If project redesign to avoid impacts is unfeasible, then mitigation measures are recommended to recover the significant information contained within these cultural properties prior to project ground disturbance activities.

<u>Phase 3 Impact Mitigation and Data Recovery</u>. A final phase may involve the implementation of mitigation measures recommended during the prior evaluation phase. Mitigation, or data recovery, typically involves additional archival research, field excavation, photo documentation, mapping, archaeological monitoring, etc.

Objectives of this study are designed to satisfy guidelines pertaining to the *Phase 1A* archaeological records search and Native American consultation and *Phase 1B* archaeological field reconnaissance.

SETTING

PHYSICAL ENVIRONMENT

The project is located along the southwestern margin of Sierra Valley and near the former shoreline terraces of the ancient Lake Sierra that once filled Sierra Valley. The presence of Quaternary lacustrine deposits has been noted and mapped (Burnett and Jennings 1962) and shore terraces recognized (Sketchley 1975). An age of greater than 60,000 years has been suggested (Payen 1976:14-15).

Project area topography ranges from flat to moderately sloping with elevations around 5,150 at the tank site above the town down to around 5,000 feet in Calpine proper. Summer climate in Sierra Valley is fair; winters are generally cold with some snow in the valley and considerable accumulations in the uplands. The project area is drained by perennial Fletcher Creek. Habitat types and plant-animal associations are characteristic of Storer and Usinger's (1971) Yellow Pine/Jeffrey Pine Belt, with riparian species growing along the creeks. Dominant tree species include Jeffrey pine (*P. jeffreyi*) and open areas are covered by sagebrush (*Artemesia tridentata*) and bitterbrush (*Pursia tridentata*) and assorted forbs and grasses. Developed portions of the project area are largely modified by the built environment and associated landscaping.

It is doubtful that modern plant and animal communities closely resemble their pristine composition due to past disturbance. In times past the area is thought to have supported a luxuriant growth of native bunch grasses that allowed an abundant large game population (deer and antelope) and provided a nutritious source of seeds for use by prehistoric peoples. Potential human

modifications of the project vicinity began with the aboriginal management of plants and animals, followed by historic logging, stock grazing, water reclamation, recreation, and residential/commercial development.

Most of the project APE comprises disturbed ground due to residential and commercial development activities. In many cases disturbance extends to a considerable depth and likely below any potential archaeological surface or subsurface deposits that could once have been present. Existing water infrastructure passes beneath paved roads and shoulders within the developed residential subdivision.

PREHISTORY

Current understanding of northern Sierra Nevada and western Great Basin prehistory is framed within a chronological sequence spanning nearly 12,000 years that is drawn from paleoclimatic and archaeological studies throughout the western Great Basin, eastern Sierra front and the Tahoe-Truckee area (especially see Elston 1971, 1982, 1986; Elston et al. 1977, 1994, 1995; Heizer and Elsasser 1953; Grayson 1993). This work has been summarized by Waechter and Lindström (2014) and is excerpted below. In broadest terms, the archaeological signature of the Tahoe Sierra marks a trend from hunting-based societies in earlier times to more dispersed populations that were increasingly reliant upon diverse resources by historic contact. The change in lifeways may be attributed partially to factors involving paleoclimatic fluctuations, a shifting subsistence base, and variable demographics.

Pre-Archaic remains suggest occupation by at least 9,000 years ago in the Tahoe Sierra during the Late Pleistocene/Early Holocene (~12,500-8,000 years ago) as glaciers retreated, pluvial lakes shrank, and climates warmed (Elston's et al. 1977 "Tahoe Reach Phase"). Early populations were highly mobile in the pursuit of large game animals.

Pre-Archaic to Early Archaic occupation dates from about 7,000-5,500 years ago during the Middle Holocene (~8,000 to 5,500 years ago). Increased warming and drying caused diminished creek flows and lake levels in Tahoe and other regional lakes to drop, allowing trees to grow in areas that were once inundated (Lindström et al. 2000). This period is characterized by a decrease in the number of archaeological sites that may reflect declining resources and populations in the Tahoe Sierra.

The "Early" Late Holocene dating between 5,500 and 2,000 years ago (Elston's et al. 1977 "Early Martis Phase") witnessed the end of the Mid-Holocene droughts, with a consequent expansion of forests and woodlands and a rise in Lake Tahoe and other regional lakes and streams that drowned ancient forests along the shoreline (Lindström et al. 2000). This was the most intensive period of prehistoric occupation in the region.

A warming and drying trend with a decline in winter precipitation during the "Middle" Late Holocene between 2,000 and 1,000 years ago (Elston's et al. "Late Martis" / "Early Kings Beach" phases) coincided with profound cultural changes.

Around 1,000 years ago during the Late Holocene (Elston's et al 1977 "Kings Beach" Phase), much of the west was affected by frequent and dramatic fluctuations in temperature and precipitation marked by prolonged and severe droughts (Stine 1994). Late Archaic human

populations continued to rise and stressed by periodic but extreme warm and dry conditions (known as the "Medieval Climatic Anomaly"), shifted away from large game hunting to the further pursuit of foods previously ignored (e.g., plants, fish and small game). This period is reflected archaeologically in more intensive use of all parts of the Tahoe Sierra landscape, with more dispersed and ephemeral settlement patterns allowing for year-round residence in the Tahoe highlands at sometimes and prohibiting even seasonal occupation at other times. These changes may reflect the arrival of incoming Numic-speaking populations (e.g., Paiute groups) into an area that had been occupied for thousands of years by Hokan-speakers (Jacobsen 1966), the protohistoric ancestors of the Washoe Indians (Elston's et al 1977 "Late Kings Beach Phase").

NATIVE AMERICAN PERIOD

Sierra Valley Indians

The study area is in proximity to ethnographic boundaries of the Northern Paiute (Fowler and Liljeblad 1986:435-465), Maidu (Riddell 1986:370-386) and Washoe (d'Azevedo 1986:466-498). Period accounts (*The Sierra Citizen*, 4/15/1854, reprinted in Sinnott 1976:4) state that "two small tribes still remained there when the valley was first discovered by the whites." Northern Paiute may have come to the valley in later years. Stewart (1966) assigned the valley to the Washoe and the Northeastern Maidu. The Maidu typically inhabited the well-watered, oak-studded northwestern and northern margins of the valley. Maidu from Indian Valley in Plumas County came into Sierra Valley in the 1880s and 1890s during the hay and grain harvest time. Washoe occupied the dryer eastern and southern section characterized by sagebrush, juniper and pinyon pine. While boundaries are poorly defined, the southwestern quadrant of the valley are most firmly within the territory of the Washoe.

Historic sources describe subsistence and daily activities of Indians living in the Sierra Valley.

Sierra Valley appears to have been a favorite resort for the Indians, who built rancherias, constructed fish dams, and dug pit-falls for game. In the east [sic west] end of the valley, among the oak timber, holes in the rocks are found which have been worn out in the preparation of acorns for bread. [*The Sierra Citizen*, 4/15/1854, reprinted in Sinnott 1976:4]

The Indians, by starting fires in the hills around the [Sierra] valley, are giving us a smoky, hazy atmosphere, and a taste of Indian Summer. [*Mountain Messenger* 11/2/1867]

When the Indians had sole use of the valley, they used to round up the antelope every Fall and kill their winter's meat supply. As an aid to the round-up they burned off all of the tall dry feed. This kept the sage down... [Strang 1969 in Sinnott 1976:88]

In the Spring they rounded them [cattle] up and drove them back into Sierra Valley -- having a big rodeo. [Sinnott 1976:88]

Washoe

Sierra Valley was frequented by the northern Washoe or *Welmelti*. These northerners also occupied the northern Lake Tahoe Basin, Donner-Truckee basins, and the eastern Sierra front north of Carson Valley through Washoe Valley and north to Truckee Meadows (Reno).

The Washoe once embodied a blend of Great Basin and California in their geographical position and cultural attributes. Washoe ethnography hints at a level of technological specialization and social complexity for Washoe groups, which is non-characteristic of their neighbors in the Great Basin. Semi-sedentism and higher population densities, concepts of private property, and communal labor and ownership are reported and may have developed in conjunction with Washoe residential stability stemming from a rich and reliable subsistence resource base (Lindström 1992, 1996). The ethnographic record suggests that during the mild season, small groups traveled through high mountain valleys fishing and collecting edible and medicinal roots, seeds and marsh plants. In the higher elevations, men hunted large game (mountain sheep, deer) and trapped smaller mammals. The Washoe have a tradition of making long treks across the sierran passes to hunt, trade and gather acorns. These aboriginal trek routes, patterned after game trails, are often the precursors of our historic and modern road systems. Archaeological evidence of these ancient subsistence and trekking activities is found along the mountain flanks as temporary small hunting camps containing flakes of stone and broken tools. In the high valleys semi-permanent base camps are represented by stone flakes, tools, grinding implements, and house depressions.

