CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)
INITIAL STUDY/PROPOSED MITIGATED NEGATIVE DECLARATION

for the

Palermo Clean Water Consolidation Project

Palermo, California

December 2021

Prepared for:
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for the
PALERMO CLEAN WATER CONSOLIDATION PROJECT

Project Title:	Palermo Clean Water Consolidation Project
Lead Agency Name and Address:	Butte County Department of Water and Resource Conservation 308 Nelson Avenue Oroville, CA 95965-3302
Lead Agency Contact Person:	Christina Buck, Ph.D. (530) 552-3593; cbuck@buttecounty.net
Project Location:	Palermo, Butte County, CA
General Plan Designation:	Low Density Residential (LDR)

1.0 Introduction

The unincorporated community of Palermo is located approximately five miles south of the City of Oroville. Palermo consists of approximately 490 parcels and a population of 5,000 residents and qualifies as a severely disadvantaged community. The proposed Palermo Clean Water Consolidation Project would allow Butte County (County) to address the drinking water quality issues faced by the Palermo community (Fig. 1). The County and South Feather Water and Power Agency (SFWPA) are pursuing 100% grant funding for the Palermo Clean Water Consolidation Project.

The majority of the parcels within the Palermo community are served by individual water wells for their potable water supply. In addition, all parcels are served by on-site septic systems for wastewater treatment and disposal. Flooding, high groundwater levels and continued septic system failures have resulted in cross contamination of the existing wells and possibly contamination of the groundwater aquifer. On November 17, 2021 a Town Hall meeting was held in Palermo to discuss a solution to provide clean, reliable and affordable water to the community. On November 17, 2021 a Town Hall meeting was held in Palermo to discuss a long-term solution for clean and reliable water in the community. The Palermo Clean Water Consolidation Project Fact Sheet and Postcard announcing the Town Hall meeting are included in Appendix A. The County has also developed a project website at http://buttecounty.net/waterresourceconservation/Palermo_Clean_Water.

The County would like to resolve these drinking water quality issues by reorganizing the remainder of the community of Palermo into the South Feather Water and Power Agency (SFWPA) surface water treated system. There are a total of 490 parcels within the Palermo Clean Water Consolidation project footprint of which 110 parcels currently receive treated surface water from the SFWPA. The remainder of the community within the proposed project limits relies on groundwater for residential use. The consolidation project would bring all parcels Safe Drinking Water Act (SDWA) compliant clean treated potable water to the community and eliminate any future potential health and safety issues.

The project consists of constructing new 6-inch and 12-inch water mains, gate valves, fire hydrants, water services, water meters, water meter boxes, and abandoning existing domestic wells. Approximately 40,000 lineal feet (7.6 lineal miles) of new pipeline, services lines and meter boxes will be installed in the existing road right-of-way and parcels (Fig. 2).

This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines, Title 14 California Code of Regulations (CCR) 15000 *et sq*. An Initial Study is prepared by a lead agency to determine if a project may have a significant effect on the environment. The lead agency for the proposed project is Butte County Department of Water and Resource Conservation.

2.0 Project Location

Palermo is an unincorporated community in Butte County with a population of approximately 5,000 people located about five (5) miles south of the City of Oroville and east of Highway 70 (Fig. 1). The community is located within a portion of the northwest quarter of Section 5 of Township 18 North, Range 4 East section 5, of the USGS Palermo, California (1970), 7.5 Series Quad.

The proposed boundary limits for the Palermo Clean Water Consolidation Project are: Messina Avenue on the north, Upper Palermo Road on the east, South Villa Avenue on the south and Railroad Avenue on the west as shown in Figure 2. The project area is rural in nature consisting of small homesteads, houses, utility installations, and rural farmlands including livestock grazing, agricultural croplands and orchards. Photos 1 through 55 provide views of the project area.

The climate is characterized by hot, dry summers and mild, wet winters. Current winter temperatures have highs around 54 degrees Fahrenheit, and current summer temperatures have highs around 97 degrees Fahrenheit.

3.0 South Feather River Water and Power Agency (SFWPA)

The SFWPA dates back to 1919 when it was called the Oroville-Wyandotte Irrigation District. Today, the SFWPA consists of a service area of approximately 31,000 acres within Butte County. SFWPA has surface water rights from the South Fork of the Feather River and Slate Creek (a tributary of the North Fork of the Yuba River). SFWPA operates a series of reservoirs with a combined storage capacity of 164,577 acre-feet.

Water is treated at the Miner's Ranch Treatment Plant which has a capacity of 14.5 million gallons per day (MGD). SFWPA supplies treated surface water to 6,931 service connections and irrigation water to over 500 customers (SFWPA 2020 Urban Water Management Plan, 2021) within Butte County, including an existing 110 connections within the project area. In 2020, SFWPA supplied 1,737 million gallons of treated surface water or 4.76 MGD. A Memorandum of Understanding (MOU) between Butte County and SFWPA for the Palermo Clean Water Consolidation Project is included in Appendix B.

4.0 Proposed Project Elements

The following elements for the proposed Palermo Clean Water Consolidation project consist of:

- The proposed project will connect to SFWPA's existing water system with 6-inch and 12-inch C-900 PVC water mains within the project limits to provide a looped water system for the Palermo community. Approximately 40,000 lineal feet of new pipelines and services lines will be installed (see Fig. 2).

- Fire hydrants will be installed per code requirements of 800-1,000 feet apart within the system.

- Meter boxes with advanced metering infrastructure (AMI) smart water meters will be installed at each parcel to automate future meter reading services which is in compliance with AB 2572 that requires all water suppliers to install water meters on all customer connections by January 1, 2025. Services lines will be run from the meter to each customer home.

Well destruction is discussed in Section 7.0 of this Initial Study. SFWPA will be responsible for the operation and maintenance of the water distribution system improvements associated with project implementation.

5.0 Palermo Water Quality Testing

The County with assistance from SFWPA reached out to the Palermo Community through a Town Hall meeting held on June 15, 2021. The County surveyed the residents within the proposed Palermo Clean Water Consolidation project boundary to see who would be willing to have the County/SFWPA obtain a water sample from a hose bib outside their home. As a result of the Town Hall meeting and survey, 25 residents agreed to have their water tested for Total Coliform, E. Coli and Nitrate as N. On July 15, 2021, SFWPA staff collected water quality samples and sent them to the lab for water quality testing. Water Quality test results are included in Appendix D. To prevent future drinking water contamination, a water system consolidation is recommended that would connect the Palermo community with the SFWPA water supply infrastructure.

As discussed in the Palermo Water Quality Testing Results Technical Memorandum (TM) prepared by Luhdorff & Scalmanini Consulting Engineers (LSCE) (see Appendix D), the 2021 water quality results indicated that 24% of the wells sampled tested positive for Total Coliform. This is consistent with the 2007 water quality testing that resulted in 29% of wells sampled testing positive for Total Coliform. Projecting the 2021 water quality results over the remaining 380 parcels within the project boundary indicates that approximately 91 wells could be at risk of having Total Coliform present and approximately 15 wells could be at risk of having E-Coli present. Additionally, a small percentage of wells could be at or above the primary drinking water MCL for Nitrates as N. These pollutants could result in various health issues, including urinary tract infections, diarrheas and stomach pains due to poor water quality from groundwater sources. The County and SFWPA are planning additional testing for the Community.

6.0 Project Water Demand and SFWPA Supply Analysis

There are 490 parcels within the boundary limits shown in Figure 2, of which 110 are currently provided water by SFWPA. Assuming an average occupancy rate of 3 people per dwelling unit (pdu) and 490 parcels, the projected population is 1,470. Assuming a water usage of 200 gallons per capita per day (GPCD) the average day demand (ADD) would be 294,000 gallons. Per the State Water Resources Control Board (SWRCB) Division of Drinking Water's (DDW) Title 22 California Regulations Related to Drinking Water Chapter 16, California Waterworks Standards, the maximum day demand (MDD) shall be calculated by multiplying the ADD by 2.25 and the peak hour demand (PHD) shall be calculated by multiplying the MDD by 1.5. This results in a MDD of 661,500 gallons (0.66 MGD) and a PHD of 992,250 gallons (0.99 MGD) for the project area customer base.

In 2020, the SFWPA had a MDD of 11.6 MGD and a PHD of 16.6 MGD. The SFWPA has a water treatment plant capacity of 21 MGD. Table 1 below shows that SFWPA has sufficient water treatment plant capacity to meet the additional demand from the project. In addition, SFWPA is able to meet the

minimum fire protection requirement of 1,000 gpm for fire duration of 2-hours with existing water system fire protection capacity. No additional storage or source capacity is planned (SFWPA 2020 UWMP).

Table 1. Palermo Clean Water Consolidation Project and SFWPA water system demands and plant capacity in millions gallon day (MGD).

Palermo Max Day Water Demand	0.66
SFWPA Max Day Water Demand	11.60
SFWPA + Palermo Max Day Demand	12.26
Residential Fire Requirement = 1,000 gpm@2 hours	0.12
Average TOTAL MGD + fire flows	**12.38**
SFWPA Water Treatment Plant Capacity	**21.00**

7.0 Well Destruction

Well destruction is an eligible project cost for water consolidation projects (such as the Palermo Clean Water Consolidation Project) in particular where older groundwater system infrastructure is being destroyed and converted to a treated surface water supply as part of the consolidation improvements. Drinking Water State Revolving Fund (DWSRF) policy supports well destruction as being included as part of a water consolidation project where older well destruction would likely be required or necessitated by well operation and/or Safe Drinking Water Act (SDWA) compliance related issues.

The project partners are pursuing 100% grant funding for the Palermo Clean Water Consolidation Project and will inform Palermo residents within the project boundary connecting to the SFWPA water system when grant funds are available for well destruction costs per County well destruction standards. The majority of the residents within Palermo have individual groundwater wells (the majority of existing domestic wells are a depth of 75-125 feet).

Palermo customers who do not take advantage of well destruction grant funds as part of Palermo Clean Water Consolidation Project implementation and decide to destroy their wells in the future may have to pay for their well destruction costs (post-Project). The project partners will provide Palermo residents the opportunity to properly destroy existing wells using grant funds once connected to the SFWPA system.

8.0 SFWPA Proposed Annexation: Palermo Clean Water Consolidation Project

In order for the County to pursue the water system consolidation option with DDW-SRF funding, the parcels within the Palermo Clean Water Consolidation Project area will be required to annex into the SFWPA for service. Some parcels within the community have already chosen to annex into SFWPA to obtain services. Typically, landowners request annexation into SFWPA, and the Agency facilitates the parcel annexation process from start to finish in coordination with the Butte County Local Agency Formation Commission (LAFCo). For the Palermo Clean Water Consolidation Project, the remaining unserviced landowners will have to agree to be annexed through the County process in order to be served water by the SFWPA and agree to pay the SFWPA water rates (described further below, Section 9.0).

In summary, SFWPA first develops the required annexation documentation (including environmental compliance) and takes the documentation with corresponding resolution to the SFWPA Board to authorize submittal of proposed annexation applications to the Butte Local Agency Formation Commission (LAFCo) for review and adoption by their Board. An individual annexation application will

need to be developed for each landowner who is not already annexed within the SFWPA. Legal descriptions will need to be obtained for each parcel which will be included in project cost estimates. A copy of the Property Owner's Statement of Understanding and Interest for Connection to SFWPA is included as Appendix D.

9.0 Water Service Rates

SFWPA charges a monthly service charge of $19.73 per month plus $0.42/billing unit for the first 100 units (10,000 cubic feet) and $0.31/unit after the first 100 units (over 10,000 cubic feet). Oversized meters are charged an additional fee each month. The majority of Palermo customers annexed under the proposed project would pay the monthly service charge for their ¾-inch service plus water consumption charges with their expected demand to be within the first 100 units at $0.42/billing unit.

Palermo customers are paying affordable rates upon converting to SFWPA water service in comparison to State-wide average or EPA Rate Affordability Criteria. Table 2 below provides perspective based on approximately 110 Palermo accounts who have already converted to SFWPA water service for calendar year 2020 water use and associated water billing.

Table 2. Palermo Clean Water Consolidation Project Comparative Average Water Rates.

State-wide Average*	$960/year	$80.00/month
EPA Rate Affordability Criteria	$844/year	$70.38/month
Avg. SFWPA Palermo Account	$420/year	$34.28/month

*State-wide average bill assumes 20 ccf of water consumption similar to SFWPA per capita water use target.

10.0 Project Implementation Schedule

An implementation schedule for the Palermo Clean Water System Consolidation project is shown in Appendix A. Funding and annexation can take up to 6-months to complete. The remaining phases of design (e.g., 60% and 100% design plans and specification submittals) will take between 9 to 12-months. Construction of the project is expected to last between 15 to 18-months.

11.0 Alternatives to the Proposed Project

The best long-term solution to the health and safety issues being faced by the Palermo community is to consolidate the water system of the community (ground water) with the SFWPA (surface water). SFWPA currently supplies drinking water to 110 of the 490 parcels within the community. The community has experienced high rates of septic failures during periods of high rainfall which has resulted in stormwater and upper aquifer contamination. If left unresolved, individual wells will continue to experience cross contamination issues and pose a risk to the groundwater aquifer due to seasonal flooding, high groundwater levels and continued septic system failures. In addition, any existing wells that fail or must be retired from service would need to be replaced with wells meeting current well construction standards including deeper seals to at least a 100-foot depth and may need to be drilled to a greater depth as well. Existing wells taken out of service would need to be properly destroyed in accordance with County and State well standards. The proposed project as outlined in this Initial Study is the preferred alternative.

12.0 Public Participation

This Initial Study is available for a 30-day public review period beginning December 13, 2021 and ending on January 12, 2022. Written comments may be submitted by 4:00 p.m. on January 12, 2022 to:

Christina Buck, Ph.D.
Butte County
Department of Water and Resource Conservation
308 Nelson Avenue
Oroville, CA 95965-3302

13.0 Required Public Agency Permits and Approvals

The following agency approvals and/or permits are anticipated for the proposed project:

- Butte County Department of Water and Resource Conservation - Project approval and adoption of the CEQA Initial Study/Mitigated Negative Declaration.
- Regional Water Quality Control Board - Any water associated with construction will be required to meet the requirements for waste discharges.
- Butte County LAFCo - Project Annexation
- Butte County Right-of-Way Encroachment Permit

14.0 Environmental Factors Potentially Affected by the Proposed Project

Section 15.0 of this Initial Study contains the Environmental Checklist that identifies potential environmental impacts by subject area and a determination of each impact that would result from the Palermo Clean Water Consolidation Project. Based on the Environmental Checklist and supporting analysis provided in Section 15.0 and respective Appendices, the project would result in the following impacts:

- **No Impact:** aesthetics, agricultural resources, mineral resources, land use and planning, population, public services, recreation, and utilities and service systems.
- **Less-than-Significant Impacts:** geology and soils, and transportation/traffic.
- **Less-than-Significant Impacts with Mitigation Incorporated:** air quality, biological resources, cultural resources, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, and tribal cultural resources.
- **Potentially Significant Impact:** None.

In accordance with State CEQA Guidelines 15070, a Mitigated Negative Declaration may be prepared if there is no substantial evidence that the proposed project would have a significant effect on the environment with mitigation measures incorporated into the project to reduce potential environmental impacts. Therefore, a Mitigated Negative Declaration is proposed to be adopted in accordance with State CEQA Guidelines. A Mitigation Monitoring and Reporting Program (MMRP) is included as Appendix H.

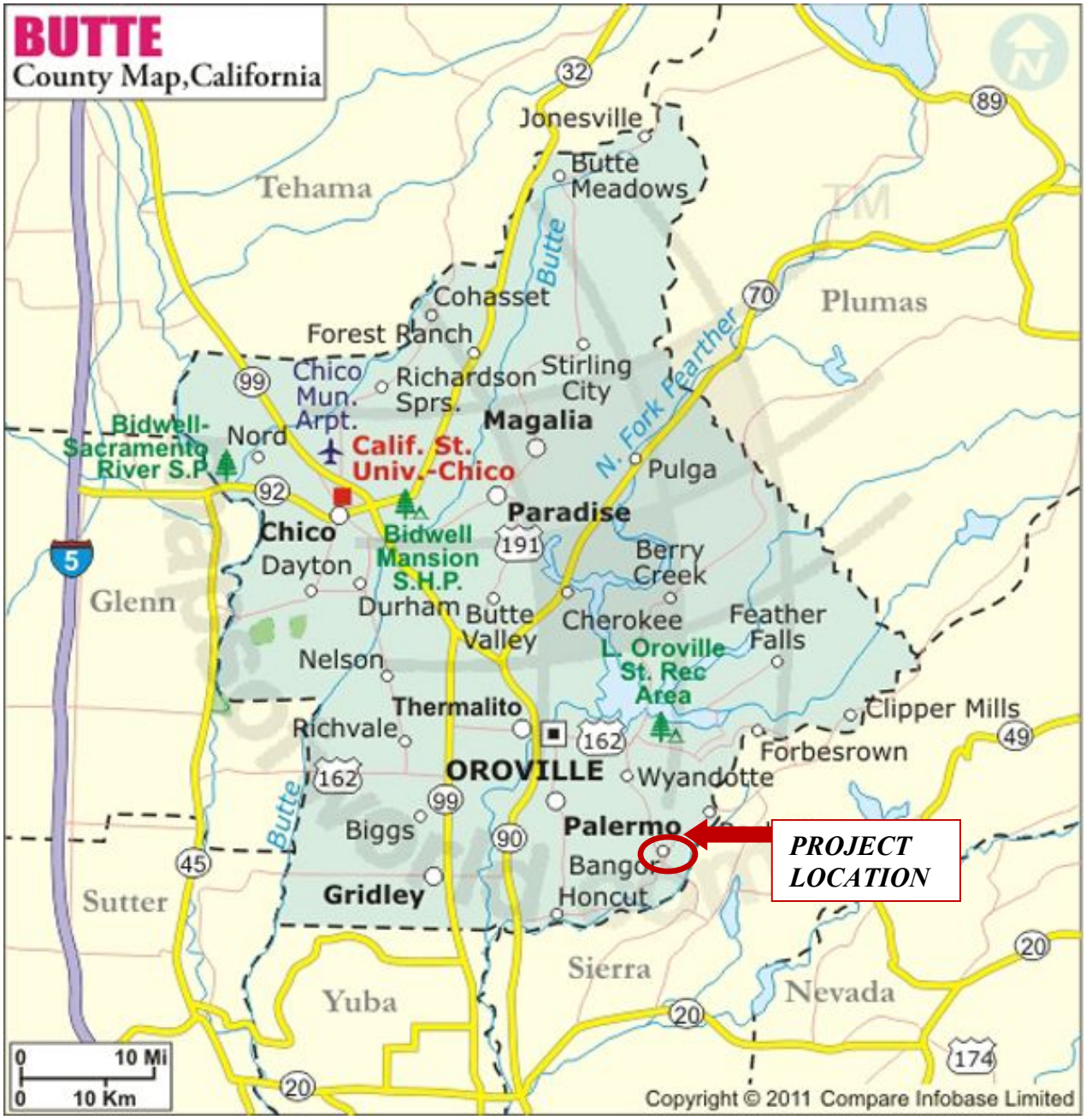

Figure 1: The County of Butte, CA and community of Palermo circled in red.