By the 1850s incoming Euroamericans had permanently occupied the Washoe territory and changed traditional lifeways. Mining, lumbering, grazing, commercial fishing, tourism, and the growth of settlements disrupted traditional Indian relationships to the land. As hunting and gathering wild foods were no longer possible, the Washoe were forced into dependency upon the Euro-American settlers. Washoes survived by trading goods and services to the dominant Euroamerican population (selling baskets, catching fish and game, and working as domestic laborers, wood cutters, ice harvesters, caretakers, game guides, etc.). In exchange Washoes arranged for camping privileges on traditional lands with access to what resources remained. Traditional plant management continued at the fringe of "white" settlements, but on a very reduced scale, and many Washoes established patronage relationships on ranches (Rucks 2007).

Beginning in 1917 the Washoe Tribe began acquiring back a small part of their traditional lands (Nevers 1976:90-91). The Washoe remain as a recognized tribe by the U.S. government and have maintained an established land base. Tribal members are governed by a tribal council which consists of members of the Carson, Dresslerville, Woodfords, and Reno- Sparks Indian colonies, as well as members from non-reservation areas. Today, the Washoe have developed a Comprehensive Land Use Plan (Washoe Tribal Council 1994) that includes goals of reestablishing a presence within the Lake Tahoe Basin and re-vitalizing Washoe heritage and cultural knowledge, including the harvest and care of traditional plant resources and the protection of traditional properties within the cultural landscape (Rucks 1996:3).

EUROAMERICAN HISTORY

Several themes dominate historic period events within southwestern Sierra Valley: early exploration and settlement, logging, ranching/agriculture, and community development.

Early Exploration and Settlement

A party of men in search of the fabled Gold Lake first entered Sierra Valley in 1850. Albert Picket Chapman returned in 1851 and posted land claims in the southern end of the valley. Meanwhile, James P. Beckwourth (an Afro-American mountain man for whom Beckwourth Pass is named) entered Sierra Valley from the northeast (Farris and Smith 1882). Although mining was the initial intent of the earliest Euroamerican incomers, the primary purpose of the first settlement was centered around livestock raising and harvesting of wild hay (Payen 1976:5).

Logging

Several sawmills in the Sierra Valley and adjacent uplands were operating by the middle 1850s, soon after the gold rush, and by 1866 Sierra Valley sawmills furnished timber to the booming mine town of Meadow Lake (Copren 1971:8). During the 1870s the Sierra Valley lumber business supplied the Central Pacific Transcontinental Railroad and Sierra City quartz mines into the later 1880s. Most of the lumber produced until the 1880s was used locally for the construction of homes, barns and fences. Small sawmills, like the one run by Tom Fletcher about a mile above Calpine, were located along the forested edges of Sierra Valley. In those days, logs were hauled by bull team (Church 1989:10). During the 1880s sawmills increased in size and technology, especially with the advent of steam-powered logging railroads. With the construction of the Western Pacific Railway, connecting rail spurs were built to serve the mills, while others ran into the timber and wood camps. Such was true for the Davies-Johnson Lumber Company, whose operations were instigated by construction by the Western Pacific Railway and completion of the 12-mile Calpine Branch that was opened in January 1922 to serve lumbering operations at Calpine.

Formal incorporation of the Western Pacific Railway took place on March 6, 1903 (Myrick 1962:316). The route extended for 92 miles between Oakland and Salt Lake City (Myrick 1962:316) and traversed the Feather River District to service communities in the vicinity of Quincy and Sierra Valley (Myrick 1962:316, 408). Various were the connecting railroads to the Western Pacific; however, because of the Western Pacific's onerous mortgage restriction prohibiting their construction of branch lines, rail traffic into the new system was slow to develop until the Feather River country began to develop a network of independent logging railroads, thereby providing some export activity in the form of finished lumber (Myrick 1962:316, 319, 338, 408).

Several independent sawmills operated in the vicinity of Sierra Valley during the 20th century. Up until 1928, 17 different sawmills cut national forest timber from the Sierra Valley (Jackson et al. 1982:145). The Davies-Johnson Lumber Company sawmill at Calpine was perhaps the largest producer of the Sierra Valley region in the 1920s and 1930s. The Davies Brothers had been expanding their lumber operations throughout the Truckee Basin and Sierra Valley since ca. 1865 before relocating to Calpine. A spur track connecting the Calpine mill to the Western Pacific Railroad main line at Beckwourth was constructed in 1920. Davies-Johnson built branch lines in a northwesterly direction from their main spur into almost every major drainage and meadow that offered easy access to timber stands (Baldrica 2000:5). The mill operated continuously from 1919 until 1939. Author [sic] Davies ran the company between 1919 and 1922, when it was sold to C. G. Blagen who operated it until 1939 (Baldrica 2000:4). Partner, C. D. Johnson was added as company president ca. 1922 and the name was changed to the Davies-Johnson Lumber Company (Baldrica 2000:4).

Lumbering activities based out of Calpine can be traced on a few available historic maps. For example, the company town is absent from the 1915 and 1921 editions of the Tahoe National Forest Map, although the Western Pacific Railway line is shown through Beckwourth. The community first appears on the 1926 forest map, designated as "Calpine Mill", which is shown at the terminus of its connecting branch line to the Western Pacific (Map 1). Map 1 also shows a short spur rail line northwest of the town. Baldrica (2000) depicts multiple sub-branches extending from the main rail branch line northwest of Calpine.

The community of Calpine, first known as McAlpine, developed in 1919 or 1920 around the mill and yards of the lumber company, which provided the major economic support of the town. Approximately 150 men were employed at the mills in 1934 with an additional 75 on the payroll of the company performing other tasks (Jackson et al. 1982:145). The population of the company town approached 500, with workers also residing in Sattley and Sierraville.

Sinnott (1976:300-301) describes the Davies-Johnson Lumber Company plant as a huge complex consisting of a sawmill and mill pond, planning mill, box factory, and logging railroad. The box factory was located immediately east of SR 89. The steam-powered sawmill (once situated near the junction of Farrar and Calpine avenues) had an average capacity of approximately 80,000 board feet per shift. At least three large concrete sawmill foundations remain today as prominent landscaping features located at the south end of Farrar Avenue (101 Farrar Avenue). The mill pond is shown on the 1955 Sierraville 15' Quadrangle (Map 2) and now survives as a partly infilled pool along Mt. View Road. The logging railroad grade system consisted of 10 railroad grade bed segments totaling 28 miles, with a width varying between 10 and 15 feet. Segment 1, a 5.5-mile-long section of the historic Davies-Johnson logging railroad grade (CAPla-222/FS-05-17-56-496) passes about 75 (20 meters) north of the project APE. Timber was intermittently cut transported in the vicinity of Segment 1 between 1923 and 1933 and wood was hauled by one-geared and one-rod standard gage locomotives (Baldrica 2000:2, 4). Most of the finished products from the mill were shipped on a spur rail track was built between Calpine and the Western Pacific line near Beckwourth. Shipments were also made by truck. The branch line was abandoned in 1940 when the mill closed in 1939 (Myrick 1962:332).



Photo 1. Locomotive No. 26 stands at the Calpine connection of the Davies Johnson Lumber Company's railroad in May 1938 (photo courtesy Myrick 1962:338)





Ranching/Agriculture

The "Old Chapman Ranch" or "George Knuthson Ranch" was located near the community of Calpine (Church 1989:6, 25). By 1880 the interrelated enterprises of agriculture and ranching were well established in Sierra Valley (Copren 1971:10, 25). The industry centered on hay (timothy, alfalfa and rye hay and meadow grass), cereal grains (barley, oats, rye and wheat) and dairying and beef cattle. Fencing materials were supplied by the nearby lumber mills and barbed wire was in general use by the 1880s (Copren 1971:27). During the late 1870s to mid-1880s, these industries suffered severe losses due to plagues of insects, rabbit infestations and animal disease (Copren 1971:29). Competition from sheep grazing was also a problem and between 1880 and 1890 cattlemen used every means to prevent migratory herds from entering the valley. The loss of stock during hard winters was mitigated either by protecting and feeding herds that remained in the Sierra Valley or by driving stock down slope to more moderate climates.

...they used the valley only as a summer range, moving the stock east onto the desert for the winter. At that time there were no fences in the entire valley, and all the stock ran on a common range. In the winter it was moved, as one herd, onto the desert -- this winter range lying as far south as Steamboat Springs on the road to Carson City; as far east as Winnemucca; and as far north as Surprise Valley -- above Alturas. I have heard my grandfather tell of taking 1,000 head out of the valley on his first trip to the desert. It must have been around 1867. He received \$2 a head for taking care of them for the Winter, hiring Indian riders to help him. In the Spring they rounded them up and drove them back into Sierra Valley... [Strang 1969 in Sinnott 1976:88]

Calpine Community Development

A brief history of the community of Calpine has been summarized by Jackson et al. (1982:145) and Sinnott (1976:300-304) and is excerpted below. Calpine is a comparatively new town of Sierra County. Town founders named the town McAlpine, but the name was changed to Calpine by postal authorities. The community was established in 1919 as a company town for the Davies-Johnson Lumber Company's sawmill, planning mill and box factory. Prior to 1919, the land, consisting of 400 acres, was owned by George W. and Charles M. Knuthson, who sold the property to the Davies-Johnson Lumber Company. When the mill closed in 1939, the Company sold a portion of its property to J. J. Farrar who subdivided it and sold lots to people who incorporated the town of Calpine and converted the settlement into a vacation and retirement center with home track subdivision and lodge facilities. Former dwellings of mill workers were renovated, new homes constructed, streets were improved, and a new water system was installed.

The Davies-Johnson Lumber Company had supplied electrical power to the community of Calpine beginning in 1918-1919. Electrical service was later shifted to the Plumas-Sierra Rural Electric Corporation, which brought the power line to the perimeter of Calpine from the Beckwourth area. Farrar funded the costs to install this infrastructure. Water rights on Fletcher Creek were transferred to the citizens of Calpine and water was initially transported from the creek, located about 1 ³/₄ mile from town, in a main pipeline made of wire-bound wooden staves. In 1958 the Sierra County Water Works District No. 1 for Calpine (under the direction of board of directors, Ray Fultz, James Batemen and Ralph Womack) made immediate plans to replace the deteriorating wooden pipeline

from the original system, securing a \$75,000 loan from the State under the provisions of the newly enacted Davis-Grunsky Act. The new water system was completed in 1964. The dam on Fletcher Creek was replaced and enlarged to a reservoir capacity of about 75,000 gallons. Water ran through a gravity-fed main line consisting of six-inch steel pipe and four-inch transite secondary pipelines. In 1984 a water tank was installed, and wells were drilled to remove the water source out of Fletcher Creek, although water rights on the creek are still maintained for emergency fire protection (Marsh, personal communication 2019).

As plans were being made to improve the initial water system, the town boundaries were also expanded and multiple annexations have been carried out since the formation of the water district in 1958, most being northwest of the historic town center. The historic town hub is depicted on the 1955 USGS Sierraville 15' Quadangle (Map 2). The old Davies-Johnson Lumber Company railroad grade appears as an undeveloped road (Figure 2; Map 2). Note that newer developments west of the downtown and along the extension of Main Street do not appear on the 1955 map, nor are they shown on a 1962 map of the Tahoe National Forest, Sierraville Ranger District. The Calpine project APE is located on and near the Main Street extension within a newer annexation of the community of Calpine.

METHODS

To perform the archaeological work, Sauers Engineering contracted with Susan Lindström, Ph.D., Consulting Archaeologist. Dr. Lindström meets the Secretary of Interior's Professional Qualifications Standards (48 FR 44738-44739), with over 44 years of professional experience in regional prehistory and history. She holds a doctoral degree in anthropology/archaeology and has maintained certification by the Register of Professional Archaeologists (RPA, former Society of Professional Archaeologists) since 1982 (resume in Appendix 3).

PREFIELD RESEARCH

Phase 1A prefield research entailed a literature review of prehistoric and historic themes for the project area and included a review of prior archaeological research and of pertinent published and unpublished literature. A records search of cultural records maintained by the Tahoe National Forest, Sierraville Ranger District was carried out at intervals between September 9th and 18th. Erica Jaeger, Sierraville District Archaeologist, kindly shared her files regarding the Calpine area and Davies-Johnson Railroad. Attempts were made to contact members of the Sierra County Historical Society and the curator of the Loyalton Milton Gottardi Museum. Unfortunately, both research facilities closed on Labor Day (September 2nd).

To identify any properties listed on the National Register, state registers and other listings, including the files of the State Historic Preservation Office (SHPO), the required records search at the California Historical Resources Information System, North East Information Center (NEIC) at California State University Chico was completed on July 29, 2019 (I.C. File # D19-78, see Appendix 1 and Confidential Appendix). References checked entailed archaeological sites and surveys in Sierra County and other official inventories to include:

- ✓ Office of Historic Preservation's *Historic Property Directory*
- ✓ Determination of Eligibility
- ✓ California Inventory of Historical Resources

- ✓ California State Historical Landmarks
- ✓ National Register of Historical Places/California Register of Historic Resources listings
- ✓ California Points of Historical Interest
- ✓ Caltrans State and Local Bridge Surveys

Results of the NEIC record search are summarized in tables 2 and 3 with details contained in Appendix 1 and the accompanying confidential appendix. The NEIC records search results disclosed that no prior archaeological studies have been conducted within the project APE. Twelve other studies have occurred within a $\frac{1}{2}$ -mile search radius (listed in Table 2).

Report No.	*Author(s)/Year	Title	**Study Location
1176	Foster/1983	Preliminary Report and Photographs from the Milton Holstrom Private Artifact Collection from Sites in Sierra Valley, Sierra and Plumas Counties	Outside project APE
2437	Sutherland/1995	Calpine Community Fuel Break	Outside project APE
4860	Thill/1993	Archaeological and Historical Resources Survey for the Copren et al. Timber Harvesting Plan	Outside project APE
5615	Turner and Hamby/1982	Intensive Archaeological Reconnaissance of 15 Parcels in the Boca, Loyalton, Sierraville Locality	Outside project APE
5615a	Turney and Crittenden/1982	Archaeological Survey of the Palisades Trail and Blue Moon Timber Sale Addendum	Outside project APE
7115	Gunderson/1989	Archaeological Reconnaissance for Area "A" of the Calpine Fuelbreak	Outside project APE
7359	Peak/2006	Archaeological Survey for Sierra Valley Visitor's Center, Calpine	Outside project APE
8919	King et al./2004	Class 1 Cultural Resources Overview and Research Design for the Alturas, Eagle Lake and Surprise Resource Areas	Outside project APE
8919a	Maniery/2004	Historical Archaeology Relative to Regional Themes	Outside project APE
9539	Leach-Palm et al./2008	Cultural Resources Inventory of Caltrans District 3 Rural Conventional Highways in Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo, and Yuba Counties	Outside project APE

Table 2	Prior	archaeol	ogical	studies	near	the	project	area
1 auto 2.	1 1101	archaeor	ogicai	studies	ncai	unc	project	arca

11701	Thill/1994	Archaeological and Historical Resources Survey for Welsh Ranch Timber Harvesting Plan	Outside project APE
11723	Thill/2004	Archaeological Survey Report for the Copren 5 Forest Resources Timber Harvest Plan	Outside project APE

*list of report references contained in Appendix 1; **map of report locations contained in Appendix 1

No cultural resources have previously been inventoried within the project APE; however, three prehistoric and seven historic have been identified within the $\frac{1}{2}$ -mile records search radius (listed in Table 3).

	Table 3.	Known	archaeologic	al resources	near the	project area
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Primary No.	State/Agency No	Description	*Report No.
P-46-949	n/a	Prehistoric house pit; historic cabin remnants; refuse deposit	11701
P-46-950	n/a	Prehistoric bedrock mortar milling feature	11701
n/a	CA-Sie-1545/H	Prehistoric lithic scatter with ground stone artifacts	9539
n/a	CA-Sie-1401H	Historic wooden pipeline	n/a
n/a	CA-Sie-1402H	Historic tree house; refuse deposit	n/a
P-46-1442	n/a	Historic Fletcher Mill, cabin pad, wagon remnants, refuse deposits	11723
n/a	CA-Sie-1545/H	Historic collapsed structures, carved trees, collapsed corral, refuse deposits	9539
P-46-1576	n/a	Historic refuse deposit	9539
CA-Pla-222; IDR-Old Railroad Grade	FS-05-17-56- 496	Historic railroad grade	n/a

*a list of report references is contained in Appendix 1; a list of cultural resources and map of resource locations and accompanying descriptions contained in the Confidential Appendix

Segment 1 of the historic Davies-Johnson logging railroad passes about 75 feet (20 meters) north of the project APE near Well #1. The logging system consists of 10 railroad grade bed segments totaling 28 miles, with a width varying between 10 and 15 feet. The logging railroad grade system (CAPla-222/FS-05-17-56-496) was inventoried and evaluated in 2000 by the U.S. Forest Service and found ineligible for listing in the National Register of Historic Places. The report (Baldrica 2000) documents the result of the evaluation, concluding that the railroad grade system does not meet the National Register criteria and recommending that the system, as a non-significant resource, be released from further management as a cultural resource. SHPO concurred with the Forest Service recommendation (Correspondence: Daniel Abeyta, Acting State Historic Preservation Officer to Steven T. Eubanks,

Forest Supervisor, Tahoe National Forest, August 24, 2000). (Excerpts from the archaeological site record for the logging railroad grade system and describing Segment 1 are contained in the accompanying Confidential Appendix.)