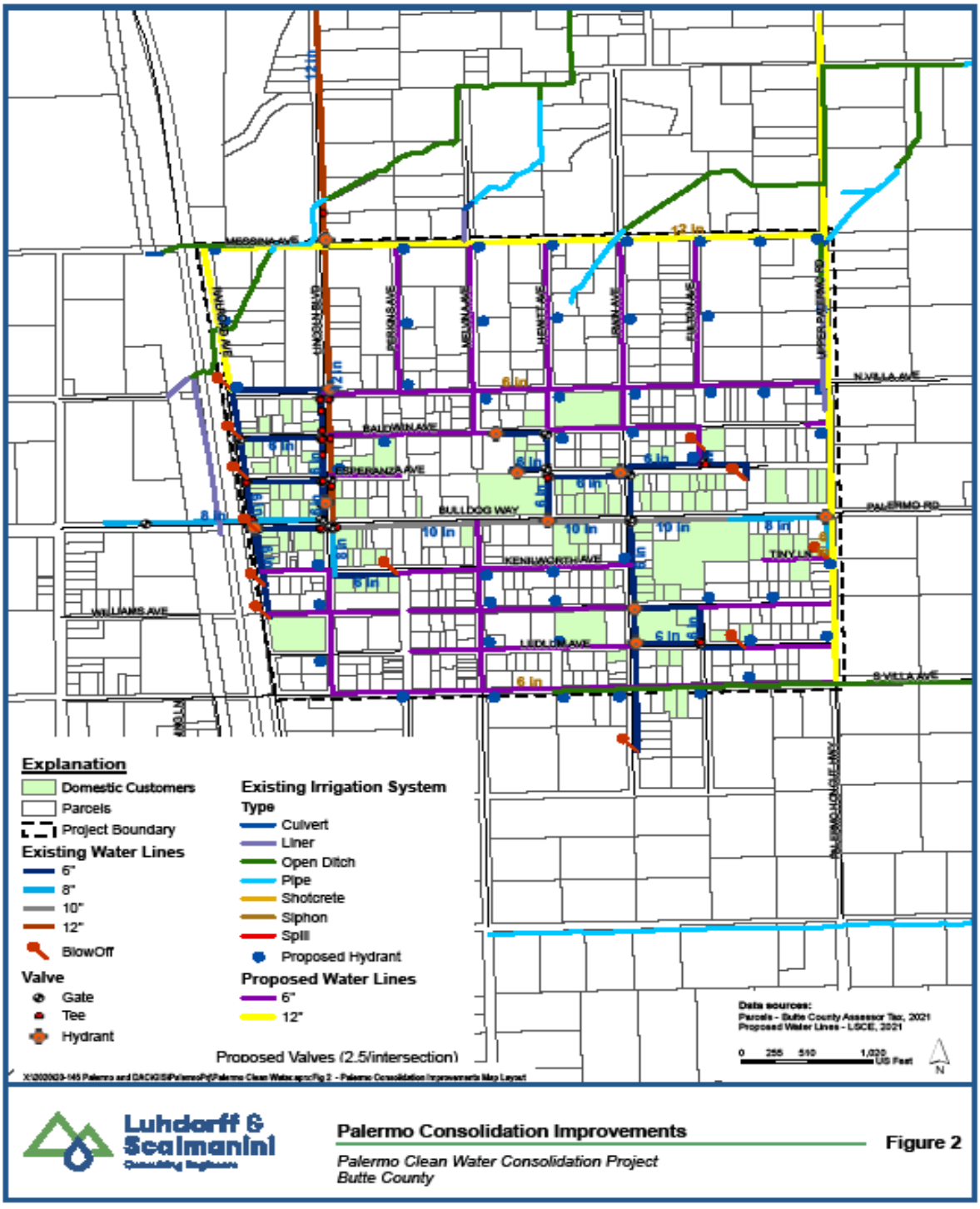

Figure 2: Proposed Palermo Clean Water Consolidation Project Area.

Photo log Palermo – October 6, 2021

Photo #	Description
1	Palermo town sign
2	Messina and Lincoln south
3	Messina and Lincoln west
4	Messina and Lincoln east
5	North Villa and Lincoln west
6	North Villa and Lincoln east
7	Baldwin and Lincoln west
8	Baldwin and Lincoln east
9	Esperanza and Lincoln west
10	Esperanza and Lincoln east
11	Palermo and Lincoln north
12	Palermo and Lincoln west
13	Palermo and Lincoln south
14	Palermo and Lincoln east
15	Kenilworth and Lincoln west
16	Kenilworth and Lincoln east
17	Williams and Lincoln west
18	Williams and Lincoln east
19	Railroad and S Villa east
20	Railroad and S Villa north
21	canal crossing between Railroad Avenue and Melvina
22	Irwin and S Villa north
23	Irwin and S Villa west
24	Fulton and S Villa west
25	Ludlum and Upper Palermo (UP) west
26	Ludlum and UP north
27	Williams and Up west
28	Tiny Lane west
29	Palermo Rd and up west
30	Palermo Rd and UP north
31	North Villa and UP west
32	Messina and UP south
33	Messina and UP west
34	Messina and UP north
35	Bohemia and UP south
36	Esperanza and Railroad south
37	Railroad near Messina north
38	Messina/Railroad corner east ditch on right side
39	wide ditch along north side of Messina east of Railroad Avenue
40	Messina and Perkins south
41	Messina and Perkins east
42	Messina and Perkins west
43	wetland just west of Hewitt along Messina
44	Messina and Irwin south
45	Messina and Fulton south
46	Messina and Fulton north
47	Ludlum and Irwin west
48	Ludlum and Irwin east
49	Irwin and Williams west
50	Irwin and Williams east
51	Irwin and Palermo west
52	Irwin and Palermo east
53	Hewitt and Esperanza west
54	Hewitt and Esperanza east
55	Hewitt and Baldwin west

		
1	2	3
		
4	5	6
		
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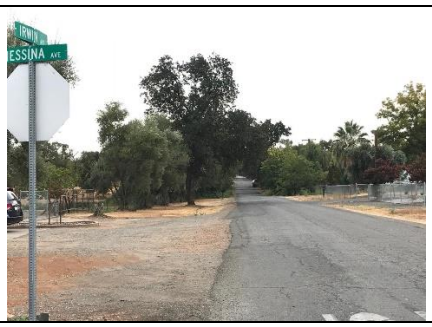
		
43	44	45
		
46	47	48

		
49	50	51
		
52	53	54
		
55		

15.0 Evaluation of Environmental Impacts

The California Environmental Quality Act (CEQA) Guidelines direct lead agencies to use an Initial Study checklist to determine the potential impacts of a proposed project on the physical environment. The checklist provides a list of questions concerning 17 environmental topic areas potentially affected by a project.

There are four possible answers to the environmental checklist questions. All answers must take into account 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. Each possible answer is explained herein:

1) A "**Potentially Significant Impact**" answer is appropriate if there is enough relevant information and reasonable inferences from that information that a fair argument can be made to support a conclusion that a substantial or potentially substantial adverse change may occur to any of the physical conditions within the area affected by the Proposed Project. When one or more "Potentially Significant Impact" entries are made, an EIR is required.

2) A "**Less Than Significant With Mitigation Incorporated**" answer is appropriate when the Applicant has agreed to incorporate a mitigation measure to reduce an impact from "Potentially Significant" to "Less Than Significant." The lead agency must describe the mitigation measures, and briefly explain how the measures would reduce the impact to a "Less Than Significant Level."

3) A "**Less Than Significant Impact**" answer is appropriate if there is evidence that one or more environmental impacts may occur, but the impacts are determined to be less than significant or the application of development policies and standards to the project will reduce the impact(s) to a "Less Than Significant Level".

4) A "**No Impact**" answer is appropriate where it can be clearly seen that the impact at hand does not have the potential to adversely affect the environment. For example, a project in the center of an urbanized area will clearly not have an adverse effect on agricultural resources or operations.

15.1 AESTHETICS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock croppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒

Response to Questions:

a-b): The proposed project area will not have a substantial adverse effect on a scenic vista as there are no designated scenic vistas within the construction footprint. Existing land uses adjacent to the project area consist of rural residential houses, agricultural fields and natural open space. There are no historic buildings within a state-designated scenic highway. Therefore, there would be ***No Impact***.

c): The proposed project entails installation of approximately 40,000 lineal feet of pipelines, service lines and meter boxes in existing roadways and parcels. These construction activities will not degrade the visual quality of the surrounding area. Therefore, there would be ***No Impact***.

d): The proposed project would not include any facility components that could substantially increase glare or adversely affect nighttime views in the area. Therefore, there would be ***No Impact***.

Mitigation Measure(s) - None Required

15.2 AGRICULTURAL RESOURCES -- In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime farmland, Unique farmland, or Farmland of Statewide Importance, as shown on the maps pre-pared pursuant to the farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agri-cultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment, which due to their location or nature, could result in conversion of farmland, to non-agricultural use?	☐	☐	☐	☒

Response to Questions:

a-c): The proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The project would not conflict with a Williamson Act contract or involve any changes that could result in conversion of farmland to non-agricultural use. The proposed project entails installation of approximately 40,000 lineal feet of pipelines, services lines and meter boxes in existing roadways and parcels. Therefore, there would be ***No Impact***.

Mitigation Measure(s) - None Required

15.3 AIR QUALITY -- Where applicable, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
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?	☐	☐	☒	☐

Response to Questions:

a-c): Air quality is determined primarily by the type and amount of contaminants emitted into the atmosphere, the size and topography of the local air basin, and the pollutant dispersing properties of local weather patterns. The project area is in the Northern Sacramento Valley Air Basin (NSVAB), which includes the counties of Butte, Colusa, Glenn, Shasta, Sutter, Tehama and Yuba (Butte County Air Management District, 2004). Butte County currently meets federal and state air quality standards for pollutants such as carbon monoxide and sulfur dioxide but does not meet ozone and PM_{10} standards (http://generalplan.co.butte.ca.us).

Ozone is an invisible pollutant formed by chemical reactions involving nitrogen oxides, reactive hydrocarbons and sunlight. It is a powerful respiratory irritant that can cause coughing, shortness of breath, headaches, fatigue and lung damage. Particulate matter (PM_{10}) is the fine mineral, metal, soot, smoke and dust particles suspended in the air. Inhaling particulate matter less than 10 microns in diameter (PM_{10}), can cause respiratory and other health problems.

During pipeline, services lines and meter box installation use of an excavator, grader, dozer and haul trucks would temporarily operate along the roadways which can generate fugitive dust that can be a nuisance to local residents and businesses near a construction site. Mitigation measures outlined below will be required throughout the duration of the construction activities.

Short-term exhaust emissions would be generated over the course of project activities. The estimated emission levels for equipment used during the construction phase of the project are presented in Appendix E. The emission levels are quantified for a 200-day construction period and include ozone, carbon monoxide, oxides of nitrogen, Reactive Organic Gases, Volatile Organic Compounds, Lead, Particulate

Matter <2.5 microns in diameter and <10 microns in diameter, and sulfur dioxide. These project construction emission levels with mitigation would not exceed an applicable threshold of significance for air pollutants or conflict with an applicable air quality plan, violate any air quality standard or contribute substantially to an existing air quality violation that would individually or cumulatively impact local or regional air quality.

Contractors will perform all ground disturbance activities in accordance with County and SFWPA guidelines and staff shall routinely inspect the construction area. Implementation of the mitigation measures below would ensure the proposed project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment. Construction emissions are a temporary one-time release and would not substantially contribute to the concentration of any pollutant of concern. The totals for the various pollutant constituents provided in Appendix E are within the range of standard pipeline construction projects using similar heavy equipment. Therefore, impacts would be ***Less Than Significant with Mitigation Incorporated***.

d-e): Sensitive receptors in the vicinity of the proposed project area include 490 parcels along the proposed boundary limits of Messina Avenue on the north, Upper Palermo Road on the east, South Villa Avenue on the south and Railroad Avenue on the west as shown in Figure 2. The project site is in a relatively small geographic area and would not create objectionable odors affecting a substantial number of people. During construction, emissions from heavy equipment would be temporary and sensitive receptors would not be exposed to long-term concentrations of emissions. Once construction activities are complete, these odors would cease. Impacts to air quality associated with the construction of the project would be ***Less Than Significant.***

Mitigation Measure(s)

15.3 (a-c) - The following mitigation measures shall be incorporated into the project to reduce impacts to air quality during construction activities and include:

- All construction equipment shall be maintained in proper tune according to the manufacturer's specifications. Equipment shall be checked by a certified mechanic and determined to be running in proper condition before the start of work.

- All mobile and stationary Toxic Air Contaminants (TACs) sources shall comply with applicable Airborne Toxic Control Measures (ATCMs) promulgated by the California Air Resources Board (CARB) throughout the life of the project.

- Dust control measures shall be implemented during project construction. Use of water trucks or sprinkler systems shall be used in sufficient quantities to prevent airborne dust from leaving the project sites.

- All stockpiled material will be sufficiently covered when not in use to prevent sediment and other potential pollutants from leaving the project sites.

- Streets shall be swept at the end of each working day if visible soil, sand or other construction related debris is present.

- Construction activities will be conducted so that no track-out from the project area is visible on any paved roadway.

- All trucks hauling dirt, sand, soil, or other loose material transported to and from the construction areas shall be securely covered to avoid spilling.

- All roadways, driveways, sidewalks, etc. shall be repaved immediately after pipeline, services lines and meter boxes installation is complete.

- County and SFWPA field inspectors shall ensure compliance with Butte County Air Pollution Control District regulations.

- Signs shall be placed along construction areas with contact information to report air quality violations to Butte County Air Quality Management District at (530) 332-9400.

15.4 BIOLOGICAL RESOURCES - Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife 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 Wildlife 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, hydro-logical 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?	☐	☐	☐	☒

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

Biological Resources Setting:

The Biological Resources responses are based on the comprehensive Biological Resources Assessment of the project area conducted by Golden Hills Biological Consulting based in Oroville. The Biological Resources Assessment is provided as Appendix F.

Several species of plants and animals within the state of California have low populations and limited distributions. State and federal endangered species legislation has provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. Many species have been formally designated as Threatened or Endangered or otherwise afforded special legal status.

According to the CEQA, "Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including fauna and flora. Any project which would affect the continued existence of an endangered or threatened species or a special status species is considered to be a significant impact. Species listed as threatened or endangered, candidate species for listing, state species of special concern, and plants listed by the California Native Plant Society (CNPS) are defined as meeting specific criteria including but not limited to:

- plant and wildlife species that are listed, or proposed for listing as threatened or endangered under the California Endangered Species Act (California Administrative Code, Title 14, Section 670.5) or listed or proposed for listing under the federal Endangered Species Act (ESA);
- plant and wildlife species identified by the CDFW or USFWS as special-status or Species of Special Concern; and
- species protected under other regulations (e.g. Migratory Bird Treaty Act).

Species Database Research

Prior to initiating field surveys, an office review of relevant biological databases for special-status plant and wildlife species was carried out to develop a target list of potentially occurring special-status species and sensitive habitats in the project area including a review of the California Natural Diversity Data Base (CNDDB 2021) and CNPS rare plant inventory. A list of threatened and endangered species and species of concern and/or proposed or final Critical Habitat as designated under the ESA was also obtained from the USFWS Sacramento Field Office web site for the Palermo Clean Water Consolidation Project on September 29, 2021 (see Appendix F).

Field Surveys

Biologists conducted field surveys of the project area on October 6, 2021. Conditions were clear during the survey with temperatures of 75º F and light (0-3 mph) winds. A systematic walking survey along each roadway within the project area, along with a project buffer area, was carried out by two biologists searching for any evidence of special status plant and animal species that had documented occurrences near the Palermo project vicinity. Wildlife sign including tracks, feathers, burrows and scat were interpreted to detect species occurrences not seen.

Visual observations for target raptor, migratory bird and/or other or special-status avian species that may inhabit the area included examining the tree, shrub, and ground cover layers for nests and any active sign, such as molted feathers, whitewash, and prey remains. The presence/absence of potentially occurring special-status bat species was determined by surveying for suitable maternal, day, or night roosting habitat, such as natural cavities found in the boles of trees or dead limbs. Habitat notes and a list of flora and fauna found on the project site while conducting the survey is also provided in Appendix F. Observed wildlife species include Scrub jay, Turkey vulture, Song sparrow, Mockingbird and Mourning dove.

Response to Questions:

a;d): There are no special-status species present within the Biological Survey Area (BSA) based on the CNDDB, USFWS IPaC species lists and the CNPS list of rare and endangered plants. Table 3 identifies the target list of 22 special-status species potentially occurring in the project area and includes the common name and scientific name for each species, regulatory status (state, federal, local, CNPS) and habitat descriptions. No natural communities were listed on the CNDDB, CNPS and USFWS databases. The 22 species includes 6 plants, 3 invertebrates, 3 fish, 5 amphibians, 3 birds, and 2 insects.

The target special-status species identified in the Biological Resources Assessment (see Table 3) were assessed for their likelihood to occur within the project area based upon their habitat requirements, and the quality and extent of any suitable habitat within the project area. The following set of criteria was used to determine each species' potential for occurrence on the site:

- **Present**: Species is known to occur, based on CNDDB, CNPS and/or USFWS records, and/or was observed onsite during the field survey(s).

- **May occur**: Species is known to occur on or near the project area (based on occurrence records within 5 miles and there is suitable habitat onsite).

- **Unlikely to occur**: Species is known to occur in the vicinity of the project area; however, there is poor quality or marginal habitat on site or in adjacent lands and the species was not observed during surveys. If these species were to occur at the site, they would likely be migrants, and are not likely to be resident or reproduce at the site due to a lack of appropriate habitat or outside of their known breeding range.

- **None**: Species is not known to occur on or in the vicinity of the project area and there is no suitable habitat for the species -OR- Species was surveyed for during the appropriate season with negative results for species occurrence.

The site contains no suitable habitat for any species that are of concern to the CDFW, CNPS and/or USFWS. Based on field observations by local biologist and literature review, no state or federal threatened or endangered plant or wildlife or special-status species would be impacted by project activities.

The project would not interfere substantially with the movement of any native resident or migratory wildlife species or migratory corridor or reduce the use of native wildlife nursery sites. The project does not threaten to eliminate any plant and/or wildlife community inhabiting this portion of Butte County.

Birds of prey (i.e., raptors) are protected in California under provisions of the State Fish and Wildlife Code, Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the Order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto". The Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., sec. 703, Supp. I, 1989) prohibit killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. Raptor nests are protected under the Migratory Bird Treaty Act (MBTA) and by Section 3503.5 of the California Fish and Game Code.

Raptors and migratory birds do forage and nest in various habitats throughout the Sierra Nevada foothills throughout spring and summer. The proposed project is planned for construction over consecutive years during the raptor and migratory bird nesting seasons (March 1-September 15). To mitigate potential impacts a qualified biologist will conduct multiple surveys over the course of the project and no earlier than two weeks prior to construction along planned roadways and visually assessing for active nests within 500 ft (150 m) of the project area, which is a CDFW recommended boundary. If an active nest is located the survey biologist will immediately consult with Butte County Department of Water and Resource Conservation and CDFW to avoid and/or minimize potential impacts such as establishing buffers. Other special-status species with a potential to occur in the project areas would be considered during the pre-construction survey. Therefore, potential impacts would be ***Less Than Significant with Mitigation Incorporated***.

Table 3. Special-status species and their potential to occur in the Biological Survey Area (BSA) of Palermo, Butte County.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
CRITICAL HABITATS			There are no critical habitats within the BSA.
PLANTS			
Ahart's dwarf rush (*Juncus leiospermus var. ahartii*)	_/_/1B.2	Vernal pools in valley/foothill grasslands.	**None**. There is no suitable habitat within the BSA.
Mexican mosquito fern *(Azolla microphylla)*	_/_/4.2	Marshes and swamps	**None**. There is no suitable habitat within the BSA.
Bristly leptosiphon *(Leptosiphon acicularis)*		Chaparral, cismontane woodland	**None**. There is no suitable habitat within the BSA.
Wooly meadowfoam *(Limnanthes floccosa ssp. floccosa*	_/_/4.2	Valley and foothill grassland	**None**. There is no suitable habitat within the BSA.
Slender Orcutt grass *(Orcuttia tenuis)*	FT/SE/1B.1	Vernal pools, typically deep.	**None**. There is no suitable habitat within the BSA.
Brazilian watermeal *(Wolffia brasiliensis)*	_/_/2B.3	Marshes and swamps	**None**. There is no suitable habitat within the BSA.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
INVERTEBRATES			
Vernal pool fairy shrimp *(Branchinecta lynchi)*	FT/_/_	Vernal pools.	**None**. There are no vernal pools within the BSA.
Vernal pool tadpole shrimp *(Lepidurus packardi)*	FE/_/_	Vernal pools.	**None**. There are no vernal pools within the BSA.
California linderiella *(Linderiella occidentalis)*	_/SSC/_	Vernal pools	**None**. There are no vernal pools within the BSA.
FISH			
Chinook salmon Central Valley spring-run *(Oncorhynchus tshawytscha)*	FT/_/_	Sacramento River and its tributaries.	**None**. There are no creeks of sufficient size with a hydro-logic connection to the Feather River.
Steelhead Central Valley DPS *(Oncorhynchus mykiss)*	FT/SE/_	Sacramento River and its tributaries.	**None**. There are no creeks or drainages of sufficient size with a hydrologic connection to the Feather River.
Delta smelt *(Oncorhynchus mykiss)*	FT/SE/_	Found only from the San Pablo Bay upstream through the Delta to Yolo County.	**None**. There are no creeks or drainages of sufficient size with a hydrologic connection to the Feather River.
HERPTILES			
California red-legged frog *(Rana draytonii)*	FT/SSC/_	Ponds in humid forests, woodlands, grasslands, coastal scrub, and stream sides with plant cover.	**None**. California red-legged frogs have been extirpated from the Central Valley since the 1960s.
Foothill yellow-legged frog Feather River clade *(Rana boylii)*	_/ST/_	Partly shaded, shallow streams and riffles with rocky substrates, often found in canyons and narrow streams.	**None**. The BSA does not contain suitable aquatic habitat during the FYLF breeding period.
Giant garter snake *(Thamnophis gigas)*	FT/ST/_	Prefers freshwater marsh and low gradient streams.	**None**. There is no suitable habitat within the BSA.
Western pond turtle *(Emys marmorata)*	_/SSC/_	Perennial to inter-mittent bodies of water with pools.	**None**. There is no suitable habitat present within the BSA.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
Western spadefoot *(Speahammondii)*	_/SSC/_	Occurs in seasonal waterways used for breeding.	**None**. There is no suitable habitat within the BSA.
BIRDS			
California black rail *(Laterallus jamaicensis coturniculus)*	_/ST, FP/_	Brackish and fresh emergent wetlands with dense vegetation (e.g., bulrushes)	**None**. There is no suitable habitat within or adjacent to the BSA.
Tricolored blackbird *(Agelaius tricolor)*	_/ST/_	Colonial nester in large fresh water marshes. Forages in open habitats such as farm fields, pastures, cattle pens and lawns.	**None**. Although stands of cattails do exist adjacent to the project, these are too small and separated to be adequate habitat.
Yellow-billed cuckoo *(Coccyzus americanus)*	T/_/_	Riparian forests with cottonwood-willows. Requires a dense understory for nesting.	**None**. There is no suitable habitat within or adjacent to the BSA.
INSECTS			
Monarch butterfly *(Danaus plexippus)*	Candidate/_/_	Larval host plants are members of the milkweed family (Asclepidaceae).	**None**. There is no suitable habitat within or adjacent to the BSA.
Valley elderberry longhorn beetle *(Desmoceruscalifornicusdimorphus)*	T/_/_	Larval host plant is the elderberry.	**None**. There is no suitable habitat within or adjacent to the BSA. No elderberry bushes seen.

CODE DESIGNATIONS

FE or FT = Federally listed as Endangered or Threatened **FC** = Federal Candidate Species **SE or ST=** State listed as Endangered or Threatened **SC** = State Candidate Species **SR** = State Rare Species **SSC** = State Species of Special Concern **FP** = State Fully Protected Species **SNC** = CDFW Sensitive Natural Community	**CNPS California Rare Plant Rank (CRPR):** **CRPR 1B** = Rare or Endangered in California or elsewhere **CRPR 2** = Rare or Endangered in California, more common elsewhere **CRPR 3** = More information is needed **CRPR 4** = Plants with limited distribution **0.1** = Seriously Threatened **0.2** = Fairly Threatened **0.3** = Not very Threatened

Potential for Occurrence: for plants it is considered the potential to occur during the survey period; for birds and bats it is considered the potential to breed, forage, roost, or over-winter in the BSA during migration. Any bird or bat species could fly over the BSA, but this is not considered a potential occurrence.

b-c): Natural stream channels, wetlands, and other seasonal or permanent water features are protected by state (CDFW) and federal laws, the latter under the jurisdiction of the U.S. Army Corps of Engineers (USACE). Within sections of the stormwater conveyance ditches and underneath bridge crossings, fresh emergent wetland occurs where there is seasonal and semi-perennial water flow. Species encountered include cattails (*Typha angustifolia*), common tule (*Schoenoplectus acutus*), primrose-willow (*Ludwigia peploides*), dotted smartweed (*Persicaria punctata*), and water plantain (*Alismalan ceolatum*). These plant species are all obligate hydrophytes. The wetlands are tightly limited to within relatively short lengths of certain roadside ditch channels and do not extend beyond. They occur infrequently within the community, being seen in the mid-northern half of the community, or near the southwest portion of the community. Locations of these seasonal wetland features are shown below and an example of the bridge crossing between Railroad Avenue and Melvina Avenue where all planned construction will take place within the roadway right-of-way.

Although no disturbance to these wetland features or seasonal channels under bridge crossings is planned, care would be taken during pipeline installation so that fill or discharge into these roadside stormwater conveyance ditches and semi-aquatic features/wetland areas does not occur. Water main construction will take place within existing roadway right-of-way. Mitigation measures outlined below and in Section 15.10 Hydrology and Water Quality would avoid significant impacts. The project would not have a substantial adverse effect on any sensitive habitat identified in local or regional plans, policies or regulations, or by CDFW or USFWS. The project would not affect federally protected wetlands. Therefore, these potential impacts would be ***Less Than Significant with Mitigation Incorporated***.

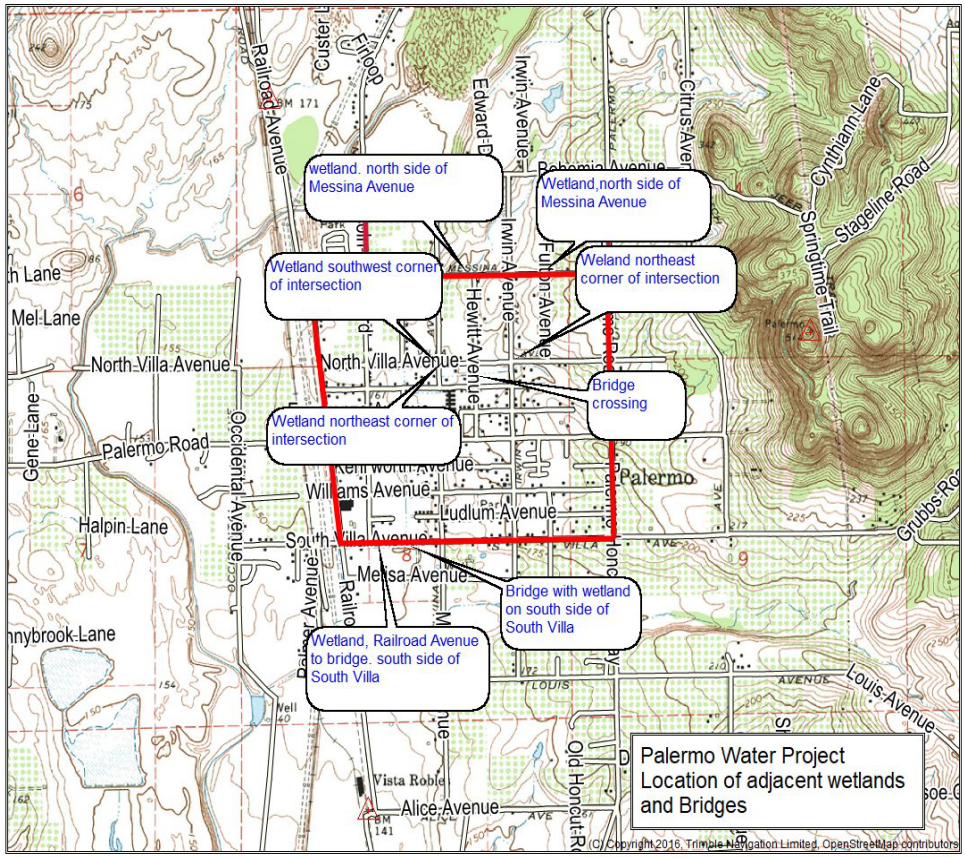


Photo 1. Bridge crossing over seasonal channel between Railroad Avenue and Melvina Avenue. All planned construction will take place within the roadway right-of-way.

e-f): The project would not conflict with the provisions of a Habitat Conservation Plan or Natural Community Conservation Plan. The proposed project will not have a significant impact on rare, endangered, threatened, or other special-status species identified in regional plans, policies, or regulations or by CDFW or USFWS. The proposed project will not have an effect upon any Designated Critical Habitat as defined in the ESA. Therefore, there would be ***No Impact***.

Mitigation Measure(s)

15.4 (a;d) - The following mitigation measure shall be incorporated into the project to avoid impacts to raptors, migratory birds and other special-status species.

The proposed project is planned for construction over consecutive years during the raptor and migratory bird nesting seasons (March 1- September 15). To mitigate potential impacts a qualified biologist will conduct multiple surveys over the course of the project and no earlier than two weeks prior to construction along planned roadways and visually assessing for active nests within 500 ft (150 m) of the project area, which is a CDFW recommended boundary. If an active nest is located the survey biologist will immediately consult with Butte County Department of Water and Resource Conservation and CDFW to avoid and/or minimize potential impacts such as establishing buffers. Other special-status species with a potential to occur in the project areas would be considered during the pre-construction survey. Therefore, potential impacts would be ***Less Than Significant with Mitigation Incorporated***.

15.4 (b-c) - The following mitigation measures shall be incorporated into the project to avoid impacts to stormwater conveyance ditches.

- Contractor shall have sediment control measures including silt fencing and wattles around all roadside ditches to avoid sediment entering these water features.

- Contractor shall ensure that all spoil piles are stabilized and covered with heavy-duty plastic sheeting when not in use or during any precipitation event.

- All soils disturbed during construction will be stabilized immediately following construction.

- Water that may be needed to flush and pressure test the pipelines will be properly discharged according to applicable waste discharge requirements. No water will be discharged to any perennial or ephemeral surface waters.
- All equipment will be inspected for leaks prior to and during construction operations.
- The contractor will have on-site, at all times, a Spill Containment Kit for immediate deployment in the case of a sudden and unexpected spill of pollutants.
- All temporary and permanent BMPs implemented for this project will be properly maintained by the contractor to ensure their effectiveness.
- The contractor will conduct inspections of the site on a daily basis and more frequently prior to and after storm events. Equipment, materials, and workers will be available for immediate repairs and rapid response to emergencies if needed.

15.5 CULTURAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource 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?	☐	☒	☐	☐

Cultural Resources Setting:

Butte County contains a rich diversity of archaeological, prehistoric and historical resources. The General Plan 2030 EIR observes that the "archaeological sensitivity of Butte County is generally considered high, particularly in areas near water sources or on terraces along water courses". The Cultural Resources responses are based on a systematic archaeological pedestrian survey of the project Area of Potential Effect (APE) conducted by Ms. Lori Harrington , Cultural Resource Associates, Chico. The Cultural Resources Assessment is provided as Appendix G.

Response to Questions:

a-d): A records search was performed by the Northeast Information Center (NEIC) at Chico State University, Chico, California on October 6, 2021. The results indicated that two previous surveys have been conducted within the project area (839 and 14341). These surveys were negative for resources and

no resources have been located within the project area. There are three known resources within ¼ of the project area (04-004575, 51-000222, 51-000223) all of which are transmission lines. These resources will not be impacted by the proposed project.

A pedestrian survey, which entails the inspection of all land surfaces that can reasonably be expected to contain cultural resources was performed on September 29, 2021. The ground, was examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, baked clay items, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations) or historic debris (e.g., metal, glass, ceramics).

The pedestrian survey was negative for cultural content. There was no surface evidence of historic or prehistoric sites, features, artifacts or isolates. The project area has undergone extensive disruption due to grading and construction activities. The potential for subsurface deposits being encountered is very unlikely. Cultural sensitivity for this project area is considered ***low***.

Based on the results of the pedestrian survey and Records Search, the sensitivity for finding cultural resources at the project site is unlikely. No cultural resources were identified either through background research or by a surface inspection of the APE, and no historic properties are present within the project APE. The project will have no effect on historical, archaeological, paleontological, or other cultural resources. There are no known formal cemeteries within the project area. Potential impacts to cultural resources with mitigation measures presented below are ***Less Than Significant With Mitigation Incorporated***.

Mitigation Measure(s) – The following mitigation measures shall be incorporated into the project to avoid impacts to Cultural Resources.

15.5 (a-d): Should unanticipated cultural resource be encountered during construction activities, work must cease, and a qualified archaeologist contacted immediately to determine appropriate measures to mitigate any adverse impacts to the discovered resources. If human remains are discovered during construction-related activities notification of the Butte County Coroner is required. If the Butte County Coroner determines that the discovered remains are those of Native American ancestry, then the Native American Heritage Commission must be notified by telephone within 24 hours. Sections 5097.94 and 5097.98 of the Public Resources Code describe the procedures to be followed after the notification of the Native American Heritage Commission.

15.6 ENERGY -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Response to Questions:

a) The Butte County General Plan (http://generalplan.co.butte.ca.us) establishes goals and policies to achieve energy conservation and increase use of cleaner, renewable, and locally controlled energy sources. These goals include increasing the use of sustainable energy sources and reducing reliance on non-sustainable energy sources to the extent possible.

Construction activities associated with the proposed project require the use of energy (e.g., fuel and electricity) for various purposes such as the operation of construction equipment and tools, as well as excavation, grading, and construction vehicle travel. These activities are not significant impacts related to wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, these impacts would be ***Less Than Significant***.

b) The proposed project would not conflict with or obstruct implementation of a state or local plan for renewable energy or energy efficiency. Therefore, there would be ***No Impact***.

Mitigation Measure(s) - None Required

15.7 GEOLOGY AND SOILS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects including the risk of loss injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known Fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
b) Expose people or structures to potential substantial adverse effects including the risk of loss injury, or death involving strong seismic ground shaking?	☐	☐	☒	☐
c) Expose people or structures to potential substantial adverse effects including the risk of loss injury, or death involving seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
d) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving landslides?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
f) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
g) Be located on expansive soil, as defined in Table 18-1-B of the uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
h) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Response to Questions:

a-g): The project is limited to consolidation of the Palermo water system (groundwater) with SFWPA surface treated water. There is no aspect of the project that would expose people or property to increased risk during strong seismic ground shaking or ground failure. The project would not expose people or structures to potential adverse effects from landslides nor will the pipelines, services laterals and meter boxes be placed on unstable soils or present significant potential for soil erosion.

Other hazards, such as lateral spreading, a phenomenon associated with liquefaction, subsidence, or other geologic or soil conditions that could create unstable subsurface conditions is not a significant hazard from the project activities. The project site would not expose people to risk related to potential geologic impacts. BMPs and erosion control measures will be in place during all construction activity. These impacts would be ***Less Than Significant***.

h): There are no demands for wastewater disposal systems required for the project. Therefore, there would be ***No Impact***.

Mitigation Measure(s) - None Required

15.8 GREENHOUSE GAS EMISSIONS -- Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐

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

Response to Questions:

a) The Butte County Climate Action Plan (CAP) was adopted on February 25, 2014 and provides goals, policies, and programs to reduce GHG emissions, address climate change adaptation, and improve quality of life in the county. Programs and actions in the CAP are intended to help the County sustain its natural resources, grow efficiently, ensure long-term resiliency to a changing environmental and economic climate, and improve transportation. Measures and actions identified in the CAP lay the groundwork to achieve the adopted General Plan goals related to climate change.

The proposed project entails installation of pipelines, service lines and meter boxes in existing roadways and parcels. These construction activities would not involve a substantial increase in mobile, stationary, or operational emissions. The only increase in GHG emissions generated would occur during the construction phase. Due to the relatively small size of the project and short duration construction time period (i.e., 200 days), the GHG emissions resulting would not significantly contribute to the cumulative levels in the area. Therefore, with the mitigation measures outlined in Section 15.3-Air Quality these impacts would be ***Less Than Significant with Mitigation Incorporated***.

b): The Butte County General Plan and Butte County Climate Action Plan establish numerous policies relative to greenhouse gases. The proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The anticipated increase in emissions from construction activities would not conflict with the applicable with policies adopted for the purpose of reducing GHG emissions. Therefore, there would be ***No Impact***.

Mitigation Measure(s) The following mitigation measures shall be incorporated into the project.

15.8 (a): All mitigation measures outlined in section **15.3** Air Quality shall be implemented throughout the course of construction activities to minimize Greenhouse Gas Emissions.

15.9 HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard 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 within the area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response 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 residences are intermixed with wildlands?	☐	☐	☒	☐

Response to Questions:

a-b): The proposed project activities would involve the use of heavy equipment which would contain fuels, oils, and lubricants, and solvents to operate. Implementation of the mitigation measures outlined below during construction activities would not create a significant hazard to the public or the environment through the transport, use, or disposal of hazardous materials, and would not result in conditions involving the release of hazardous materials into the environment. Therefore, these potential impacts would be ***Less Than Significant with Mitigation Incorporated***.

c): The nearest school to the project area is the Palermo Middle School at 7350 Bulldog Way, Palermo 95968 and a section located within 1,000 feet of the project site. However, with proper implementation of mitigation measures outlined below, the project would not generate any hazardous emissions or

substances or waste that would adversely impact the environment. Therefore, impacts would be ***Significant with Mitigation Incorporated***.

d): No known hazardous sites or material were observed within the immediate vicinity of the proposed project area construction activities would not create a significant hazard to the public or the environment. Therefore, there would be ***No Impact.***

e-f): The project area is not located within an airport land use plan area or within the vicinity of a private airstrip or safety zone. Therefore, there would be ***No Impact***.

g): The proposed project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, there would be ***No Impact.***

h): The project would not expose people or structures to a significant loss, injury, or death attributable to wildfires. Implementation of the mitigation measures below would reduce the risk of fire due to construction equipment or activities and minimize a source of construction-related fire. Therefore, impacts are ***Less Than Significant***.