NATIVE AMERICAN OUTREACH

As per CEQA guidelines and mandates under California Assembly Bill 52 (pursuant to PRC 21080.3.1), the Native American Heritage Commission (NAHC) was contacted on June 5, 2019, to request a search of the Commission's Sacred Lands Files. A response was received on June 7th indicating "the absence of specific site information in the Sacred Lands Files", which does not preclude "the absence of Native American cultural resources in any project area."

As recommended by the NAHC, all tribes on the Commission's contact list were reached by letter and email. A project description and map were mailed and emailed on June 13th to the Susanville Indian Rancheria, T'Si-Akim Maidu, United Auburn Indian Community of the Auburn Rancheria, the Washoe Tribe of Nevada and California, the Honey Lake Maidu Indians, and the Greenville Rancheria of Maidu Indians. The United Auburn Indian Community acknowledged receipt of project correspondence (email 6/14/19). When no response was received from the other tribes, follow-up phone calls were made on June $20^{th} - 21^{st}$. After phone contact with Ilma Willard, Enrollment Coordinator, Jim Mackay, Tribal Administration, and Melanie Johnson, Tribal Historic Preservation Officer, of the Susanville Indian Rancheria on June 20th, Melanie Johnson responded by phone on June 21st, deferring tribal comments and cultural patrimony to the Washoe Tribe. Prior ethnographic studies indicate that the Washoe Tribe of Nevada and California is the applicable tribal authority for lands encompassing the project area. Washoes have maintained ties to the Sierra Valley, both during the pioneer and modern periods. A letter response was received by the Washoe Tribe on July 1st. Additional telephone conversations were held with Grayson Coney of the Tsi Akim Maidu (6/20/19), and with Paul Garcia and Ron Morales of the Honey Lake Maidu (6/20/19) who also deferred their comments to the Washoe Tribe. Contact with the Greenville Rancheria was limited to a telephone conversation with Patty Allen (6/20/19), Administrative Assistant to the Tribal Council, and a voice mail (6/20/19) left with Ben Self, Tribal Administrative Assistant. No specific knowledge or concerns were expressed regarding the project area in any of the tribal communications. Results are summarized on Table 4 and correspondence is contained in Appendix 2.

Tribe	Contact Date	Comments
Native American Heritage Commission	6/5/19;	Request search of Sacred Land Files;
	6/7/19	Response/contact list received
Susanville Indian Rancheria	6/13/19;	Mailed/emailed project information;
	6/20/19;	Follow-up phone call to Ilma Willard, Jim Mackay and voice mail to Melany Johnson, Tribal Historic Preservation Officer/NAGPRA Coordinator
	6/21/19	

 Table 4. Summary of Native American communications

		Return phone call from Melany Johnson, relaying no information or concerns and deferring cultural patrimony to Washoe Tribe
Tsi-Akim Maidu	6/1319;	Mailed/emailed project information;
	6/20/19	Follow-up phone call to Grayson Coney, Cultural Director who deferred cultural patrimony to Washoe Tribe
United Auburn Indian	6/13/19;	Mailed/emailed project information;
Community	6/14/19;	Cherilyn Neider, Tribal Historic Preservation acknowledged receipt of information;
Washoe Tribe	6/13/19;	Mailed/emailed project information;
	7/1/19	Response memo received
Honey Lake Maidu	6/13/19;	Mailed/emailed project information;
	6/20/19;	Telephone conversation with Paul Garcia and Ron Morales who deferred cultural patrimony to the Washoe Tribe
Greenville Rancheria	6/13/19;	Mailed/emailed project information;
	6/20/19	Telephone conversation with Patty Alen and voice mail to Ben Self; no concerns indicated to date

FIELD RESEARCH

Survey Strategy and Techniques

An intensive archaeological field reconnaissance of the project APE was conducted by Susan Lindström on September 9, 2019. Dean Marsh of Sauers Engineering supplied necessary project maps, project descriptions and background and provided helpful field orientation. A USGS topographic map and aerial photographs were used to structure the field work phase. Locational information was monitored by compass and pacing. For road corridors, which encompassed a buffered APE up to10 feet from the edge of road paving, intensive coverage entailed systematic walking transects no greater than three feet (approximately one meter) apart, looking for all evidence of prior human activity. Intensive coverage was accomplished on project parcels by walking systematic directional transects throughout the APE at intervals no greater than 15 feet (about five meters) apart. In many cases it was necessary (and possible) to perform some ground cover modification to allow for the detection of the smallest of archaeological remains likely to occur in the area under study. Some portions of the project APE were less than completely

inspected because of obscured ground surface visibility due to objects/structures of the built environment, dense vegetation and duff cover.

Survey Areas and Prior Ground Disturbance

Much of the project APE (3.74 acres or 162,965 square-feet) has been subject to prior disturbance. In many cases disturbance extends to a considerable depth and likely below any potential archaeological surface or subsurface deposits that could once have been present. General disturbance types are listed below:

(1) interface between road shoulder and residential developed lot, ground surface not obscured;

(2) interface along road shoulder and/or between road shoulder and residential developed lot, ground surface obscured by duff, brush and/or landscaping;

(3) buried waterlines and other utilities;

- (4) drainage ditches and other erosion control features;
- (5) cut and fill slopes; and

(6) hardscape surfaces including paved over roadways, driveways, gutters, and existing water management facilities (i.e., well house, tank, etc.).

Overall, native ground surface visibility varied from completely obscured (in the case of hardscape and the built environment) to partly obscured (in the case of pine duff, shrubs such as wild rose, manzanita, bitterbrush, currant, service berry, willow, and assorted grasses). Much of the project area is covered by hard surface overlays and the built environment where the native ground surface is no longer visible, i.e., the paved roadway, adjoining driveways, and footprints of water management structures. Cleared and compacted dirt road shoulders and the undeveloped parcels are relatively less disturbed and were most carefully checked.

Water Tank

The existing tank is set upon an artificial platform cut into the west side of a moderately steep and forested slope marked by large granite outcrops. It is accessed by a dirt (cinder-covered) driveway approximately 12 feet wide (Photo 2). This project component covers about 0.65 acres or 28,158 square feet. The 140,000-gallon tank, which is 32 feet diameter and 24 feet high, dates from 1984. Construction of a new tank is planned along the east side of the existing tank, which would remain unaltered. A buffer zone encompassing 100 feet (about 30 meters) surrounding the existing tank was intensively examined by walking transects no greater than 15 feet (five meters) apart. This included portions of a large artificially (dozer?) cut bench on the north side of the tank platform, with a smaller bench cut on the tank's east side. Jeffrey pine duff and clumps of sagebrush, bitterbrush, manzanita, and *wyethia* partly obscured ground surface visibility. A few pieces of modern PVC pipe, along with cut wood and dismantled trek decking were observed along the northwest side of tank.



Photo 2. Overview of water tank and access road; view 15°



Photo 3. Overview of Well #1 facility and access driveway; view 330°

Well #1 and Treatment Facility

Project plans involve demolition of an existing well house (Well House #1) and nearby shed, to be replaced with a new water treatment facility and possible water tank. The facility is set into the side of a moderate southwest-facing slope forested by Jeffrey pine, incense cedar, wild rose, and wyethia. This area of the project covers about 0.13 acres or 5,651 square feet. Well House #1 was constructed in 1984 and the adjoining shed was built ca. 2009. Both are accessed by a short asphalt paved driveway (10 feet wide) that branches off the northwest side of Main Street across from Cedar Street (Photo 3). Both shed-style buildings exhibit T-111 siding and have concrete foundations. The well house measures eight feet (at 10°) by 10 feet (at 285°); it is painted blue and has a single doorway. The shed measures 10 feet (at 285°) by 12 feet (at 10°); it is painted brown with double doors and a concrete platform (three feet by 10 feet) with protective overhang to support an electric facility and propane tank that extends from its north side. A concrete-lined ditch is cut around the up-slope side of the buildings. The new facility would be similar in plan, scale and design as the existing buildings, with the possible addition of a 20,000-gallon water tank A 50-foot (15-meter) buffer surrounding facility was intensively built to the east or west. examined by walking 15-foot (five-meter) transects. Much of the ground was obscured by a thick cover of pine duff. One piece of discarded galvanized pipe, an old tire, and a rusted paint bucket were observed on the hill slope above the water facility.

A section of the historic Davies-Johnson Lumber Company railroad grade passes about 75 feet (25 meters) north and up slope from the existing well facility and well beyond the project APE. The logging railroad grade system (CAPla-222/FS-05-17-56-496) was inventoried and evaluated in 2000 by the U.S. Forest Service and found ineligible for listing in the National Register of Historic Places. The report (Baldrica 2000) documents the result of the evaluation, finds the railroad grade system does not meet the National Register criteria and recommends that the system, as a non-significant resource, be released from further management as a cultural resource or project environmental constraint, a recommendation to which SHPO has concurred. Therefore, the railroad grade was not further addressed; nothing remains of the resource except the earthen grade upon which the railroad was built. In any event, the project would not directly or indirectly impact this cultural property. Project new construction and ground disturbance would be limited to the flat containing the existing facility with no new cutting into the hillside closer towards the old grade; therefore, the project will not directly/physically impact integrity of location, design, materials, or workmanship of the railroad grade. Nor, would the project cause indirect impacts to this cultural resource, i.e., no impacts to the integrity setting, feeling or association of the railroad grade. Modern-day intrusions currently exist within the historical setting, which has already been compromised by elements of the historic setting -- the current water management facility has been operating since 1984 below the grade, a modern residence has been built directly above the grade and the alignment is breached by a subdivision access road ("Old Reservoir Road"). The water works are visibly obscured by tree and shrub cover and the new facility, which would be similar in plan, scale and design to the existing buildings, would occupy the same ground.



Photo 4. Panoramic overview of the Davies-Johnson Lumber Company railroad grade; note modern residence (left) and Well #1 facility (right); view east



Photo 5. Overview of proposed Well #3 area; note modern residence (back) and metal "T-bar" barbed wire fencing (left); view 310°

Well #3

Well #3 would be located on an undeveloped lot at the end of the cul-de-sac at on Aspen Court (Photo 5). The lot, which covers approximately 0.39 acres or 16,910 square feet, borders ranch land that is bounded by a metal "T-Bar" barbed wire fence. An intensive archaeological survey of the entire lot, which was conducted within a 100-foot-radius out from test well casing, was accomplished by walking 15-foot (five-meter) transects. Some limited surface ground disturbance has resulted from the installation of test well; also ground surface "scraping" from heavy equipment was observed near the adjoining residence.

Alternative Treatment Plant

An alternative treatment plant may be constructed on a level undeveloped lot covering 1.22 acres or 52,979 square feet near the end of the Main Street public right-of-way. An existing test well casing marks the possible site. The entire parcel was intensively surveyed by walking 15-foot (five-meter) transects. The lot is covered with Jeffrey pine and bitterbrush and ground surface visibility was largely obscured by pine duff and brush. One possible high-cut stump remnant from historic logging was observed on the lot. This decaying feature was noted but not formally recorded. It is unsuitable for potential dendrochronological (i.e., tree-ring) dating, a technique used to chronicle the progression of historic logging.

Main Street Pipeline

Installation of a pipeline is planned along a modern extension of historic Main Street that accesses a newer subdivision (established ca. 1980s-1990s) west of the historic section of Calpine. The new pipe, which is about 1,371 feet long, would be set into the pavement or along its compacted dirt road shoulder, wherever best to avoid existing buried facilities (e.g., power, telephone and water lines). The pipe is intended to connect Well #1 and Well #3 and there would be no impacts to existing infrastructure. An area extending out 10 feet from the edge of pavement on either side of the road was intensively examined by walking transects no greater than three feet (approximately one meter) apart. Hardscape encompassing the roadway prevented any ground surface visibility. The paved roadway varies between 20 and 40 feet wide, and when the width was averaged with the 10-foot buffer along either side, archaeological coverage of this project component amounted to approximately 0.85 acres or 37,167 square feet. The compacted shoulder is entirely disturbed from road construction and erosion control features, and ground visibility ranged from clear to totally obscured by duff, brush and landscaping.

A historic wooden-stave and wire pipeline (previously recorded as archaeological site CA-Sie-1401H) once ran north of and parallel to Main Street. The wooden line was later replaced by steel pipe. No evidence of the historic pipeline was observed within the project APE.



Photo 6. Deteriorated historic high-cut stump on parcel planned as an alternative treatment plant site; view 300°



Photo 7. Overview of Main Street at its intersection with Aspen Court (left); view 265°

Aspen Court Pipeline

Installation of a pipeline is planned along Aspen Court, which also accesses the newer subdivision (established ca. 1980s-1990s) southwest of the historic section of Calpine. The new pipe, which is about 700 feet long, would be set into the pavement or along its compacted dirt road shoulder, wherever best to avoid existing buried facilities (e.g., power, telephone and water lines). The pipe is intended to connect Well #1 and Well #3 and there would be no impacts to existing infrastructure. An area extending out 10 feet from the edge of pavement on either side of the road was intensively examined by walking transects no greater than three feet (approximately one meter) apart. Hardscape encompassing the roadway prevented any ground surface visibility. The paved roadway varies between 20 and 40 feet wide, and when the width was averaged with the 10-foot buffer along either side, archaeological coverage amounted to approximately 0.5 acres or 22,098 square feet. The compacted shoulder is entirely disturbed from road construction and erosion control features, and ground visibility ranged from clear to totally obscured by duff, brush and landscaping.



Photo 8. Overview of Aspen Court at its intersection with Main Street and looking toward proposed site of Well #3; view 190°

CONCLUSIONS AND RECOMMENDATIONS

Neither prefield research nor archaeological field survey identified any existing cultural resources within the project area. With the completion and submittal of this report, federal, state and county requirements for a cultural resource inventory have been accomplished. No further study or special operational constraints need be imposed upon the project sponsor.

Initial Native American outreach has been accomplished according to CEQA guidelines and mandates under California Assembly Bill 52.

In terms of CEQA guidelines, it is recommended that the project should not alter or adversely affect the physical or aesthetic properties of any significant heritage structure, site, feature, or object. This project should not have the potential to cause a physical change that would affect unique ethnic cultural values or restrict religious or sacred uses. The potential effects of this project on cultural resources are not considered to be a significant effect on the environment.

In terms Section 106 guidelines, there will be no impacts to significant cultural resources identified within the project area and a finding of "no historic properties affected" is recommended, i.e., no properties are within the area of APE, including below the ground.

Although the project area has been subject to systematic surface archaeological investigations, it is remotely possible that buried or concealed cultural resources could be present and detected during project ground disturbance activities. If cultural resources are discovered, project activities should cease near the find and the project sponsor should consult a qualified archaeologist for recommended procedures. A qualified registered professional archaeologist (RPA) should be on-call during project ground-disturbance activities.

In the unlikely event that human remains are encountered during the proposed project, all activities should be stopped immediately, and the County Coroner's Office should be contacted pursuant to Public Resources Code (PRC) Section 7050.5. If the remains are determined to be of Native American origin, the NAHC should be notified within 24 hours of determination, as required by PRC Section 5097.94, 5097.98 and 5097.99. The Native American Heritage Commission should notify designated *Most Likely Descendants* (in this case the Washoe Tribe), who should provide recommendations for the treatment of the remains within 24 hours.

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Sierra County Water Works District #1, Calpine Tank and Well Projects September 2019 33

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APPENDIX 1

North Central Information Center Correspondence

Northeast Center of the California Historical Resources Information System

BUTTE SIERRA GLENN SISKIYOU LASSEN SISKIYOU MODOC SUTTER PLUMAS TEHAMA SHASTA TRINITY

July 29, 2019

Ms. Susan Lindstrom P.O. Box 3324 Truckee, CA 96160

> I.C. File # D19-78 Records Search

 RE: Sierra County Water Works District #1, Calpine, Tank and Well Projects T21N, R14E, Sections 17, 19 & 20 MDBM USGS Calpine 7.5' and Sierraville (1955) 15' quads Approximately 4.09 acres, estimated from project map (Sierra County)

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Dear Ms. Lindstrom,

In response to your request, a records search for the project cited above was conducted by examining the official maps and records for archaeological sites and surveys in Sierra County. Please note, the search includes the requested ½-mile radius surrounding the project area.

RESULTS:

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<u>Prehistoric Resources:</u> According to our records, three sites of this type have been recorded within the ½-mile project vicinity. Please see Table 1 below for more information. Site locations are plotted on the enclosed NEIC-generated map. Shapefiles, a Resource List, Resource Details, and copies of the site records are enclosed. The project is located in a boundary region utilized by Nisenan and Washoe populations. Unrecorded prehistoric cultural resources may be located within the project area.

Fable 1 ,	Previously	Recorded	Prehistoric Sit	tes in the	1/2-mile	Project V	Vicinity
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State Number	Site Description	
P-46-000949	Possible house pit	
P-46-000950	Bedrock mortar	
CA-SIE-1545/H	Lithic scatter and groundstone	

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<u>Historic Resources:</u> According to our records, six sites of this type have been recorded adjacent to the project area and in the ¹/₂-mile project vicinity. Additionally, one informally documented resource (IDR) has been noted in the ¹/₂-mile project vicinity. Please see Table 2 below for more information. Site locations are plotted on the enclosed NEIC-generated map. Shapefiles, a Resource List, Resource Details, and copies of the site records are enclosed. Unrecorded historic cultural resources may be located in the project area.