Mitigation Measure(s)

15.9 (a-c) - The following mitigation measures shall be incorporated into the project to avoid impacts from hazards and hazardous materials.

- Fueling and application of lubricants and fluids will be performed in a designated area with appropriate BMPs.
- All construction equipment shall be maintained in proper tune according to the manufacturer's specifications. Equipment shall be checked by a certified mechanic and determined to be running in proper condition before the start of work.
- Fluids, oils, lubricants, and trash will be disposed according to County guidelines in order to prevent any potentially hazardous materials impact.

15.10 HYDROLOGY AND WATER QUALITY -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water 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)?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial sources of polluted runoff?	☐	☐	☒	☐
e) Otherwise substantially degrade water quality?	☐	☒	☐	☐
f) Place housing within a 100-year flood hazard area as mapped on a federal Flood hazard Boundary or Flood Insurance rate Map or other flood hazard delineation map?	☐	☐	☐	☒
g) Place structure within a 100-year flood hazard area, which would impede or redirect flood flows?	☐	☐	☐	☒
h) Expose people or structures to a significant loss, injury or death invol-ving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
i) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Response to Questions:

a;e) Runoff from ground-disturbing activities could contain sediment and other pollutants with the potential to affect the environment. All ground disturbance activities will be performed in accordance with Butte County and SFPWA requirements. The project area shall be routinely inspected to verify that Best Management Practices (BMPs) are properly implemented and maintained. On completion of the work, the area will be left in a condition that would provide for proper drainage and prevent erosion. Implementation of the mitigation measures would ensure that the project does not have the potential to cause any degradation to water quality or violate any water quality standards or waste discharge requirements. Therefore, these impacts would be ***Less Than Significant with Mitigation Incorporated.***

b): The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. On the contrary, the project would result in less use of groundwater from

consolidation with SFWPA. The Butte County General Plan (http://generalplan.co.butte.ca.us) encourages residents/parcels to connect to a community system. Therefore, there would be ***No Impact***.

c): Construction of the proposed project would not substantially alter the existing drainage pattern of the area that would result in substantial erosion or siltation or substantially increase the rate or amount of surface runoff resulting in flooding on- or off-site or otherwise substantially degrade water quality. Therefore, there would be ***No Impact***.

d): The project would not result in a substantial increase in the amount of runoff from the site. The project is not designed to result in sources of pollutants that would degrade water quality. Therefore, there would be ***No Impact***.

f, g): The proposed project is not located within a 100-year flood zone, as designated by the Federal Emergency Management Agency (FEMA) and would not place housing in special flood hazard areas. Thus, there would be no impact related to placement of a structure in a 100-year flood hazard area. All construction will be performed according to applicable standard construction and safety codes and would not create a public safety hazard; or result in any increase in offsite water surface elevations. Therefore, there would be ***No Impact.***

h): The proposed project area is not within a designated flood inundation area and would not involve the construction of occupied structures. There would be no substantial risk of loss, injury, or death in the event of flooding at the project site. Therefore, there would be ***No Impact.***

i): The project site is not located near an ocean coast or enclosed body of water that could produce a seiche or tsunami, nor is the site in a area that would create mudflows. Therefore, there would be ***No Impact***.

j): The proposed project area is located inland. Consequently, there is no risk of a seiche or tsunami. There is no risk related to mudflow hazard from construction activities. Therefore, there would be ***No Impact***.

Mitigation Measure(s)

15.10 - The following mitigation measures shall be incorporated into the project to minimize impacts to hydrology and water quality.

1. **Retain soil and sediment on the construction site**

- Construction activities shall have sediment control measures including silt fencing and wattles as needed around the project perimeter for the duration of construction to avoid sediment runoff especially during and after storm events.

- Contractor shall ensure that all spoil piles are stabilized and covered with heavy-duty plastic sheeting when not in use or during any precipitation event.

- In order to reduce the potential to release fugitive dust associated with project activities, dust control measures will be carried out as needed including sweeping and watering.

- All soils disturbed during construction will be stabilized immediately following construction.

2. Non-Storm Water Management

- Water that may be needed to flush and pressure test the pipelines will be properly discharged according to applicable waste discharge requirements. No water will be discharged to any perennial or ephemeral surface waters.

3. Spill Prevention and Control

- All equipment will be inspected for leaks prior to and during construction operations.
- The contractor will have on-site, at all times, a Spill Containment Kit for immediate deployment in the case of a sudden and unexpected spill of pollutants.

4. Maintenance, Inspection, and Repair

- All temporary and permanent BMPs implemented for this project will be properly maintained by the contractor to ensure their effectiveness.
- The contractor will conduct inspections of the site on a daily basis and more frequently prior to and after storm events. Equipment, materials, and workers will be available for immediate repairs and rapid response to emergencies if needed.

15.11 LAND USE AND PLANNING -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan?	☐	☐	☐	☒

Response to Questions:

a-c): The Butte County General Plan 2030 Update provides a comprehensive, long-term plan for the physical development of the County related to planning. The General Plan consists of development policies that set forth objectives, principles and standards that guide land use decisions within the County. The project would not physically divide an established community. The proposed project is consistent with the land use and zoning designation within the area and would not conflict with a local or regional

land use policy. The proposed project area is not affected by a Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, there would be ***No Impact***.

Mitigation Measure(s) - None Required

15.12 MINERAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Response to Questions:

a-b): The proposed project area is not in a County designated mineral resource area. No demands for mineral resources are required with this project. Implementation of the project would not 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. Therefore, there would be ***No Impact***.

Mitigation Measure(s) - None Required

15.13 NOISE -- Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 groundborne vibration 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 ex-pose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Response to Questions:

a-b;d): Butte County has a noise ordinance and noise is a concern throughout the County, especially in the vicinity of noise-sensitive uses such as residences, schools and churches. Places where people live, sleep, recreate, worship and study are generally considered to be sensitive to noise because intrusive noise can be disruptive to these activities. The County General Plan Noise Element prescribes policies that lead to the preservation and enhancement of the quality of life for the residents of Butte County by securing and maintaining an environment free from hazardous and annoying noise.

The existing noise environment in the vicinity of the project area is largely residential and light commercial traffic. Noise impacts associated with the project would be a source of temporary increases in ambient noise levels that could be audible to nearby land uses. Equipment to be used may include an excavator, backhoe, dump truck, contractor vehicles and power tools. Construction would occur over approximately 200 working days. The temporary increase in noise levels during project construction would not expose people to substantial noise levels in excess of standards established in the County general plan or applicable standards of other agencies. The proposed project would not expose persons to excessive groundborne vibration noise levels.

Construction activities are limited to the hours listed below. The noise increase would be short-term and no substantial long-term operational noise would be associated with the project. Implementation of the mitigation measures below would reduce these impacts to ***Less Than Significant with Mitigation Incorporated.***

c): The proposed project will not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, there would be ***No Impact***.

e-f): The proposed project is not located within the vicinity of an airport land use plan and would not result in people living or working within the vicinity of the project area to be exposed to excessive noise levels from airport/aircraft operations. Therefore, there would be ***No Impact.***

Mitigation Measure(s)

15.12 (a-b;d) - The following mitigation measures shall be incorporated into the project to minimize construction related noise impacts.

- All internal combustion engine driven equipment with intake and exhaust mufflers shall be in good running condition and appropriate for the equipment.

- Stationary noise-generating equipment shall be located as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project site.
- Project activities will be limited to daytime hours between 7:00 a.m. and 7:00 p.m. on weekdays and Saturdays between 8:00 a.m. and 6:00 p.m.
- Unnecessary motorized idling of equipment will be avoided.
- Signs shall be placed along construction areas with contact information to report noise violations to Butte County Development Services/Code Enforcement at (530) 538-7601.

15.14 POPULATION -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construct- ion of replacement housing elsewhere?	☐	☐	☐	☒

Response to Questions:

a): The Butte County General Plan 2030 Update provides a comprehensive, long-term plan of the physical development of the County related to planning. The proposed project is not intended to support additional growth within the service area. The project would not affect local population centers or demand for new housing or businesses that would induce substantial direct growth in the area. Future development of the surrounding area would be planned in accordance with zoning and land usage. Therefore, there would be ***No Impact.***

b-c): The proposed project would not result in the displacement of any existing housing units or people. Consequently, there are no population and/or housing displacement impacts associated with the proposed project. Therefore, there would be ***No Impact***.

Mitigation Measure(s) - None Required

15.15 PUBLIC SERVICES -- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable ser-vice rations, response time or other performance objectives for any of the public services:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?	☐	☐	☐	☒
b) Police Protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Response to Questions:

a-e): The proposed project involves the installation of new pipelines, services lines and meter boxes and would not affect local population centers or increase Fire or Police Department staffing to serve the project. The project would not result in a population increase that would require schools, parks or other public facilities. Therefore, there would be ***No Impact.***

Mitigation Measure(s) - None Required

15.16 RECREATION --				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Response to Questions:

a-b): The Palermo Park is within the project area. However, the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial

physical deterioration of a facility would occur or be accelerated. The project would not involve creation of new housing or otherwise generate additional demand for recreational facilities. Therefore, there would be ***No Impact.***

Mitigation Measure(s) - None Required

15.17 TRANSPORTATION/TRAFFIC -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase on either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at inter-sections)?	☐	☐	☒	☐
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 traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards 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 trans-portation (bus turnouts, bicycle racks)?	☐	☐	☐	☒

Response to Questions:

a): The proposed project would not conflict with the local traffic circulation system. There will be an increase in vehicle trips to the project site associated with the contractor's activities but would not result in changes in vehicle circulation patterns or alter the design of any roadways. Transportation of construction equipment and material will take place on public roadways and will not exceed roadway capacity. The project would not result in impacts related to transportation, circulation, parking, or transportation policies, plans, or programs. Therefore, these impacts would be ***Less Than Significant***.

b-c): The project would not exceed a level of service standard established by the County or result in a change in traffic patterns that results in substantial safety risks. The project would not result in physical changes to roadways, and therefore, would not result in impacts related to transportation, circulation, parking, or transportation policies, plans, or programs. The project would not generate substantial traffic, such that alternative transportation modes would be needed. Therefore, there would be ***No Impact.***

d): The project does not include any design features that could result in increased safety hazards. Therefore, there would be ***No Impact.***

e): Construction activities would involve temporary road or lane closures during pipeline installation but no emergency access routes would be affected by the project. Therefore, this impact would be ***Less Than Significant.***

f): The project would not conflict with the County's overall transportation service goal. Therefore, there would be ***No Impact.***

g): The project would not generate substantial traffic, such that alternative transportation modes would be needed. Therefore, there would be ***No Impact.***

Mitigation Measure(s) - None Required

15.18 TRIBAL CULTURAL RESOURCES -- Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

Environmental Setting

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. The bill specifies that any project may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to "begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project." Section 21074 of AB 52 also defines a new category of resources under CEQA called "tribal cultural resources." Tribal cultural resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is either listed on or eligible for the California Register of Historical Resources or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource.

A substantial adverse change upon a tribal cultural resource would be one wherein the resource is demolished or materially altered so that it no longer conveys its historic or cultural significance. Cultural resources include prehistoric and historic period archaeological sites; historical features, such as rock walls, water ditches and flumes, and cemeteries; and architectural features. Often such sites are found in foothill areas, areas with high bluffs, rock outcroppings, areas overlooking deer migratory corridors, or near bodies of water.

Response to Questions:

a-b): In compliance with AB 52, notification letters were distributed to numerous Native American tribes notifying each tribe of the opportunity to provide a determination regarding the proposed project. The tribes were identified based on a list provided by the Native American Heritage Commission (NAHC). The NAHC indicated that there are no Sacred Land listings for the project area or adjacent lands. The contact list from the NAHC were contacted and requested to supply any information they might have concerning prehistoric sites or traditional use areas within the project area (see Appendix G).

One response was received from Creig Marcus, Tribal Administrator for the Estome Yumeka Tribe of the Enterprise Rancheria who stated:

"…Thank you for the notification. After a thorough examination of the project and discussions with our cultural site monitor, we have determined that this project is in the aboriginal territory of the Estom Yumeka Maidu Tribe. Our records search failed to locate any known cultural sites within the project boundaries. However, the Tribe retains the right to consult should any post review discoveries be made."

Given the level of previous disturbance within the project area, it is not expected that any tribal cultural resources remain within the proposed project area. However, construction of the proposed project would require grading and excavation activities and may have the potential to encounter native soils, which may contain undiscovered tribal cultural resources. Implementation of mitigation measure outlined in Section 15.5- Cultural Resources would avoid potential impacts to undiscovered prehistoric resources, historic resources, and human remains that may be uncovered during construction activities and reduce potential impacts to ***Less Than Significant with Mitigation Incorporated.***

Mitigation Measure(s) The following mitigation measures shall be incorporated into the project to minimize construction related impacts to Tribal Cultural Resources.

15.18 a-b): In the unlikely event tribal resources are discovered during ground disturbing activities, compliance with the mitigation measures outlined in Section 15.5 CULTURAL RESOURCES provides instructions in the event a material of potential cultural significance is uncovered.

15.19 UTILITIES AND SERVICE SYSTEMS -- Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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, which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
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 and 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.	☐	☐	☐	☒

Response to Questions:

a-b): The proposed project would result in the reorganization of the Palermo community's domestic well users into a community surface water supply owned and operated by the SFWPA. The proposed project does not include the construction of any wastewater generating uses or wastewater flows that would exceed wastewater treatment requirements of Regional Water Quality Control Board. The project would not result in the need for new or expanded wastewater facilities and would not have an adverse effect on wastewater treatment requirements as the community relies entirely on on-site wastewater systems. Therefore, there would be ***No Impact***.

c): The project will not substantially increase drainage runoff. There is no need for substantial construction of stormwater infrastructure related to project development. Therefore, there would be ***No Impact.***

d-e): The project is aimed at reorganizing the Palermo water system into the SFWPA. The project would not result in the need for new or expanded water supplies. There are sufficient surface water supplies and treatment capacity to service the community from SFWPA. The project would not affect the capacity of a wastewater treatment provider nor require a landfill. All solid waste disposal needs would comply with all federal, state, and local regulations related to solid waste. Therefore, there would be ***No Impact.***

f- g): Project activities may generate construction debris and excavated soil. This would not affect landfill capacity because the amounts would not be substantial and would occur only during the construction period. Contractors will have a plan in place to store and dispose of all construction debris, according to relevant state, federal, and local statutes. Therefore, there would be ***No Impact.***

Mitigation Measure(s) - None Required

15.20 WILDFIRE -- If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors exacerbate wildfire risk, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may be exacerbate fire risk or that may result in temporary or on-going impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risk, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Environmental Setting

The project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones; therefore, it will not substantially impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risks, require the installation or maintenance of associated infrastructure, or expose people or structures to significant risks. The Project site is identified as an area outside of Cal Fire's 'Very High Fire Hazard Severity Zone'. The project site is located in a Local Responsibility Area (LRA) pursuant to the Fire Hazard Severity. The nearest fire station (Cal Fire/Butte County Fire Station #72) is located at 2290 Palermo Road next to the Palermo School and within the immediate proposed project area.

Response to Questions:

a) Specific roadways would have lane closures during pipeline installation but there would be no lane closures involved in the proposed project that would constrict emergency access or interfere with an emergency evacuation plan. Therefore, there would be ***No Impact***.

b) The project site is not located in an area that is susceptible to wildland fires. Workers associated with the construction activities work in specific residential roadways for a short duration. No conditions or factors have been identified in the project area that would exacerbate wildfire risks. Therefore, there would be ***No Impact***.

c) The topography of the project site is generally level. The project area is not in a flood area or landslide potential. Therefore, there would be ***No Impact***.

d) The *proposed project would not expose* people or structures to significant risk, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, there would be ***No Impact***.

15.21 MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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, the effects of other current projects, and the effects of probably future projects)?	☐	☐	☒	☐
c) Does the project have environment effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Response to Questions:

a): The proposed project does not 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. The project will not adversely affect any species identified as a candidate for sensitive or special status species, in local or regional plans, policies or regulations, or by California Department of Fish and Wildlife or United States Fish and Wildlife Service. The project would not eliminate important examples of the major periods of California history or prehistory.

Potentially significant impacts have been identified in the areas of Air Quality, Biological Resources, Cultural Resources, Greenhouse Gases, Hydrology and Water Quality, Noise, Transportation and Traffic, and Tribal Cultural Resources. Many of these impacts have been reduced to Less Than Significant through application of the required mitigation measures provided in those sections and summarized in the Mitigation Monitoring and Reporting Program (Appendix H). Therefore, impacts would be ***Less Than Significant with Mitigation Incorporated***.

b): The proposed Palermo Clean Water Consolidation Project would allow Butte County (County) to address the drinking water quality issues faced by the Palermo community. There are a total of 490 parcels within the Palermo Clean Water Consolidation project footprint of which 110 parcels currently receive treated surface water from the SFWPA. The remainder of the community within the proposed project limits relies on groundwater for residential use. The consolidation project would bring all parcels Safe Drinking Water Act (SDWA) compliant clean treated potable water to the community and eliminate any future potential health issues. The Butte County General Plan (http://generalplan.co.butte.ca.us) encourages residents/parcels to connect to a community system.

The project would not induce population growth or result in the development of new housing or employment-generating uses and would not create a cumulative effect related to increased demand for services or utilities, the expansion of which could result in significant environmental effects. The project would not result in irreversible environmental damage. Therefore, impacts would be ***Less Than Significant.***

c): As described throughout the preceding checklist sections, the project is designed to consolidate the Palermo groundwater supplied community into the SFWPA. The implementation of the project would reduce the potential health and safety issues associated with wastewater contamination of domestic wells. The project does not have environment effects which will cause substantial adverse effects on human beings, either directly or indirectly. Therefore, there would be ***No Impact***.

Report Preparation

This Initial Study was prepared for Luhdorff & Scalmanini Consulting Engineers, Inc. by Inland Ecosystems, Inc. Principal author was Glenn Merron (gmerron@inlandecosystems.com).

References Cited

Butte County General Plan 2030 Update. www.buttecounty

Butte County Air Management District. 2004. www.bcaqmd.org

South Feather Water and Power Agency. 2020 Urban Water Management Plan.

APPENDIX A

Palermo Clean Water Consolidation Project Draft Fact Sheet Flyer and Announcement to attend November 17, 2021 Town Hall meeting

PALERMO CLEAN WATER CONSOLIDATION PROJECT

Butte County Department of Water and Resource Conservation

South Feather Water and Power Agency

Butte County and the South Feather Water and Power Agency (SFWPA) are working together to find solutions to bring safe and reliable drinking water to the Palermo Community!