Table 2, Previously Recorded Historic Sites Adjacent to the Project Area and in ½-mile Project Vicinity

State Number	Site Description
P-46-000949	Cabin remnants and refuse deposit
CA-SIE-1401H	Wooden pipeline
CA-SIE-1402H	Tree house and refuse deposit
P-46-001442	Fletcher Mill, cabin pad, wagon remnants, and refuse deposits
CA-SIE-1545/H	Collapsed structures, trees, arbor glyphs, collapsed corral, and refuse deposits
P-46-001576	Refuse deposit
IDR-Old Railroad Grade	Old railroad grade

The USGS Sierraville (1955) 15' quad map indicates that the project area is located within the town of Calpine and that roads and a stream are located within the project area, while the Tahoe National Forest, Sierra Valley, Calpine Lookout, reservoirs, streams, roads, and structures are located in the general project vicinity.

<u>Previous Archaeological Investigations:</u> According to our records, portions of the ½-mile project vicinity have been previously surveyed for cultural resources. Survey locations are plotted on the enclosed NEIC-generated map. Shapefiles, a Report List, and Report Details are enclosed. Copies of the studies are NOT enclosed, per your request. Please see the enclosed Report List for more information.

Literature Search: The official records and maps for archaeological sites and surveys in Sierra County were reviewed. Also reviewed: <u>National Register of Historic Places</u> - Listed properties and Determined Eligible Properties (2012); <u>California Register of Historical Resources</u> (2012); <u>California Points of Historical Interest</u> (2012); <u>California Inventory of Historic</u> <u>Resources</u> (1976); <u>California Historical Landmarks</u> (2012); <u>Directory of Properties in the</u> <u>Historic Property Data File for Sierra County</u> (2012); and <u>Handbook of North American</u> <u>Indians, Vol. 8, California (1978)</u>.

RECOMMENDATIONS:

We recommend that you contact the appropriate local Native American representatives for information regarding traditional cultural properties that may be located within project boundaries for which we have no records.

The charge for this record search is **\$448.05** (please refer to the following page for more information). An invoice will follow from the CSUC Research Foundation for billing purposes. Thank you for your concern in preserving California's cultural heritage, and please feel free to contact us if you have any questions or need any further information or assistance.

Sincerely,

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Adrienne Springsteen Research Associate

Report I	List					
Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
001176		1983	Foster, Dan	Preliminary Report and Photographs from the Milton Holstrom Private Artrifact Collection from Sites in Sierra Valley, Sierra and Plumas Counties, California	California Department of Forestry and Fire Protection	
002 4 37	÷	1995	Sutherland, Barbara	Calpine Community Fulebreak Sierraville Ranger District, Tahoe National Forest HRIR 05-17-1146	C -	
004860	IC Record Search Nbr - K93-35	1993	Thill, Peter	Archaeological and Historical Resources Survey and Impact Assessment for the Copren et al Timber Harvesting Plan, Sierra County, California		
005615	USFS - 53-9JGN-1- 17003	1982	Turner, Arnie L. and Maribeth Hambý	The Intensive Archaeological Reconnaissance of 15 Parcels in the Boca, Loyatton, Sierraville Locality, Tahoe National Forest, California	Sierraville Ranger District	46-000467, 46-000488, 46-000487, 46-000498, 46-000499, 46-000498, 46-000498, 46-000499, 46-000499, 46-000501, 46-000505, 46-000503, 46-000504, 46-000505, 46-001368, 46-001483, 46-001468, 46-001487, 46-001468, 46-001489, 46-001487, 46-001468,
005615		1982	Turner, Arnie L. and Laurel Crittenden	Archaeological Survey of the Palisades Trail and Blue Moon Timber Sale: An Addendum Report to The Intensive Archaeological Reconnaissance of 15 Parcels in the Boca, Loyatton, Sterraville Locality, Tahoe National Forest	Intermountain Research	
007115	Voided - SIE-L-41	1989	Gunderson, Brandy	Archaeological Reconnaissance Report For Area "Yo" Of The Capito Evolbreak. Sierravile Ranger District, Tahoe National Forest (ARR No. 05-17-832)	Tahoe National Forest	
007359	IC Record Search Nbr - D06-68	2006	Peak, Melinda A	Archaeological Survey Report for the Sierra Valley Visitor's Center, Calpoine, Sierra County, California	Peak & Associates	
008919	BLM - NAC030074	2004	King, Jerome, Kelly McGuire, Kimberly Carpenter, Mary Maniery, and Cindy Baker	Class I Cultural Resources Overview and Research Design for the Alturas, Eagle Lake, and Surprise Resource Areas	Far Western Anthropological Research Group, Inc.	
0089191		2004	Maniery, Mary	Historical Archaeology Relative to Regional Themes	PAR Environmental Services, Inc.	
Page 1 of 3					5	NEIC 7/29/2019 2:33:52 PM

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Report L	ist					
Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
009539	e e	5000 7000	Leach-Palm, Laura, Paul Mikkelsen, Paul Brandy, Jay King, and Lindsay Hartman	Cultural Resources Inventory of Caltrans District 3 Rural Conventional Highways in Butte, Colusa, El Dorado, Glern, Nevada, Placer, Sacmento, Sierra, Sutter, Yolo and Yuba Counties	Far Western Anthropological Research Group	04-00002, 04-000421, 04-000958, 04-000376, 04-001554, 04-001365, 04-001340, 04-001554, 04-001315, 04-003115, 04-003116, 04-003117, 04-003125, 04-003126, 10-0003117, 04-003125, 104-003126, 11-000230, 11-000561, 11-000563, 11-000503, 11-000561, 11-000563, 11-000578, 11-000563, 11-000563, 11-000587, 11-000563, 11-000563, 11-000583, 11-000563, 11-000563, 11-000583, 11-000563, 11-000563, 45-000578, 45-000347, 45-000125, 45-001564, 45-001543, 45-001257, 45-001554, 46-001555, 45-001557, 45-001554, 46-001555, 45-001557, 45-001554, 46-001555, 45-001557, 45-001554, 46-001557, 45-001557, 45-001554, 46-001557, 45-001557, 45-001554, 46-001553, 45-001557, 45-001564, 46-001557, 45-001557, 45-001564, 46-001557, 45-001557, 45-001566, 46-001557, 45-001557, 45-001566, 46-001557, 45-001557, 45-001566, 46-001557, 45-001557, 45-001566, 46-001567, 45-001567, 45-001566, 46-001576, 51-000146,
011701	CAL FIRE - 2-94-048- SIE(3): IC Record Search Nbr - K93-394	1994	Thill, Peter	Confidential Archaeological and Historical Resources Survey and Impact Assessment A Supplemental Report for Welsh Ranch Tiber Harvesting Plan Sierra County, Calidornia	Forest Consultant	46-000949, 46-000950
Page 2 of 3	2					NEIC 7/29/2019 2:33:53 PM

Sierra County Water Works District #1, Calpine Tank and Well Projects September 2019 40

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Sierra County Water Works District #1, Calpine Tank and Well Projects September 2019 42

APPENDIX 2

Native American Correspondence

P.O. Box 3324 Truckee CA 96160 530-587-7072 530-713-1920 (cell)

susanglindstrom@gmail.com

DATE: June 5, 2019

TO: Native American Heritage Commission

1550 Harbor Boulevard, Suite 100

West Sacramento, CA 95691

916-373-3710; 916-373-5471 (fax)

nahc@nahc.ca.gov

RE: Sierra County Water Works District #1, Calpine Tank and Well Projects

Cultural Resource Study

I am writing to request a records search of the Sacred Land Files. Sierra County Water Works District #1 is planning improvements to their water system located in Calpine, California (Sierra County). The project is being partially funded through the Drinking Water State Revolving Fund (SRF) program, which is under the State Water Resources Control Board (SWRCB), with partial funding coming through U.S. Department of Agriculture (USDA) Rural Development. The Calpine project APE covers approximately six acres. It falls within Township 21 North, Range 14 East, Sections 19-20, USGS Calpine 7.5 Quad (see attached map).

I wish to bring this project to your attention, and I invite your opinions, knowledge and sentiments regarding any potential concerns for traditional Native American lands within the project vicinity.

Thank you very much.

Susan Lindström, Ph.D.

STATE OF CALIFORNIA

Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION Cultural and Environmental Department 1550 Harbor Blvd., Suite 100 West Sacramento, CA 95691 Phone: (916) 373-3710 Email: <u>nahc@nahc.ca.gov</u> Website: <u>http://www.nahc.ca.gov</u>



June 7, 2019

Susan Lindström Consulting Archaeologist

VIA Email to: susanlindstrom@gmail.com

RE: Calpine Tank and Well Projects, Community of Calpine; Calpine USGS Quadrangle, Sierra County, California.