Current Problems and Challenges

- **Most lots in Palermo have both a well and septic.**
- **Because many wells were installed years ago, they have deteriorated over time.**
- **During periods of heavy rain, there are many wells that are being cross-contaminated with septic effluent.**
- **This contamination is not just in the wells, it has moved into the upper aquifer.**
- **Well samples taken in 2007 and again in 2021 show that up to 25% of the sampled wells in Palermo have coliform contamination above safe levels to consume.**
- **Operating your well requires a dependable power source and has electricity costs.**

Current Solutions and Benefits

- **Connecting current well owners to SFWPA infrastructure means a safe and reliable supply of water for your family and outdoor use.**
- **Reducing the use of wells means a reduction of contamination moving into the aquifer.**
- **Expanding the SFWPA infrastructure throughout Palermo means a reliable water source for fire suppression, and more fire hydrants.**
- **SFWPA water rates are very budget friendly.**

PROJECT DESCRIPTION

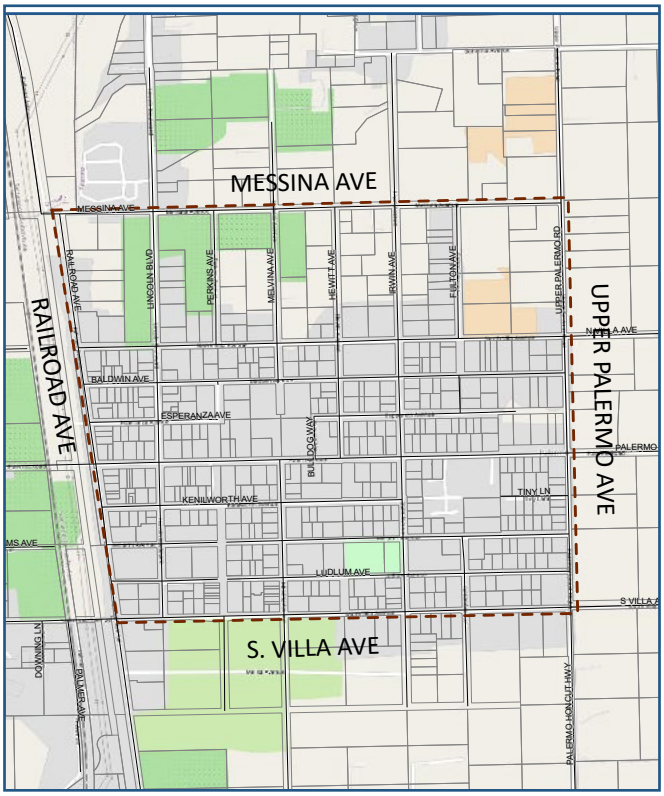
Butte County and SFWPA have partnered through a Memorandum of Understanding to develop and find funding for the Palermo Clean Water Consolidation Project. SFWPA already provides treated surface water from the Feather River to more than one hundred parcels within the Palermo community. This Project would connect your property to existing SFWPA infrastructure and install new water mains, valves, fire hydrants, and meters for those not adjacent to the existing SFWPA water facilities.

PROJECT SCHEDULE AND TIMELINE

If grant funding is awarded for the Project in 2022, the goal is to have the Project completed by mid-2024.

PALERMO CLEAN WATER PROJECT LOCATION

The Project will provide a clean and reliable source of drinking water to Palermo residents within the service area enclosed by Messina Avenue to the north, South Villa Avenue to the south, the railroad to the west and Upper Palermo Road to the east.



WHAT WILL IT COST ME TO CONNECT?

The County and SFWPA are applying for grant dollars to cover all of the Project costs defined in the preliminary Project schedule and timelines. Grant funding would pay for project construction and for residential service connections to connect households within the project area to the SFWPA water system infrastructure. Once connected, the resident/household would become a SFWPA water customer, and would be subject to paying current SFWPA water rate charges.

HOW DO I PARTICIPATE IN THE PROJECT?

We would like to get your support to include in the grant application, so please fill out the provided Letter of Interest and return to the County ASAP! Having a high level of resident interest in Project participation will help the County and SFWPA secure grant funds to cover all of the Project costs.

For additional information, please contact Christina Buck at (530) 552-3593 or bcwater@buttecounty.net or Kristen McKillop at (530) 534-1221 or kmkillop@southfeather.com.

For more detailed Project information please visit:

https://www.buttecounty.net/waterresourceconservation/Palermo_Clean_Water

PALERMO CLEAN WATER CONSOLIDATION PROJECT

Join us for a Palermo Town Hall meeting:

Wednesday, November 17 at 6:00 p.m.

Palermo Grange

7600 Irwin Ave, Palermo, CA 95968

How important is clean drinking water to you?
A solution for clean and reliable water in Palermo is in the works.
Please come hear updates and find out how important you are for next steps!

For more information visit: www.buttecounty.net, or call: 530.552.3595

PALERMO CLEAN WATER CONSOLIDATION PROJECT

308 Nelson Avenue, Oroville, CA
ph: 530.552.3595, fax: 530.538.3807
email: bcwater@buttecounty.net
website: https://www.buttecounty.net/water-resourceconservation/Palermo_Clean_Water

Project Boundary

APPENDIX B

Memorandum of Understanding (MOU)
Palermo Clean Water Consolidation Project

Butte County Board of Supervisors
Agenda Transmittal

Clerk of the Board Use Only

Agenda Item: 4.09

Subject: Memorandum of Understanding (MOU) with South Feather Water and Power Agency (SFWPA) for the Palermo Clean Water Consolidation Project for the Drinking Water State Revolving Fund (DWSRF) Application

Department: Water and Resource Conservation

Meeting Date Requested: September 28, 2021

Contact: Christina Buck **Phone:** 530.552.3595 **Regular Agenda** ☒ **Consent Agenda** ☐

Department Summary: *(Information provided in this section will be included on the agenda. Attach explanatory memorandum and other background as necessary).*

The majority of residents within Palermo have individual groundwater wells for potable water supply and on-site septic systems for wastewater treatment and disposal. Flooding, high groundwater levels and continuous septic system failures have resulted in cross contamination of the existing wells and possibly contamination of the groundwater aquifer. If left unresolved, individual wells will continue to experience cross contamination issues and pose a risk to the groundwater aquifer due to seasonal flooding, high groundwater levels and continued septic system failures.

The County received technical assistance funds in the Northern Sacramento Valley Integrated Regional Water Management Plan Mountain County Funding Area to help understand the needs in Palermo. A technical memorandum was developed documenting a draft scope for the Palermo Clean Water Consolidation Project (Project) and identifying funding sources. The Project would connect 380 parcels in the Palermo community to the South Feather Water and Power Agency's (SFWPA) water system within the boundaries of Messina Avenue on the north, Upper Palermo Road on the east, South Villa Avenue on the south, and Railroad Avenue on the west. The SFWPA is the logical choice for the Palermo community given the existing distribution system in the area, which already serves 110 parcels. The estimated cost for the project is $12.4 million.

Multiple sources of funding may be necessary to fully fund the Project. The Drinking Water State Revolving Fund (DWSRF) is a likely source of funding for the Project. An MOU between the County and SFWPA is needed to submit an application to the DWSRF. The proposed MOU outlines the roles and responsibilities for the County and SFWPA from grant application to project implementation. The County would be the grant applicant and administrator as well as fully participate in all outreach for the Project. SFPWA would oversee the project implementation including construction. The Water and Resource Conservation Department recommends entering into an MOU with SFWPA outlining each agency's role in acquiring funding and implementing the Project.

Fiscal Impact:

The MOU with SFPWA is non-monetary and there is no fiscal impact.

Personnel Impact:

Does not apply.

Action Requested:

Approve MOU and authorize the Chair to sign.

Administrative Office Review: Casey Hatcher, Deputy Chief Administrative Officer

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE COUNTY OF BUTTE
AND
THE SOUTH FEATHER WATER AND POWER AGENCY

REGARDING DEVELOPMENT, IMPLEMENTATION, AND ADMINISTRATION OF THE PALERMO CLEAN WATER CONSOLIDATION PROJECT

THIS MEMORANDUM OF UNDERSTANDING ("MOU") is dated September 28, 2021 and made between the **COUNTY OF BUTTE,** a political subdivision of the State of California ("County") and the **SOUTH FEATHER WATER AND POWER AGENCY**, an independent special district ("Agency")**.** This MOU is made in reference to the following facts:

RECITALS

Whereas the community of Palermo is located in the southern portion of Butte County with a population of approximately 5,000 residents;

Whereas the majority of the residents within Palermo have individual groundwater wells for potable water supply and on-site septic systems for wastewater treatment and disposal;

Whereas flooding, high groundwater levels and continuous septic system failures have resulted in cross contamination of the existing wells and possibly contamination of the groundwater aquifer;

Whereas the community of Palermo has experienced high rates of septic failures during periods of high rainfall, which has resulted in stormwater and upper aquifer contamination;

Whereas if left unresolved, individual wells will continue to experience cross contamination issues and pose a risk to the groundwater aquifer due to seasonal flooding, high groundwater levels and continued septic system failures;

Whereas the County has explored solutions for drinking water and wastewater in the Palermo community for years;

Whereas the County received technical assistance funds to help address small community water/wastewater systems within the Northern Sacramento Valley (NSV) Integrated Regional Water Management (IRWM) Plan region in the Mountain County Funding Area (MCFA), including Palermo and contracted with Luhdorff & Scalmanini Consulting Engineers to develop a technical memorandum documenting a draft project scope and identifying funding sources for the project;

Whereas SFWPA is a California Irrigation District, formed and existing under the California Water Code which operates with a high Technical, Managerial and Financial

(TMF) Capacity to provide treated water service to communities in southeast Butte County;

Whereas the Agency currently serves 110 parcels in the Palermo community;

Whereas the Agency is the logical choice for consolidation with Palermo given the existing distribution system in the area as illustrated in the service area map included as Exhibit A, and the County and Agency agree it will benefit the residents and the parties for the Agency to expand infrastructure to serve a broader area of the Palermo community;

Whereas the Palermo Clean Water Consolidation Project (Project) would connect 380 parcels in the Palermo community to the Agency's existing and expanded water system within the boundaries of Messina Avenue on the north, Upper Palermo Road on the east, South Villa Avenue on the south, and Railroad Avenue on the west, as reflected on the map attached as Exhibit B;

Whereas currently, the estimated costs for the Project are approximately twelve million four hundred and forty thousand dollars ($12,440,000), as reflected in the preliminary construction estimate attached as Exhibit C;

Whereas various funding sources may be available for the Project including the State Water Resources Control Board Drinking Water State Revolving Fund (DWSRF), NSV IRWM grant funding, and federal and State drought mitigation funding; and

Whereas the County and Agency plan to apply to various funding sources to fully fund the Project.

NOW THEREFORE, in consideration of the foregoing and mutual covenants contained herein, the County and Agency do hereby agree as follows:

1. Recitals Incorporated. The above recitals are true and correct, and are hereby incorporated into this MOU.

2. Responsibilities of County.

    a. *Funding Applications.* The County will prepare and submit applications to all applicable and likely federal and State funding sources for the Project, including the development of all required application elements (i.e., general, financial, technical and environmental packages).

    b. *Funding Award*. In the event the County is awarded funding for the Project, the County will provide:

        i. grant administration, including required project and fiscal reporting to respective funding agencies;
        ii. development of a subrecipient agreement with the Agency;
        iii. monitoring of subrecipient's (Agency) work for the Project;
        iv. support for public outreach and community relations related to the Project, including, but not limited to, participation in the selection of the subrecipients/subcontractors, use of County logo and branding

on Project materials, staff review of public outreach plans and materials, and staff point of contact for community engagement.

3. Responsibilities of Agency.

    a. *Funding Applications.* The Agency will support the County's funding applications for the Project including, but not limited to, a statement of support and providing the County with the data necessary to complete the application packages.

    b. *Funding Award*. In the event the County is awarded funding for the Project, the Agency will partner with the County as a subrecipient of funds to carry out the Project. The Agency will execute the required subrecipient agreement and hire a subcontractor for the management and implementation of each line item and subsequent tasks for the Project in accordance with the estimated timeline attached as Exhibit D including, but not limited to:
        i. Public outreach and community engagement;
        ii. Annexation of parcels in the Project area, as outlined in the annexation scheduled attached as Exhibit E;
        iii. Installation of public water infrastructure;
        iv. Installation of private water infrastructure (meter to dwelling); and
        v. Decommissioning of private wells as needed.

        The Agency's assigned Project Manager will complete Project and financial reporting as required by the County.

    c. Upon completion of the Project as defined, the Agency will establish service accounts with each newly connected customer, and shall bill according to established rates and charges for service of domestic water delivery as fixed by the Agency's Board of Directors.

4. Funding. In the event the County is awarded funding for the Project, it will not be construed to commit the County or the Agency to additional funding for the project.

5. Term. This MOU shall become effective as of the last date signed by both parties, and shall remain in effect until execution of a subrecipient agreement(s) by the County and Agency for all necessary funds for the Project.

6. Termination/Modification of Practices/Amendment of MOU. Either party may terminate this MOU with or without cause by providing 30 days' advance written notice to the other party. The parties shall cooperate reasonably to modify their practices and amend this MOU to reflect any changes in applicable law. No amendment to this MOU is valid except in writing executed by all parties to this MOU.

7. Liability to Third Parties; Indemnification. To the extent applicable, each party shall defend, indemnify, and hold the other harmless, to the maximum extent permitted by law, from claims, damages, expenses, and liabilities, including attorney fees and costs, that arise out of its duties or obligations, and those of its governing board members, officers, employees, representatives, or agents, under this MOU, or from the negligence or willful misconduct of itself or any of the foregoing. The parties' duties of indemnity do not apply to the extent a claim, damage, expense, or liability arises out of an indemnified party's failure to perform this MOU, or an indemnified party's negligence or willful misconduct. The right to be indemnified extends to an indemnified party's officers, board members, employees, representatives, and agents.

8. Compliance with Laws. Notwithstanding any provision to the contrary contained in this MOU, the parties agree that no provision of this MOU shall require any party to violate any applicable statute, rule of law or regulation.

9. Insurance. The County and Agency shall each secure and maintain in full force and effect during the full term of this MOU commercial general liability insurance or participation in a self-insurance program, including coverage for owned and non-owned automobiles and other insurance necessary to protect the public, with limits of liability of not less than $1 million combined single limit bodily injury and property damage. Policies shall be written by carriers reasonably satisfactory to each party. On request, a certificate evidencing the insurance requirements of this paragraph shall be provided.

10. No Third-Party Beneficiary. Nothing in this MOU shall be construed to create any rights of any kind or nature in any other party not a named party to this MOU.

11. Authorization. Each party executing this MOU and each person executing this MOU in any representative capacity, hereby fully and completely warrants to all other parties that he or she has full and complete authority to bind the person or entity on whose behalf the signing party is purporting to act.

12. Entire Agreement/Amendments. This MOU supersedes all previous agreements or understandings, and constitutes the entire understanding between the parties with respect to the above referenced services, terms of compensation, and otherwise. This MOU shall not be amended, except in a writing that is executed by authorized representatives of both parties.

13. Governing Law and Venue. This MOU shall be deemed to be made in, and shall be governed by and construed in accordance with the laws of the State of California (excepting any conflict of laws provisions which would serve to defeat application of California substantive law). Venue for any action arising from this MOU shall be in Butte County, California.

///

This MOU, which is effective on the date set forth above, is executed by the parties on the dates indicated below.

COUNTY

Bill Connelly Date
Chair, Butte County Board of Supervisors

REVIEWED FOR CONTRACT POLICY COMPLIANCE
General Services Contracts Division

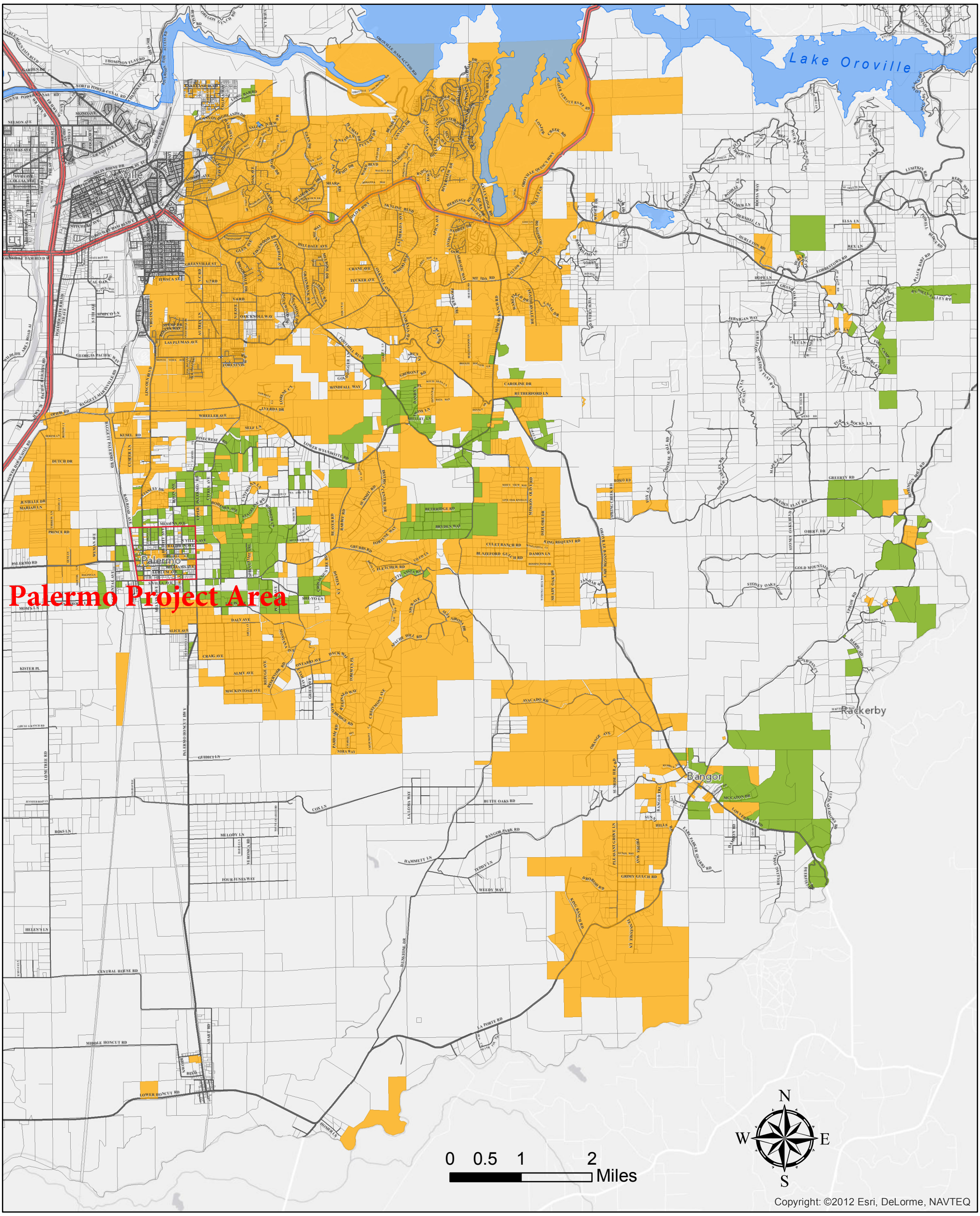
By Date

South Feather Water and Power Agency

Date

REVIEWED AS TO FORM
BRUCE S. ALPERT
Butte County Counsel

By Date



SFWPA Boundary Map

Annexed & Original

Parcels With Rights To Non-Potable Service Only

SOURCES:
This map was prepared by Leroy A. Christophersen March 2016.
Parcel data obtained from BCAG - Feb 2016.

DISCLAIMER:
Areas depicted by this map are not accurate to engineering or surveying standards. Map is provided for illustration purposes only.

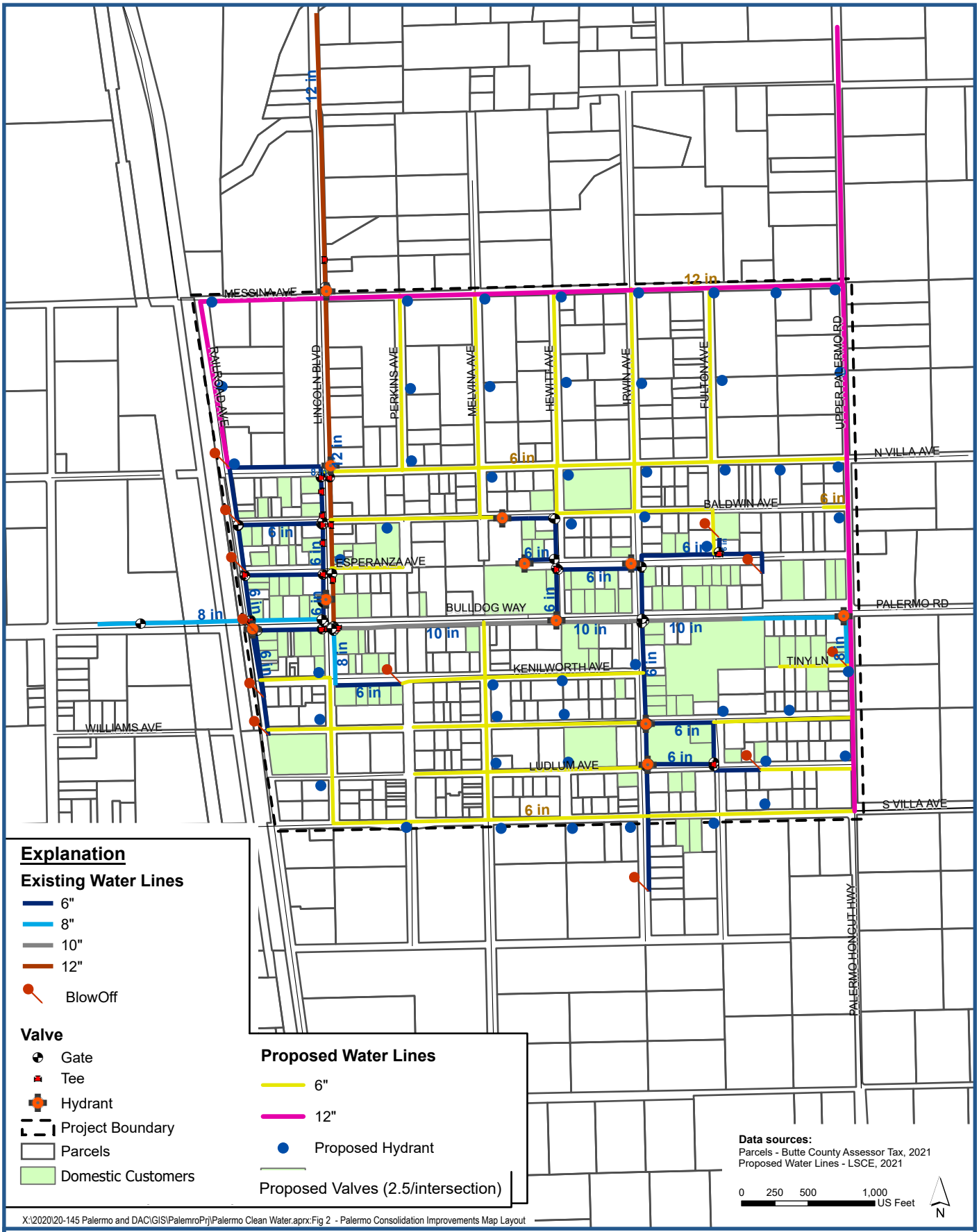
South Feather Water and Power Agency(SFWPA) has made every effort to ensure the accuracy, correctness and timeliness of materials provided but assumes no responsibility for errors or omissions.

In no event shall SFWPA become liable to users of these data, or any other party, for any loss or direct, indirect, special, incidental, or consequential damages, including but not limited to time, money, or goodwill, arising from the use or modification of the data.

EXHIBIT A

Document Name: Parcel_Check_Website_Posting

EXHIBIT B - PRELIMINARY PROJECT BOUNDARY MAP



Luhdorff & Scalmanini Consulting Engineers

Palermo Consolidation Improvements

Palermo Clean Water Consolidation Project
Butte County

Figure 2

EXHIBIT C
PRELIMINARY CONSTRUCTION COST ESTIMATE

Bid Item No.	Bid Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
1	12-inch Water Main, C-900 [a]	10,000	LF	$75	$750,000
2	6-inch Water Main, C-900 [a]	30,000	LF	$60	$1,800,000
3	6-inch & 12-inch Valves	150	EA	$3,000	$450,000
4	3/4-inch Water Service Line	380	EA	$2,000	$760,000
5	Meters/Meter Boxes	380	EA	$1,000	$380,000
6	Parcel Plumbing (Meter to Home)	380	EA	$1,000	$380,000
7	Fire Hydrants	30	EA	$5,000	$150,000
8	Paving (Trench Restoration)	105,000	SF	$15	$1,575,000
9	Testing and Disinfection	1	LS	$25,000	$25,000
				Bid Item Total:	$6,270,000
				SUBTOTAL:	**$6,270,000**
			Mobilization	1%	$62,700
			Contingency	12%	$721,050
	Planning, Surveying, Engineering, Design, Outreach and Annexation			13%	$815,100
			Construction Management	3%	$188,100
			Traffic Control	1%	$62,700
			CEQA/NEPA/Permitting	1%	$62,700
				TOTAL CONSTRUCTION	**$8,182,350**
10	Decommission Existing Wells	380	EA	$5,000	$1,900,000
11	Connection Fees	380	EA	$4,363	$1,657,940
				TOTAL PROJECT	**$11,740,290**
	SFWPA In-kind Services [b]				$700,000
				TOTAL w/In-Kind	**$12,440,290**
	Palermo Clean Water Consolidation Project Total Project Cost/Connection				**$32,737.61**

Notes:

a) Reduced construction cost based on SFWPA crews performing work

b) SFWPA in-kind services based on bid item construction cost savings

EXHIBIT D
PROJECTIMPLEMENTATION SCHEDULE

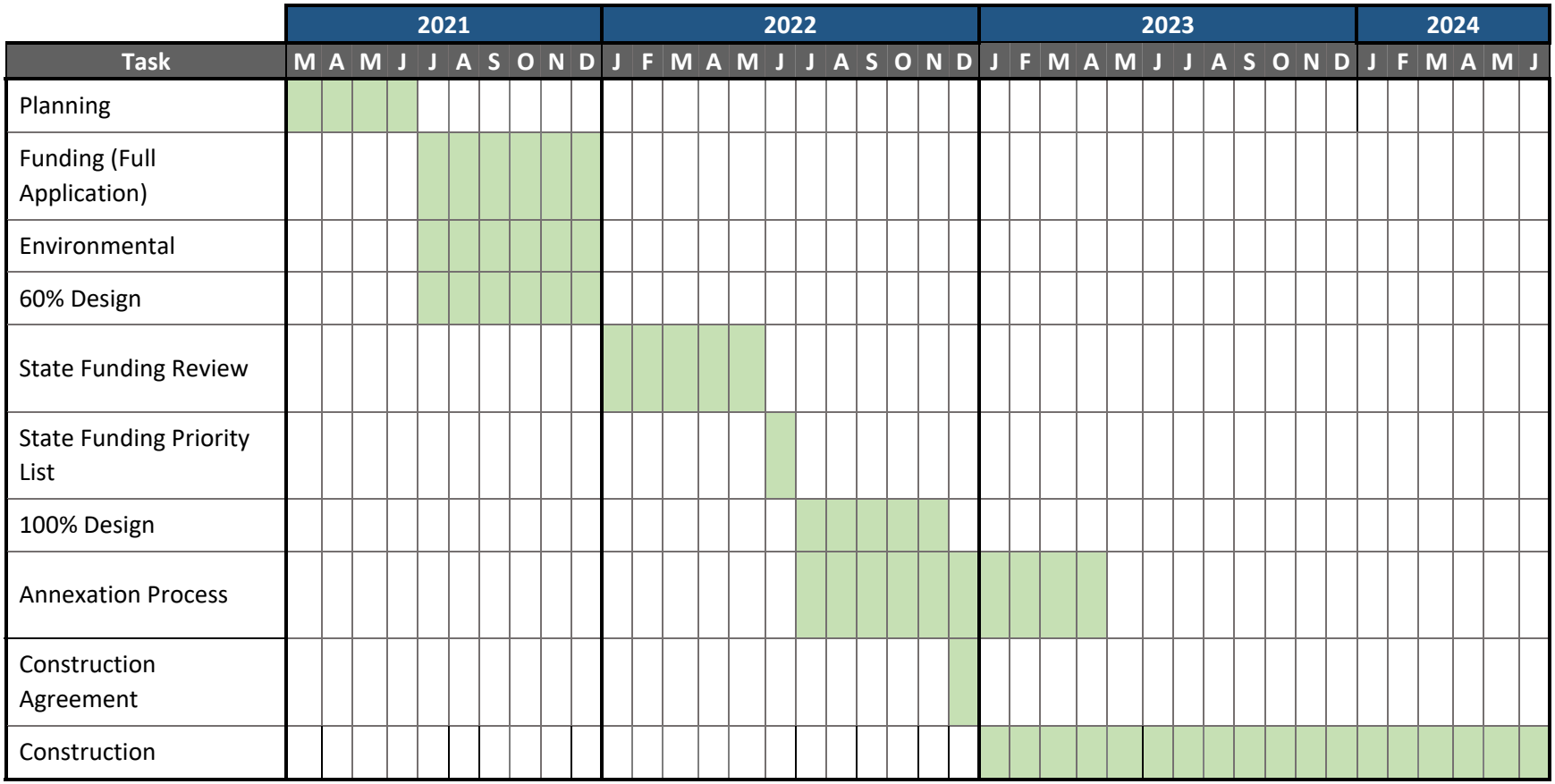


EXHIBIT E
PROPOSED ANNEXATION SCHEDULE

		2021					2022											2023											
ID	Task	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1	Butte County/SFWPA Project MOU Approval																													
2	Distribute/Collect Project Letters of Support																													
3	Complete Project Annexation Legal Descriptions and Plat Maps																													
4	Public Annexation - Public Meeting #1																													
5	Prepare SFWPA Board Project Annexation Item																													
6	SFWPA Board Approval - Project Annexation Item																													
7	SFWPA submits Annexation Application to Butte County LAFCo																													
8	Project Annexation - Public Meeting #2																													
9	Butte County LAFCo Approval - Project Annexation Item																													
10	Approved Annexation Filed with State																													
**	Submit DWSRF Construction Funding Application																													
**	DWSRF Construction Application Added to FY22-23 Fundable List																													
**	Projected DWSRF Construction Funding Agreement Execution																													

APPENDIX C

Property Owner's Statement of Understanding and Interest for Connection to SFWPA (October 2021)

PROPERTY OWNER'S STATEMENT OF INTEREST FOR CONNECTION TO SOUTH FEATHER WATER AND POWER AGENCY WATER SYSTEM [November 2021]

I understand that Butte County intends to submit applications to the State Water Resources Control Board to obtain funding to construct the infrastructure required to provide safe drinking water to my property. Benefits to me and the community include:

- Provides reliable water service to meet maximum daily demands
- Addresses public health risk
- Provides protection against Public Safety Power Shutoff (PSPS) events
- Provides fire protection
- Provides economies of scale for future improvements
- Negates the need to maintain existing domestic well and associated costs

Please initial ONE of the following choices below indicating your interest in becoming a customer of the SFWPA water system.

____ *(initial)* **I want to become a customer of the SFWPA water system when a water distribution pipeline and service lateral is constructed adjacent to my property and is fully funded at no cost to me.** If Butte County is unsuccessful in obtaining 100 percent grant funding for the project and financial contribution is necessary, I will be re-consulted about my interest in connecting to the SFWPA water system.

_____ *(initial)* **I plan to continue to use my well for outdoor use.**
_____ *(initial)* **I plan to no longer use my well for outdoor use and would like my well properly destroyed (in accordance with CA Water Code) at no cost to me.**

OR

____ *(initial)* **I do not want to be connected to the SFWPA water system.** I understand that if I choose to become a customer when grant funding is no longer available, I will be solely responsible for all costs to connect to the SFWPA water system, including, but not limited to: installation of a water main, service lateral, a water meter and box, connection from your water system to meter box, and the SFWPA water connection fee. By not connecting, I remain responsible for my household water supply and the maintenance and associated costs of my domestic well.

Property Owner Signature: _____Date: _____Phone:_____

Name of Property Owner: _____

Address: _____, [City], CA _____

Mailing Address if different: _____

Please return this letter of interest to:

Butte County Department of Water and Resource Conservation
308 Nelson Avenue
Oroville, CA 95965
Attn. Christina Buck, Assistant Director

If you have additional questions or concerns, please contact Christina Buck at 530-552-3595 or bcwater@buttecounty.net.

For additional information on the current water construction projects, please contact: Kristen McKillop, Regulatory Compliance Manager at South Feather Water and Power at 530-534-1221.

More details regarding the project are available online at:
https://www.buttecounty.net/waterresourceconservation/Palermo_Clean_Water

Thank you for completing this letter of interest. Both Butte County and South Feather Water and Power Agency looks forward to the opportunity to provide the Palermo Community with a safe reliable water supply in the future and will keep you apprised of grant funding status and project construction activities. Keep an eye out for future meetings to keep you updated on this project.

Palermo Clean Water Consolidation Project

Background Information

The purpose of this Letter of Interest is to gather input from landowners in Palermo on their interest in receiving treated surface water supply from the South Feather Water and Power Agency (SFWPA). Butte County is pursuing grant funds in partnership with SFWPA from the State of California to fully fund the project. If funded, building the infrastructure to connect households to the SFWPA water system would occur at no cost to landowners. Broad community support and expressed interest in becoming a SFWPA customer will help the project be awarded grant funding.

How does this affect me?

The water currently flowing to your house may not be safe to drink. Your domestic well is subject to repair and maintenance needs, and is susceptible to water quality degradation from septic sewer systems in the vicinity. Many wells in the Palermo area also have detections of coliform bacteria and nitrate concentrations that exceed Safe Drinking Water Act primary drinking water standards.

As a long-term solution option, your property can be connected to the SFWPA water system to receive a permanent, safe, and reliable water supply. Butte County, in partnership with SFWPA, is applying for SFWPA water system construction project improvement grant funds to serve your area. Your property can be included in the project scope of work if you are interested.

If you choose to participate, upon connection, you would become a SFWPA water customer subject to current water rate charges. The current average monthly water bill for those who have already connected to the SFWPA system is less than the electricity cost of running your existing well.

What about my well?

Well destruction will not be a requirement to hook up to the SFWPA water system. However, inactive wells pose a serious threat to groundwater quality and a safety hazard to humans and animals. It is strongly recommended that any onsite wells are properly destroyed as part of the SFWPA water system connection process. A well is considered “abandoned” or permanently inactive if it has not been used or maintained for a period of one year. Abandoned wells are required to be destroyed in accordance with the California Well Standards. Please contact Butte County Public Health, Environmental Health Division at (530) 552.3880 or BCLandUse@buttecounty.net for information on well destruction requirements.

APPENDIX D

Palermo Clean Water Consolidation Project
Final Technical Memorandum prepared by Luhdorff & Scalmanini Consulting Engineers

Exhibit B

Luhdorff & Scalmanini
Consulting Engineers

FINAL TECHNICAL MEMORANDUM

DATE: August 16, 2021 Project No.:20-2-145

TO: Christina Buck, PhD, Interim Director
Department of Water and Resource Conservation, Butte County

CC: Rath Moseley, General Manager
South Feather Water and Power Agency
Kristen McKillop, Regulatory Compliance Coordinator
South Feather Water and Power Agency

FROM: Oscar Serrano, PE, Senior Engineer, LSCE
Eddy Teasdale, PG, CGH, Supervising Hydrogeologist, LSCE
Jacques DeBra, Principal, Water Resource Management Services

SUBJECT: PALERMO CLEAN WATER CONSOLIDATION PROJECT

INTRODUCTION

Luhdorff & Scalmanini, Consulting Engineers (LSCE) prepared this Technical Memorandum (TM) for the Palermo Clean Water Consolidation Project for the Butte County Department of Water and Resource Conservation (County). The goal of the TM is to define a scope of work for consolidation of the Palermo community with the South Feather Water and Power Agency (SFWPA) to address existing health and safety issues within the Palermo community. LSCE and Water Resources Management Services (WRMS) will also be assisting the County with pursuing funding for construction of the Palermo Clean Water Consolidation Project.

BACKGROUND

The County would like to address the health and safety issues being faced by the Palermo community. The majority of the parcels within the Palermo community are served by individual water wells for their potable water supply and by on-site septic systems for wastewater treatment and disposal. Flooding, high groundwater levels and continued septic system failures have resulted in cross contamination of the existing wells and possibly contamination of the groundwater aquifer. The County would like to resolve these water issues by pursuing a water system consolidation with the SFWPA. The SFWPA already provides treated surface water to several parcels within Palermo. The County has already taken steps to address the health issues within Palermo by submitting the project for inclusion in the Northern Sacramento Valley (NSV) Integrated Regional Water Management (IRWM) Plan which opens up an array of funding opportunities.

PALERMO

Palermo is a small severely disadvantaged community in Butte County with a population of over 5,000 people located about five (5) miles south of the City of Oroville and east of Highway 70. According to the most recent census data, the median household income is $42,227. The majority of the residents within Palermo have individual groundwater wells (the majority of existing domestic wells are a depth of 75-125 feet). The community has experienced high rates of septic failures during periods of high rainfall which has resulted in stormwater and upper aquifer contamination. The area has poor surface drainage and soils are slow to absorb water from on-site septic drain fields (Lumos, 2010). To prevent future contamination, a water system consolidation is recommended for the Palermo community and the logical partner is the SFWPA which has existing facilities within the community with 110 of the 490 parcels targeted for consolidation already receiving water service through SFWPA's water system.

Previous Studies

In 2007, the County Public Health Department, Division of Environmental Health, completed the Palermo Sanitary Survey report. For the study, the County surveyed residents within the Palermo community, performed field inspections, water sampling, reviewed well and septic systems, etc. The study found that of the 35 individual wells that were sampled, ten (10) tested positive for total coliform and some were close to the primary drinking water MCL for Nitrates. Environmental Health worked with local engineering firms to produce technical assessments of the existing conditions and the results obtained during the Sanitary Survey.