Dear Ms. Lindström:

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

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

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

gayle Totton Gayle Totton, B.S., M.A., Ph.D. Associate Governmental Program Analyst

Attachment

Native American Heritage Commission Native American Contact List Sierra County 6/7/2019

v	Greenville Rancheria of Maidu Indians Kyle Self, Chairperson P.O. Box 279 Greenville, CA, 95947 Phone: (530) 284 - 7990 Fax: (530) 284-6612 kself@greenvillerancheria.com	Maidu	Washoe Tribe of Nevada and California Darrel Cruz, Cultural Resources Department 919 Highway 395 North Gardnerville, NV, 89410 Phone: (775) 265 - 8600 darrel.cruz@washoetribe.us	Washoe
/	Honey Lake Maidu Paul Garcia, Chairperson 7029 Polvadero Drive San Jose, CA, 95119 Phone: (408) 499 - 1565 drinkwiz@sbcglobal.net	Maidu		X
\rightarrow	Honey Lake Maidu Ron Morales, Chairperson 1101 Arnold Street Susanville, CA, 96130 Phone: (530) 257 - 3275	Maidu		
1	Susanville Indian Rancheria Brandon Guitierez, Chairperson 745 Joaquin Street Susanville, CA, 96130 Phone: (530) 257 - 6264 Fax: (530) 257-7986 sirtribalchair@citlink.net	Maidu Paiute Pit River Washoe	-	
J	<i>Tsi Akim Maidu</i> Grayson Coney, Cultural Director P.O. Box 510 Browns Valley, CA, 95918 Phone: (530) 383 - 7234 tsi-akim-maidu@att.net	- PO Bax 13 Maidu COLEAX	a gent	
1	United Auburn Indian Community of the Auburn Rancheria Gene Whitehouse, Chairperson 10720 Indian Hill Road Auburn, CA, 95603 Phone: (530) 883 - 2390 Fax: (530) 883-2380 bguth@auburnrancheria.com	Maidu Miwok		

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Calpine Tank and Well Projects, Sierra County.

PROJ-2019-003194

06/07/2019 07:39 AM

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P.O. Box 3324

Truckee CA 96160

530-587-7072

530-587-7072 (cell)

susanglindstrom@gmail.com

DATE: June 13, 2019

TO: Brandon Guitierez, Chairperson

Susanville Indian Rancheria

745 Joaquin Street

Susanville, CA 96130

sirtribalchair@citlink.net

530-257-6264

RE: Calpine Tank and Well Projects

Sierra County Water Works District #1 is planning improvements to their water system located in Calpine, California (Sierra County). The project is being partially funded through the Drinking Water State Revolving Fund (SRF) program, which is under the State Water Resources Control Board (SWRCB), with partial funding coming through U.S. Department of Agriculture (USDA) Rural Development. The Calpine project APE covers approximately six acres. It falls within Township 21 North, Range 14 East, Sections 19-20, USGS Calpine 7.5 Quad (see attached map).

I am following up on the Native American Heritage Commission's recommendation to reach out to other tribes/individuals that may have information about this project. I wish to bring this project to your attention, and I invite your opinions, knowledge and sentiments regarding any potential concerns for traditional Native American lands within the project vicinity.

Thank you very much.

Susan Lindström

P.O. Box 3324

Truckee CA 96160

530-587-7072

530-713-1920 (cell)

susanglindstrom@gmail.com

DATE: June 13, 2019

TO: Grayson Coney, Cultural Director

(Don Ryberg, Chairperson)

Tsi Akim Maidu

P.O. Box 510

Browns Valley, CA 95918

530-274-7497

Tsi-akim-maidu@att.net

RE: Calpine Tank and Well Projects

Sierra County Water Works District #1 is planning improvements to their water system located in Calpine, California (Sierra County). The project is being partially funded through the Drinking Water State Revolving Fund (SRF) program, which is under the State Water Resources Control Board (SWRCB), with partial funding coming through U.S. Department of Agriculture (USDA) Rural Development. The Calpine project APE covers approximately six acres. It falls within Township 21 North, Range 14 East, Sections 19-20, USGS Calpine 7.5 Quad (see attached map).

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Susan Lindström

P.O. Box 3324 Truckee CA 96160 530-587-7072

530-713-1920 (cell)

susanglindstrom@gmail.com

DATE: June 13, 2019

TO: Gene Whitehouse, Chairperson

United Auburn Indian Community of the Auburn Rancheria

10720 Indian Hill Road

Auburn, CA 95603

530-883-2390

RE: Calpine Tank and Well Projects

Sierra County Water Works District #1 is planning improvements to their water system located in Calpine, California (Sierra County). The project is being partially funded through the Drinking Water State Revolving Fund (SRF) program, which is under the State Water Resources Control Board (SWRCB), with partial funding coming through U.S. Department of Agriculture (USDA) Rural Development. The Calpine project APE covers approximately six acres. It falls within Township 21 North, Range 14 East, Sections 19-20, USGS Calpine 7.5 Quad (see attached map).

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Susan Lindström

5/18/2019	Gmail - Calpine Tank and Well Projects
Gmai	
Calpine Tank and Well Projects 2 messages	
Susan Lindstrom ≺susanglindstrom@gmail.com> To: Cherilyn Neider <cneider@auburnrancheria.com></cneider@auburnrancheria.com>	Thu, Jun 13, 2019 at 6:42 PN
Hi Cherilyn; Attached please find information regarding this project. As always, I	l welcome your input.
Susan G. Lindstrom, Ph.D. Consulting Archaeologist	• •
susanglindstrom@gmail.com P.O. Box 3324 Truckee, CA 96160 530-587-7072	
3 attachments	
■ Catpine NAHC Whitehouse.docx 14K	
Calpine Prefield Map Topo 12k scale.pdf 4165K	
📩 Calpine Prefield Map Aerial 5k scale.pdf 4242K	
Cherilyn Neider <cneider@auburnrancheria.com> To: Susan Lindstrom <susanglindstrom@gmail.com></susanglindstrom@gmail.com></cneider@auburnrancheria.com>	Fri, Jun 14, 2019 at 9:25 AM
Good morning Susan,	
Thank you for sending thee over. We will review and get back to y	ou with any comments or concerns.
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https://mail.google.com/mail/u/0?ik=8201b3428f&view=pt&search=all&permthid=thread-	a%3Ar-7098403434537009809&simpl=msq-a%3Ar-1239283675507213745&simpl=msq-f%3A163633379859531



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P.O. Box 3324

Truckee CA 96160

530-587-7072

530-587-7072 (cell)

susanglindstrom@gmail.com

DATE: June 13, 2019

TO: Darrel Cruz, THPO

Cultural Resources Department

919 Highway 395 South

Gardnerville, NV 89410

darrel.cruz@washoetribe.us

775-782-0014; 775-546-3421 (cell)

RE: Calpine Tank and Well Projects

Sierra County Water Works District #1 is planning improvements to their water system located in Calpine, California (Sierra County). The project is being partially funded through the Drinking Water State Revolving Fund (SRF) program, which is under the State Water Resources Control Board (SWRCB), with partial funding coming through U.S. Department of Agriculture (USDA) Rural Development. The Calpine project APE covers approximately six acres. It falls within Township 21 North, Range 14 East, Sections 19-20, USGS Calpine 7.5 Quad (see attached map).

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Susan Lindström

Washoe Tribe of Nevada and California Tribal Historic Preservation Office/Cultural Resources Office Protect, Preserve and Promote Washoe Heritage and Culture



Susan Lindström, Ph.D. Consulting Archaeologist P.O. Box 3324 Truckee CA 96160 July 1, 2019

RE: Calpine Tank and Well Projects

Dear Ms. Lindstrom,

Thank you for consulting with the Tribal Historic Preservation Office of the Washoe Tribe of Nevada and California on the proposed project and providing supporting documentation.

I am not aware of cultural resources within the project area that may be affected by the proposed project. however, if there is an archaeological study conducted for this project we would like to be kept informed of the finding and continue consultation with the proponent.

In the event of inadvertent discoveries as a result of project activities, we ask to be kept informed of the findings and continued consultation

Thank you and please call me if you have any questions at (775) 265-8600.

Respectfully,

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Darrel Cruz, Director Tribal Historic Preservation Office

919 Highway 395, Gardnerville, Nevada 89410 Work (775) 265-8600 • Cell (775) 546-3421

Sierra County Water Works District #1, Calpine Tank and Well Projects September 2019 53

P.O. Box 3324 Truckee CA 96160

530-587-7072

530-713-1920 (cell)

susanglindstrom@gmail.com

DATE: June 13, 2019

TO: Paul Garcia, Chairperson

Honey Lake Maidu Indians

7029 Polvadero Drive

San Jose, CA 95119

408-499-1565; drinkwiz@sbcglobal.net

RE: Calpine Tank and Well Projects

Sierra County Water Works District #1 is planning improvements to their water system located in Calpine, California (Sierra County). The project is being partially funded through the Drinking Water State Revolving Fund (SRF) program, which is under the State Water Resources Control Board (SWRCB), with partial funding coming through U.S. Department of Agriculture (USDA) Rural Development. The Calpine project APE covers approximately six acres. It falls within Township 21 North, Range 14 East, Sections 19-20, USGS Calpine 7.5 Quad (see attached map).