In 2010, Lumos and Associates prepared the Palermo Wastewater Study Preliminary Engineering Report which looked at alternatives to solve the community's septic system problems. The report recommended installation of a wastewater collection system and construction of a wastewater treatment plant. The cost of the recommended alternative was $28.4 million in 2010 dollars and assumed a wastewater treatment facility providing secondary treatment, filtration, and disinfection with wastewater storage ponds.

In 2012, NorthStar Engineering produced a summary review of data available (including a study done by Cook Associates Engineering Consultants - *Pollution Study, Palermo, Butte County, 1987*) regarding municipal sewer service versus onsite wastewater treatment to service the Palermo community. This review also documents the high cost for sewer infrastructure and the alternative of a community system due to the required connection fees to the wastewater treatment plant. Even if financially feasible with possible grants or loans to defray costs, these wastewater options would still not remedy the issue of contaminated source water for consumption.

Water Quality

Recently, the County and SFWPA completed water quality testing within the Palermo community. As discussed in the TM prepared by LSCE titled Palermo Water Quality Testing Results (see **Appendix A**), the 2021 water quality results indicated that 24% of the wells sampled tested positive for Total Coliform which is consistent with the 2007 water quality testing results by the County which resulted in 29% of the wells testing positive. The Palermo Clean Water Consolidation project would bring Safe Drinking Water Act

(SDWA) compliant treated potable water to the Palermo community and eliminate any future potential health and safety issues.

SOUTH FEATHER WATER AND POWER AGENCY

The SFWPA dates back to 1919 when it was called the Oroville-Wyandotte Irrigation District. Today, the SFWPA consists of a service area of approximately 31,000 acres within Butte County. SFWPA has surface water rights from the South Fork of the Feather River and Slate Creek (a tributary of the North Fork of the Yuba River). SFWPA operates a series of reservoirs with a combined storage capacity of 164,577 acre-feet. Water is treated at the Miner's Ranch Treatment Plant which has a capacity of 14.5 million gallons per day (MGD). SFWPA supplies treated surface water to 6,931 service connections and irrigation water to over 500 customers (SFWPA 2020 Urban Water Management Plan, 2021) within Butte County. In 2020, SFWPA supplied 1,737 million gallons of treated surface water or 4.76 MGD.

SFWPA is the logical choice for consolidation with Palermo as SFWPA has existing water distribution facilities within the vicinity of Palermo and currently supplies drinking water to 110 parcels within the Palermo community as shown in **Figure 1**.

PALERMO ALTERNATIVE ANALYSIS

The best long-term solution to the health and safety issues being faced by the Palermo community and the local groundwater aquifer is a water system consolidation with SFWPA. If left unresolved, individual wells will continue to experience cross contamination issues and pose a risk to the groundwater aquifer due to seasonal flooding, high groundwater levels and continued septic system failures. In addition, any existing wells that fail or must be retired from service would need to be replaced with wells meeting current well construction standards including deeper seals to at a least 100-foot depth and may need to be drilled to a greater depth as well. Existing wells taken out of service would need to be properly abandoned in accordance with County and State well standards.

PREFERRED PROJECT – PALERMO CLEAN WATER CONSOLIDATION PROJECT

Project Description

The proposed boundary limits for the Palermo Clean Water Consolidation Project are: Messina Avenue on the north, Upper Palermo Road on the east, South Villa Avenue on the south and Railroad Avenue on the west as shown in **Figure 2.**

Project Demand and Supply Analysis

There are 490 parcels within the boundary limits shown in **Figure 2**, of which 110 are currently provided water by SFWPA. Assuming an average occupancy rate of 3 people per dwelling unit (pdu) and 490 parcels, the projected population is 1,470. Assuming a water usage of 200 gallons per capita per day (GPCD) the average day demand (ADD) would be 294,000 gallons. Per the State Water Resources Control Board (SWRCB) Division of Drinking Water's (DDW) Title 22 California Regulations Related to Drinking Water Chapter 16, California Waterworks Standards, the maximum day demand (MDD) shall be calculated by

multiplying the ADD by 2.25 and the peak hour demand (PHD) shall be calculated by multiplying the MDD by 1.5. This results in a MDD of 661,500 gallons (0.66 MGD) and a PHD of 992,250 gallons (0.99 MGD) for the project area customer base.

In 2020, the SFWPA had a MDD of 11.6 MGD and a PHD of 16.6 MGD. The SFWPA has a water treatment plant capacity of 21 MGD. **Table 1** below shows that SFWPA has sufficient water treatment plant capacity to meet the additional demand from Palermo Clean Water Consolidation Project. SFWPA is able to meet the minimum fire protection requirement of 1,000 gpm for a fire duration of 2-hours with existing water system fire protection capacity. No additional storage or source capacity is recommended/needed SFWPA 2020 UWMP.

Table 1. Supply and Demand Analysis

Demand Scenario	Water Demand (MGD)
Palermo Max Day Water Demands	0.66
SFWPA Max Day Water Demand	11.6
SFWPA + Palermo Max Day Demand	12.26
SFWPA Water Treatment Plant Capacity	21.0

Project Design Criteria

The project will connect to SFWPA's existing water system with 6-inch and 12-inch C-900 PVC water mains within the project limits to provide a looped water system for the Palermo community. Fire hydrants will be installed per code requirements within the system. Meter boxes with advanced metering infrastructure (AMI) smart water meters will be installed at each parcel to automate future meter reading services. Services lines will be run from the meter to each customer home. Well abandonment is discussed in the subsequent section. SFWPA will be responsible for the operation and maintenance of the water distribution system improvements associated with project implementation.

A summary of the design criteria is provided below in **Table 2** and the proposed improvements are shown in **Figure 2**.

Table 2. Project Design Criteria	
Parcels	**490**
Average Occupancy Rate (People per Dwelling Unit)	3
Population Projection	1,470
Gallons per Capita per Day (GPCD)	200

Water Demands	Gallons	MGD
Average Day Demand	294,000	0.29
Maximum Day Demand	661.500	0.66
Peak Hour Demand	992,250	0.99

Storage Capacity	Gallons	MGD
Residential Fire Requirement = 1,000gpm*2 hours	120,00	0.12

Water Distribution System	
Water Mains	6-inch to 12-inch, PVC C-900
Valves	2 per intersection
Fire Hydrant	800-1,000 feet apart
Water Meters	AMI Technology
Water Services	Minimum ¾-inch

Well Abandonment

Well Abandonment is an eligible project cost for water consolidation projects (such as the Palermo Clean Water Consolidation Project) in particular where older groundwater system infrastructure is being abandoned and converted to a treated surface water supply as part of the consolidation improvements. DDW supports well abandonment as being included as part of a water consolidation project where older well abandonments would likely be required or necessitated by well operation and/or Safe Drinking Water Act (SDWA) compliance related issues. This is consistent with Drinking Water State Revolving Fund (DWSRF) policy related to water consolidation projects allowing for well abandonment as part of eligible project costs. The partners are pursuing 100% grant funding for the Palermo Clean Water Consolidation Project and will make grant funds available to Palermo residents within the project boundary connecting to the SFWPA water system including well abandonment costs per County well abandonment standards. The partners will inform Palermo residents of available grant funding for well abandonment and the window during which such grant funds are available for this purpose. Palermo customers who do not take advantage of well abandonment grant funds as part of Palermo Clean Water Consolidation Project implementation may have to pay for their well abandonment costs in the future (post-Project). The project partners will pursue other grant funds as necessary to afford all Palermo residents the opportunity to properly abandon existing wells using grant funds once hooked up to the SFWPA water system.

Annexation

In order for the County to pursue the water system consolidation option, the parcels within the Palermo Clean Water Consolidation Project area will be required to annex into the SFWPA for service. Some parcels within the community have already chosen to annex into SFWPA to obtain services. Typically, landowners request annexation into SFWPA, and the Agency facilitates the parcel annexation process from start to finish in coordination with Butte County. For the Palermo Clean Water Consolidation Project, the remaining landowners will have to agree to be annexed through the County process in order to be served water by the SFWPA and agree to pay the SFWPA water rates.

In summary, SFWPA first develops the required documentation (including environmental compliance) and takes the documentation with corresponding resolution to the SFWPA Board to authorize submittal of proposed annexation applications to Butte County for processing. All applications are then submitted to the Butte Local Agency Formation Commission (LAFCo) for review and adoption by their Board. The Butte LAFCo has historically not accepted grouped landowner annexation applications thus an individual annexation application will need to be developed for each landowner who is not already annexed within the SFWPA. Legal descriptions will need to be obtained for each parcel which will be included in project cost estimates. See proposed annexation schedule in **Table 3** below which would be included as part of the DWSRF Construction Scope of Work.

Table 3. Proposed Annexation Schedule

		2021					2022											2023											
ID	Task	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1	Butte County/SFWPA Project MOU Approval																													
2	Distribute/Collect Project Letters of Support																													
3	Complete Project Annexation Legal Descriptions and Plat Maps																													
4	Public Annexation - Public Meeting #1																													
5	Prepare SFWPA Board Project Annexation Item																													
6	SFWPA Board Approval - Project Annexation Item																													
7	SFWPA submits Annexation Application to Butte County LAFCo																													
8	Project Annexation - Public Meeting #2																													
9	Butte County LAFCo Approval - Project Annexation Item																													
10	Approved Annexation Filed with State																													
**	Submit DWSRF Construction Funding Application																													
**	DWSRF Construction Application Added to FY22-23 Fundable List																													
**	Projected DWSRF Construction Funding Agreement Execution																													

SFWPA Water Rates

SFWPA charges a monthly service charge of $19.73 per month plus $0.42/billing unit for the first 100 units (10,000 cubic feet) and $0.31/unit after the first 100 units (over 10,000 cubic feet). Oversized meters are charged an additional fee each month. The majority of Palermo customers annexed under the proposed project would pay the monthly service charge for their ¾-inch service plus water consumption charges with their expected demand to be within the first 100 units at $0.42/billing unit.

Palermo customers are paying affordable rates upon converting to SFWPA water service. **Table 4** below provides perspective based on approximately 110 Palermo accounts who have already converted to SFWPA water service based on calendar year 2020 water use and associated water billing.

Table 4. Comparative Average Water Rates

Annual Water Charge Item	Annual Water Charge Amount	Average Monthly Bill
State-wide Average	$960/year	$80.00/month
EPA Rate Affordability Criteria	$844/year	$70.38/month
Avg. SFWPA Palermo Account	$420/year	$34.28/month

- State-wide average bill assumes 20 ccf of water consumption similar to SFWPA per capita water use target.

CEQA

The project will be required to go through the California Environmental Quality Act (CEQA) process. It is expected that an Initial Study/Mitigated Negative Declaration (IS/MND) with mitigation measures will be required to meet CEQA guidelines and facilitate project and funding approvals. Mitigation measures would be incorporated into the project to reduce potential environmental impacts as needed. The IS would include a biological resources survey and assessment and a cultural resource survey and assessment to comply with CEQA plus requirements related to project funding approvals.

PROJECT IMPLEMENTATION SCHEDULE

An implementation schedule for the Palermo Water System Consolidation project is shown in **Table 5**. Funding, annexation and the environmental process can take up to 6-months to complete. The remaining phases of design (e.g., 90% and 100% design plans and specification submittals) will take between 9 to 12-months including State reviews. Construction of the project is expected to last between 15 to 18-months.

Table 5. Project Implementation Schedule

	2021										2022												2023												2024					
Task	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
Planning																																								
Funding (Full Application)																																								
Environmental																																								
60% Design																																								
State Funding Review																																								
State Funding Priority List																																								
100% Design																																								
Annexation Process																																								
Construction Agreement																																								
Construction																																								

PROJECT COST ESTIMATE

LSCE's preliminary cost estimate is based upon the conceptual design information discussed above for the Palermo Clean Water Consolidation Project. The preliminary cost estimate presented below provides a Project planning level cost estimate based upon SFWPA construction assistance and our experience with other projects of similar size and complexity. The preliminary planning level construction cost estimate is presented on the following page in **Table 6.** Construction costs assume SFWPA will construct the pipeline project and thus provide an in-kind service.

- **Planning Level Construction Cost: $11.6 million** (2021 dollars)
    - Assumes contingency of 12% and 60% design submittal for funding approval.
    - Assumes IS/MND for CEQA compliance with Biological and Cultural Resource Assessments required for CEQA Plus compliance.
    - Assumes final annexation process approvals completed in parallel with State funding agreement execution process.
    - Assumes Project MOU approved between SFWPA and Butte County in 2021.
    - Assumes 100% Project grant funding through multiple funding sources.

Table 6. Preliminary Construction Cost Estimate

Bid Item No.	Bid Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
1	12-inch Water Main, C-900 [a]	10,000	LF	$75	$750,000
2	6-inch Water Main, C-900 [a]	30,000	LF	$60	$1,800,000
3	6-inch & 12-inch Valves	150	EA	$3,000	$450,000
4	3/4-inch Water Service Line	380	EA	$2,000	$760,000
5	Meters/Meter Boxes	380	EA	$1,000	$380,000
6	Parcel Plumbing (Meter to Home)	380	EA	$1,000	$380,000
7	Fire Hydrants	30	EA	$5,000	$150,000
8	Paving (Trench Restoration)	105,000	SF	$15	$1,575,000
9	Testing and Disinfection	1	LS	$25,000	$25,000
				Bid Item Total:	$6,270,000
				SUBTOTAL:	**$6,270,000**
			Mobilization	1%	$62,700
			Contingency	12%	$721,050
	Planning, Surveying, Engineering, Design, Outreach and Annexation			13%	$815,100
			Construction Management	3%	$188,100
			Traffic Control	1%	$62,700
			CEQA/NEPA/Permitting	1%	$62,700
				TOTAL CONSTRUCTION	**$8,182,350**
10	Decommission Existing Wells	380	EA	$5,000	$1,900,000
11	Connection Fees	380	EA	$4,363	$1,657,940
				TOTAL PROJECT	**$11,740,290**
	SFWPA In-kind Services [b]				$700,000
				TOTAL w/In-Kind	**$12,440,290**
	Palermo Clean Water Consolidation Project Total Project Cost/Connection				**$32,737.61**

Notes:

a) Reduced construction cost based on SFWPA crews performing work

b) SFWPA in-kind services based on bid item construction cost savings

REFERENCES

Butte County Public Health Department, Palermo Sanitary Survey Report (April 2007).

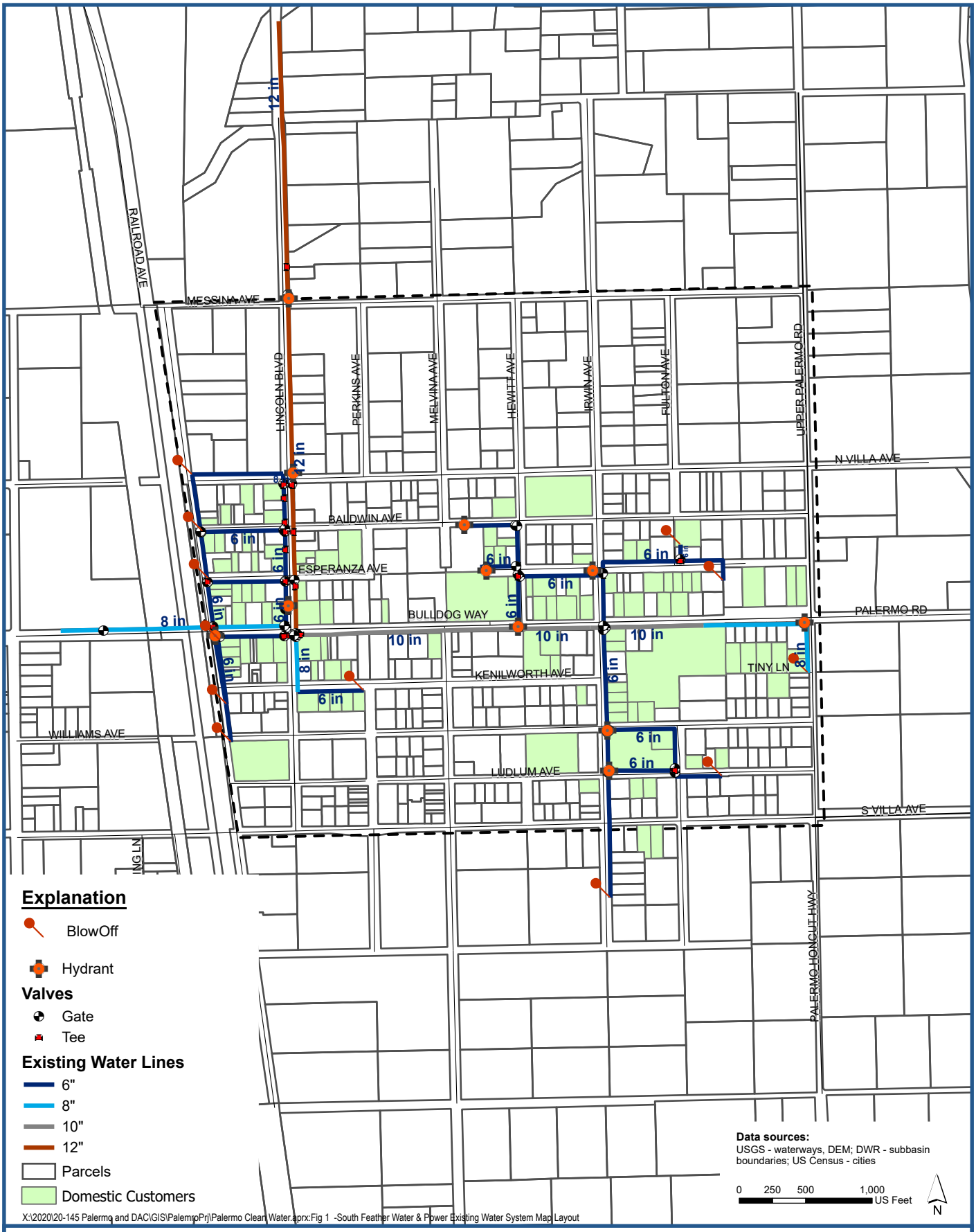
Lumos and Associates, Palermo Wastewater Study Preliminary Engineering Report (April 2010).

South Feather Water and Power Agency, 2020 Urban Water Management Plan (July 2021).

South Feather Water and Power Agency, Development Standards Treated Water System (July 2005).

State Water Resources Control Board - Division of Drinking Water, Title 22 California Regulations Related to Drinking Water (April 2019).