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Susan Lindström

P.O. Box3324 Truckee CA 96160 530-587-7072

530-713-1920 (cell)

susanglindstrom@gmail.com

DATE: June 13, 2019

TO: Ron Morales, Chairperson

Honey Lake Maidu Indians

1101 Arnold Street

Susanville, CA 96130

530-257-3275

RE: Calpine Tank and Well Projects

Sierra County Water Works District #1 is planning improvements to their water system located in Calpine, California (Sierra County). The project is being partially funded through the Drinking Water State Revolving Fund (SRF) program, which is under the State Water Resources Control Board (SWRCB), with partial funding coming through U.S. Department of Agriculture (USDA) Rural Development. The Calpine project APE covers approximately six acres. It falls within Township 21 North, Range 14 East, Sections 19-20, USGS Calpine 7.5 Quad (see attached map).

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Susan Lindström

P.O. Box 3324

Truckee CA 96160

530-587-7072

530-713-1920 (cell)

susanglindstrom@gmail.com

DATE: June 13, 2019

TO: Kyle Self, Chairperson

Greenville Rancheria of Maidu Indians

P.O. Box 279

Greenville, CA 95947

530-284-7990; kself@greenvillerancheria.com

RE: Calpine Tank and Well Projects

Sierra County Water Works District #1 is planning improvements to their water system located in Calpine, California (Sierra County). The project is being partially funded through the Drinking Water State Revolving Fund (SRF) program, which is under the State Water Resources Control Board (SWRCB), with partial funding coming through U.S. Department of Agriculture (USDA) Rural Development. The Calpine project APE covers approximately six acres. It falls within Township 21 North, Range 14 East, Sections 19-20, USGS Calpine 7.5 Quad (see attached map).

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Susan Lindström

APPENDIX 3

Resume

RESUME

Susan Lindström, Ph.D. Box 3324, Truckee CA 96160 530-587-7072 (530-713-1920 cell) susanglindstrom@gmail.com

Education

Ph.D. Archaeology 1992 - University of California Davis

- M.A. Anthropology 1978 University of California Davis
- B.A. Anthropology 1972 University of California Berkeley

Expertise

Cultural Resource Management Archaeology (prehistoric and historic period) History and archival records research Ethnography, ethnohistory, oral history Native American consultation Interpretation and public education Professional Organizations Register of Professional Archaeologists (member since 1982) Society for Historical Archaeology Society for California Archaeology Various county and regional historical societies

Lindström's qualifications include archaeological field work and analytical and archival research in the prehistory and history of the western United States including California, the northern and western Great Basin in Nevada and Oregon, and the Cascade Range and the Columbia River Plateau in Oregon and Washington. Her area of expertise is centered in the north-central Sierra where she has over 43 years of experience in historic preservation matters on a local, state and federal level. She has resided in the Tahoe Sierra and accrued full-time professional experience here since 1973.

Heritage Resource Management -- As Forest Archaeologist from 1973 until 1978 for the Tahoe National Forest and "zone" Archaeologist for the El Dorado National Forest and Lake Tahoe Basin Management Unit, and as District Archaeologist for the Bureau of Land Management in 1978 (Burns, Oregon), Lindström initiated and implemented heritage resource programs for the inventory, protection, management and interpretation of prehistoric and historic heritage resources. She conducted training sessions on heritage resource identification and on antiquities legislation.

Contracting and Consulting – Between 1980 and the present time, as a private consultant, Lindström has conducted and/or supervised fieldwork, data analysis, archival research, and report preparation for hundreds of federal, state, county, and private projects within the north-central Sierra and adjoining regions in California and Nevada. During this time, she has served as an expert witness on historic and prehistoric resources involving California State Supreme Court cases within the Tahoe Sierra.

Teaching -- Lindström instructed introductory level courses in cultural and physical anthropology and archaeology at the University of Nevada, Reno and the University of California, Davis and was appointed as an adjunct professor to the University of Nevada, Reno in 2010.

**Research, Publications and Papers* -- Academic and heritage management reports pertain to regional prehistory and history, as well as print and video publications for the popular audience (including research findings on the Donner Party, California gold mining, Washoe Indians, and California ethnobotany).

Resume, Susan Lindström page 2

Secretary of Interior Standards: Archaeology and History (Prehistory, Ethnobristory, Ethnobistory, Ethnobotany, History, Paleoenvironmental Studies)

Lindström's 43 years of full-time professional experience in archaeological research, administration and management at the supervisory level involves the study of resources of the prehistoric, ethnographic, ethnohistoric, and historic period. In the Lake Tahoe Basin and Truckee Basin alone, Lindström has supervised and/or participated in the cumulative survey of nearly 50,000 acres. Her work in the adjoining sierran foothills and valleys approaches an additional 25,000 acres.

<u>Prehistory</u>. Experience in prehistoric archaeology largely pertains to the study of hunter-gatherer groups in the far west. Her surveys and excavations center upon the prehistoric ancestors of the Washoe and Maidu Indians of the north-central Sierra.

Lindström's Ph.D. dissertation focused on Washoe fishing in the Truckee River Drainage Basin. Her M.A. thesis explored high-elevation prehistoric land use in the Truckee-Tahoe Sierra.

During the 1990s she participated in the development of a research design for the Framework for Archaeological Resource Management (FARM), a heritage resource management document used by all north-central sierran forests.

She is presently a reviewer for the Journal of California Archaeology.

Ethnography, Ethnohistory, Ethnobotany. Lindström has developed an extensive knowledge of Washoe and Maidu territory and has maintained a good working relationship with these groups beginning in 1973. Since 2000 she has collaborated with prominent Washoe ethnographers such as Warren D'Azevedo and Merideth (Penny) Rucks. Lindström conducted and coordinated ethnographic research to develop a management plan for Cave Rock, a high-profile Washoe Traditional Cultural Property within the Lake Tahoe Basin. She authored a chapter on Native Californian ethnobotany that appears in a standard source book on California vegetation.

<u>History.</u> Experience in historic sites archaeology has focused on resources associated with the study of mining, logging, ranching, transportation, and water management resources. Since 1991 Lindström has conducted excavations at several rural work camps and industrial sites, many involving Chinese wood cutters and colliers. In 1987 and 1990 she field-directed excavations at two Donner Party camps (Murphy's Cabin and Alder Creek) and co-authored a book detailing the archival research, archaeology, architecture, dendrochronology, and zooarchaeology surrounding the tragedy.

<u>Paleoenvironmental Studies.</u> Lindström is a contributor to the 1997 congressionally funded, multidisciplinary study assessing the environmental health and ecosystem management of the Sierra Nevada (*Sierra Nevada Ecosystem Project* [SNEP]) and the pilot case study focusing on the Lake Tahoe Basin.

She is also a contributor to the *Lake Tahoe Watershed Assessment* study, published in 2000 by the Pacific Southwest Research Station, USDA Forest Service, in collaboration with the Pacific Southwest Region of the USDA Forest Service, the Tahoe Regional Planning Agency, the University of California at Davis, the University of Nevada at Reno, and the Desert Research Institute, Reno, Nevada. The study was mandated as part of former President Clinton's actions to protect Lake Tahoe.

Resume, Susan Lindström page 3

Through a series of snorkel and SCUBA surveys during the 1980s and 1990s in Lake Tahoe and its tributary lakes, Lindström investigated lake level changes and explored submerged remnant forests and prehistoric milling features as paleoenvironmental indicators over the past 6000 years. She presented her findings in scientific journals as a co-author with geologists, hydrologists and limnologists. Her work was also featured in *National Geographic* magazine (March 1992).

Secretary of Interior Standards: Closely Related Fields

Lindström's 43 years of full-time experience also entails research, writing, inventory, evaluation, data recovery, and management in closely related fields pertaining to the "built environment." Her work falls within the historical context of mining, logging, water supply engineering, and ranching landscapes, as well as transportation and communications networks, and town sites. Evaluation and data recovery have been directed to 19th and 20th century structural remains for the following resource types: Chinese/Basque/miner cabins; bake ovens/hearths; sawmills; railroad grades and camps; flumes; ditches; pipelines; dams; reservoirs; water tanks; ice works; ranch complexes; charcoal kilns; mine features; trails/roads/highways; utility lines; and fences.

For her projects involving more complex structural properties such as intact standing buildings, bridges and other architectural features, Lindström has had the opportunity to collaborate and learn from prominent architectural historians, beginning in the early 1980s with the Town of Truckee National Register District nomination process up until the present time.

Lindström also has experience with several historic preservation projects. She authored the heritage resource components for local community plans (from 1989 through 2005) and for county general plans (beginning in 1991). During the 1980s she served as a charter member of the Truckee Historical Preservation Advisory Council. She assisted in the preparation of the Truckee Historic Preservation Plan in 2009, followed by the formal National Register District nomination and subsequent Truckee Streetscape project. She served as a member of the "Placer County Department of Museums Collections Management Task Force" in 2000 and is currently an advisor to the California Department of Parks and Recreation (Sierra District) for their upcoming museum at Donner Memorial State Historic Park.

*available upon request