FIGURES

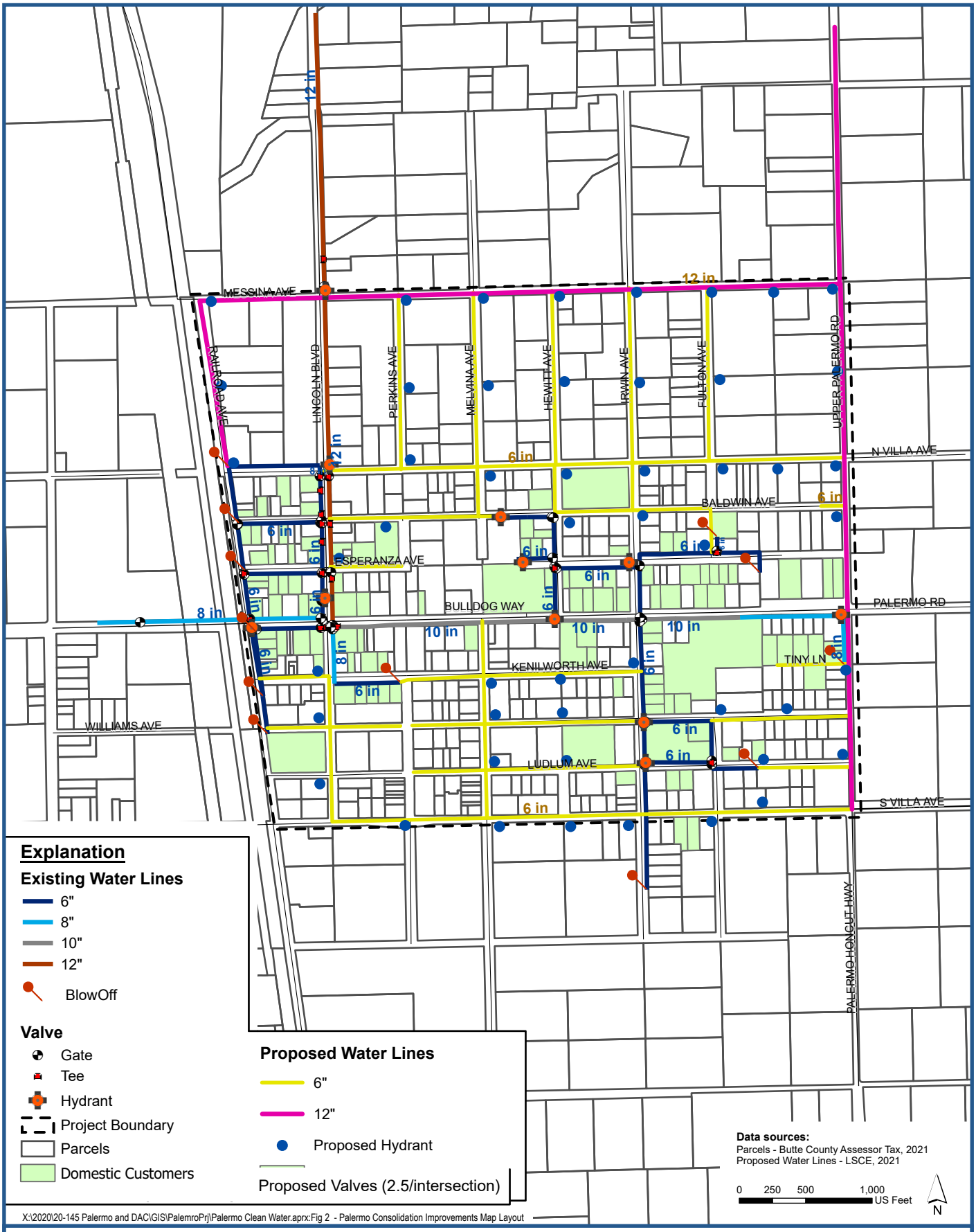


Luhdorff & Scalmanini
Consulting Engineers

South Feather Water and Power: Existing Water System

Palermo Clean Water Consolidation Project
Butte County

Figure 1



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Palermo Consolidation Improvements

Palermo Clean Water Consolidation Project
Butte County

Figure 2

APPENDIX A

Luhdorff & Scalmanini
Consulting Engineers

FINAL TECHNICAL MEMORANDUM

DATE: August 11, 2021 Project No.:20-2-145

TO: Christina Buck, PhD, Interim Director
Department of Water and Resource Conservation, Butte County

CC: Rath Moseley, General Manager
South Feather Water and Power Agency
Kristen McKillop, Regulatory Compliance Coordinator
South Feather Water and Power Agency

FROM: Oscar Serrano, PE, Senior Engineer, LSCE
Eddy Teasdale, PG, CGH, Supervising Hydrogeologist, LSCE
Jacques DeBra, Principal, Water Resource Management Services

SUBJECT: PALERMO WATER QUALITY TESTING RESULTS

INTRODUCTION

Luhdorff & Scalmanini, Consulting Engineers (LSCE) prepared this Palermo Water Quality Testing Results Technical Memorandum (TM) for the Butte County Department of Water and Resource Conservation (County). The TM summarizes recent water quality testing results and compares it to previous test results. The results show that the Palermo Community continues to experience health and safety concerns due to water quality.

BACKGROUND

In 2007, the County Public Health Department completed the Palermo Sanitary Survey report. For the report, the County surveyed residents within the Palermo community, performed field inspections, water sampling, reviewed well and septic systems, etc. The study found that of the 35 individual wells that were sampled, ten (10) tested positive for total coliform and some were close to the primary drinking water MCL for Nitrates.

PALERMO WATER QUALITY TESTING

Recently, the County with assistance from the South Feather Water and Power Agency (SFWPA) reached out to the Palermo Community through a Town Hall meeting. The County surveyed the residents within the proposed Palermo Clean Water Consolidation project boundary to see who would be willing to have the County/SFWPA obtain a water sample from a hose bib outside their home. As a result of the Town Hall meeting and survey, 25 residents agreed to have their water tested for Total Coliform, E. Coli and Nitrate as N. On July 15, 2021, SFWPA staff collected water quality samples and sent them to the lab for water quality testing. Water Quality test results are included in **Attachment A** and **Table 1** below shows a summary of the water quality test results.

Table 1. Water Quality Testing Summary

		Total Coliform		E-Coli	
	Wells Sampled	Present	% of Wells Sampled	Present	% of Wells Sampled
2021	25	6	24%	1	4%
2007	35	10	29%	0	0%

		Nitrates as N (mg/L)	
	Wells Sampled	Low*	High
2021	25	ND	8.38

*Non-Detect

		Nitrates	
	Wells Sampled	Low	High
2007	14	5.3	31.7

CONCLUSION

There are a total of 490 parcels within the Palermo Clean Water Consolidation project of which 110 parcels currently receive treated surface water from the SFWPA. The rest of the community within the proposed project limits relies on groundwater for residential use. A project like the Palermo Clean Water Consolidation project would bring Safe Drinking Water Act (SDWA) compliant clean treated potable water to the Palermo community and eliminate any future potential health and safety issues.

The 2021 water quality data presented above shows that 24% of the water tested from residential wells in the Palermo community tested positive for Total Coliform. This is consistent with the 2007 water quality testing that resulted in 29% of wells sampled testing positive for Total Coliform. Projecting the 2021 water quality results over the remaining 380 parcels within the project boundary indicates that approximately 91 accounts could be at risk of having Total Coliform present and approximately 15 accounts could be at risk of having E-Coli present. Additionally, a small percentage of accounts could be at or above the primary drinking water MCL for Nitrates as N.

Since the completion of the updated water quality testing, additional residents within the project boundary of the Palermo Clean Water Consolidation project have requested to have their water tested. Subsequently, the County and SFWPA are planning additional testing for the Community at which time this memo can be updated.

ATTACHMENT A

Palermo Community - Water Quality Test Results

Sample ID	MATRIX	SAMPDATE	PREPDATE	ANADATE	METHODCODE	METHODNAME	ANALYTE	CASNUMBER	Result	DL	RL	UNITS	DILUTION	ANALYST
1	Drinking Water	07/15/2021 10:30:00	07/15/2021 17:47:00	07/15/2021 17:47:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	1.84	0.02	0.40	mg/l	1	JPW
1	Drinking Water	07/15/2021 10:30:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Present			Present/Absent	1	JPW
1	Drinking Water	07/15/2021 10:30:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
2	Drinking Water	07/15/2021 10:15:00	07/15/2021 17:47:00	07/15/2021 17:47:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	2.96	0.02	0.40	mg/l	2	JPW
2	Drinking Water	07/15/2021 10:15:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Present			Present/Absent	1	JPW
2	Drinking Water	07/15/2021 10:15:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
3	Drinking Water	07/15/2021 09:50:00	07/15/2021 17:47:00	07/15/2021 17:47:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	5.93	0.02	0.40	mg/l	5	JPW
3	Drinking Water	07/15/2021 09:50:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Present			Present/Absent	1	JPW
3	Drinking Water	07/15/2021 09:50:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Present			Present/Absent	1	JPW
4	Drinking Water	07/15/2021 11:10:00	07/15/2021 17:47:00	07/15/2021 17:47:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	3.92	0.02	0.40	mg/l	5	JPW
4	Drinking Water	07/15/2021 11:10:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Present			Present/Absent	1	JPW
4	Drinking Water	07/15/2021 11:10:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
5	Drinking Water	07/15/2021 10:00:00	07/15/2021 17:47:00	07/15/2021 17:47:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	2.92	0.02	0.40	mg/l	2	JPW
5	Drinking Water	07/15/2021 10:00:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
5	Drinking Water	07/15/2021 10:00:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
6	Drinking Water	07/15/2021 11:25:00	07/15/2021 17:47:00	07/15/2021 17:47:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	3.81	0.02	0.40	mg/l	2	JPW
6	Drinking Water	07/15/2021 11:25:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
6	Drinking Water	07/15/2021 11:25:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
7	Drinking Water	07/15/2021 10:40:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	1.85	0.02	0.40	mg/l	2	JPW
7	Drinking Water	07/15/2021 10:40:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
7	Drinking Water	07/15/2021 10:40:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
8	Drinking Water	07/15/2021 09:20:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	0.59	0.02	0.40	mg/l	1	JPW
8	Drinking Water	07/15/2021 09:20:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
8	Drinking Water	07/15/2021 09:20:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
9	Drinking Water	07/15/2021 11:00:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	1.88	0.02	0.40	mg/l	1	JPW
9	Drinking Water	07/15/2021 11:00:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
9	Drinking Water	07/15/2021 11:00:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
10	Drinking Water	07/15/2021 11:50:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	2.02	0.02	0.40	mg/l	1	JPW
10	Drinking Water	07/15/2021 11:50:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
10	Drinking Water	07/15/2021 11:50:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
11	Drinking Water	07/15/2021 09:50:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	6.87	0.02	0.40	mg/l	5	JPW
11	Drinking Water	07/15/2021 09:50:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
11	Drinking Water	07/15/2021 09:50:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
12	Drinking Water	07/15/2021 11:35:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	ND	0.02	0.40	mg/l	1	JPW
12	Drinking Water	07/15/2021 11:35:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
12	Drinking Water	07/15/2021 11:35:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
13	Drinking Water	07/15/2021 11:40:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	4.04	0.02	0.40	mg/l	5	JPW
13	Drinking Water	07/15/2021 11:40:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
13	Drinking Water	07/15/2021 11:40:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
14	Drinking Water	07/15/2021 11:20:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	4.08	0.02	0.40	mg/l	5	JPW
14	Drinking Water	07/15/2021 11:20:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
14	Drinking Water	07/15/2021 11:20:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
15	Drinking Water	07/15/2021 10:55:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	1.92	0.02	0.40	mg/l	1	JPW
15	Drinking Water	07/15/2021 10:55:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
15	Drinking Water	07/15/2021 10:55:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
16	Drinking Water	07/15/2021 09:05:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	1.59	0.02	0.40	mg/l	2	JPW
16	Drinking Water	07/15/2021 09:05:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
16	Drinking Water	07/15/2021 09:05:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW

17	Drinking Water	07/15/2021 12:00:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	1.77	0.02	0.40	mg/l	1	JPW
17	Drinking Water	07/15/2021 12:00:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
17	Drinking Water	07/15/2021 12:00:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
18	Drinking Water	07/15/2021 11:10:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	1.29	0.02	0.40	mg/l	1	JPW
18	Drinking Water	07/15/2021 11:10:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Present			Present/Absent	1	JPW
18	Drinking Water	07/15/2021 11:10:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
19	Drinking Water	07/15/2021 11:30:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	3.48	0.02	0.40	mg/l	5	JPW
19	Drinking Water	07/15/2021 11:30:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
19	Drinking Water	07/15/2021 11:30:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
20	Drinking Water	07/15/2021 10:22:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	8.38	0.02	0.40	mg/l	10	JPW
20	Drinking Water	07/15/2021 10:22:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
20	Drinking Water	07/15/2021 10:22:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
21	Drinking Water	07/15/2021 10:17:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	7.07	0.02	0.40	mg/l	5	JPW
21	Drinking Water	07/15/2021 10:17:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
21	Drinking Water	07/15/2021 10:17:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
22	Drinking Water	07/15/2021 10:12:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	2.58	0.02	0.40	mg/l	2	JPW
22	Drinking Water	07/15/2021 10:12:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
22	Drinking Water	07/15/2021 10:12:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
23	Drinking Water	07/15/2021 10:05:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	3.34	0.02	0.40	mg/l	5	JPW
23	Drinking Water	07/15/2021 10:05:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
23	Drinking Water	07/15/2021 10:05:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
24	Drinking Water	07/15/2021 09:30:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	1.81	0.02	0.40	mg/l	1	JPW
24	Drinking Water	07/15/2021 09:30:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Present			Present/Absent	1	JPW
24	Drinking Water	07/15/2021 09:30:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW
25	Drinking Water	07/15/2021 11:50:00	07/15/2021 17:30:00	07/15/2021 17:30:00	Chico - Nitrate 353.2 as N	EPA 353.2 (Calc)	Nitrate as N	14797-55-8	1.63	0.02	0.40	mg/l	1	JPW
25	Drinking Water	07/15/2021 11:50:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	Total Coliforms	LDC-0381	Absent			Present/Absent	1	JPW
25	Drinking Water	07/15/2021 11:50:00	07/15/2021 17:00:00	07/16/2021 11:00:00	Chico - Colilert-18 Total Coliform & E.coli P/A	SM 9223 B Colilert-18	E. Coli	CT-ECOLI	Absent			Present/Absent	1	JPW

APPENDIX E

Palermo Clean Water Consolidation Project
Construction Emissions

Palermo Clean Water Consolidation Project

Activity	Equipment	HP Rated	# Units	# Active Days	Duration of Project = Approx. 1 year								
					O3 (tons)	CO (tons)	Nox (tons)	ROG (tons)	VOC (tons)	Pb (tons)	PM2.5 (tons)	PM10 (tons)	SO2 (tons)
Excavation/ Trenching	Diesel Excavator	300	1	200		0.688	2.434	0.148	0.180		0.164	0.169	0.392
	Diesel Bull Dozers	300	2	200		1.460	5.037	0.878	0.381		0.339	0.349	0.783
Asphaltic Paving	Pavers	200	1	200			0.635	0.106			0.025	0.028	
		# Miles / Day	**# Units**	**# Active Days**									
General Construction	Pickup Truck	30	2	200		0.148	0.036		0.018	0.000	0.001	0.001	
	10000-19500 lb Delivery Truck	60	1	200		0.209	0.039		0.022	0.000	0.001	0.001	
	Diesel Tractors/Loaders/Backhoes	10	1	100		0.072	0.064	0.002	0.016		0.012	0.012	0.008
				Totals:		**2.578**	**8.244**	**1.135**	**0.617**		**0.541**	**0.561**	**1.183**

APPENDIX F

Biological Resources Assessment for the Palermo Clean Water Consolidation Project

BIOLOGICAL RESOURCE ASSESSMENT

Terrestrial and Botanical Resources

Palermo Clean Water Consolidation Project:

Palermo, California

November 2021

Prepared for:
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Inland Ecosystems
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Palermo, California

INTRODUCTION

Purpose and Overview

The purpose of this biological assessment (BA) is to document endangered, threatened, sensitive and rare species and their habitats that may occur in the biological survey area (BSA) in the Town of Palermo (Project) in Butte County, California (**Figure 1 and 2**). The Project is located approximately 2.5-3 miles south of Oroville.

Golden Hills Consulting (GHC) conducted biological and botanical habitat assessments in the biological survey area (BSA) to evaluate site conditions and potential for biological and botanical species to occur. Other primary references consulted include species lists and information gathered using The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation System (IPaC), the California Department of Fish and Wildlife's (CDFW) Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) list of rare and endangered plants, and literature review. The results of the BA are the findings of habitat assessment and surveys, with recommendations for avoidance and minimization measures as necessary.

Project Location and Environmental Setting

The BSAis within those areas targeted for pipeline installation such as existing roads adjacent Right-of-Way.Palermo is located on the 1970 Palermo 7.5' USGS quadrangle topographic map. Approximate center of the town is located at Township 18 North, Range 4 West, in the northwest quarter of Section 8. Latitude is 39.437249 North, Longitude 121.548885 West. Areas to the north, south and west of Palermo are primarily used for agriculture, from cattle grazing to various orchards, such as oranges and olives. To the east lie the toe of the Sierra Nevada foothills. The terrain increases in elevation quickly to the east, where approximately half a mile west of Palermo, there are hills up to 500 feet amsl (average mean sea level) in elevation. In the Town itself, elevation ranges from a low of 150 feet amsl along the west side to 210 feet amsl along portions of the east side of the town.

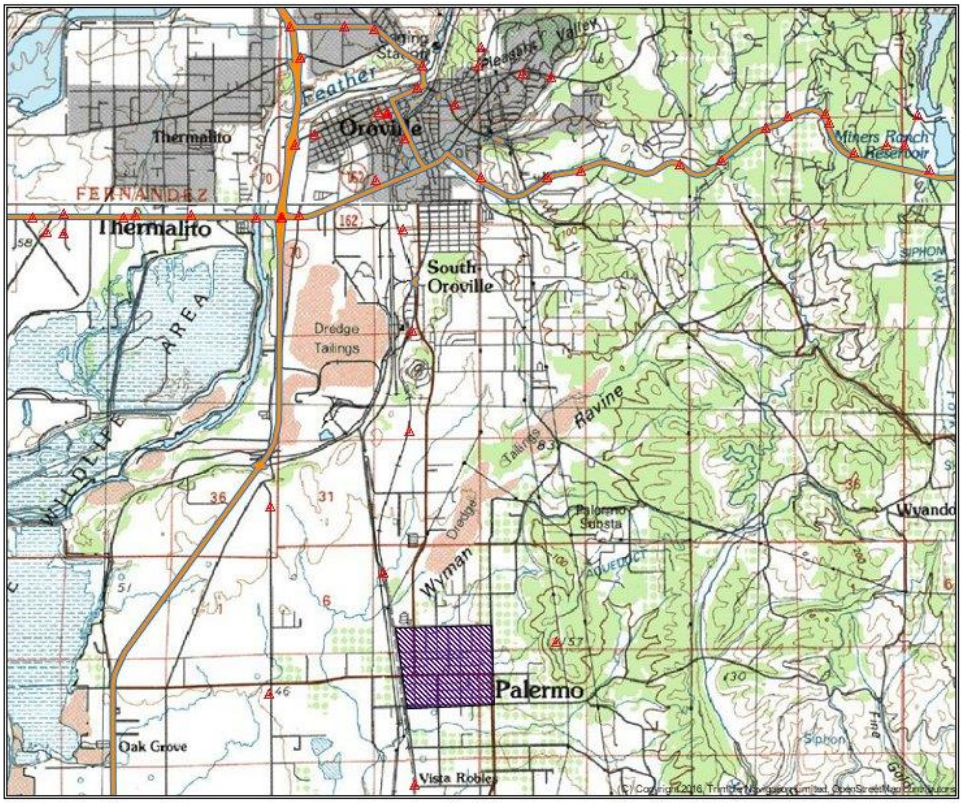

Figure 1. Regional Location

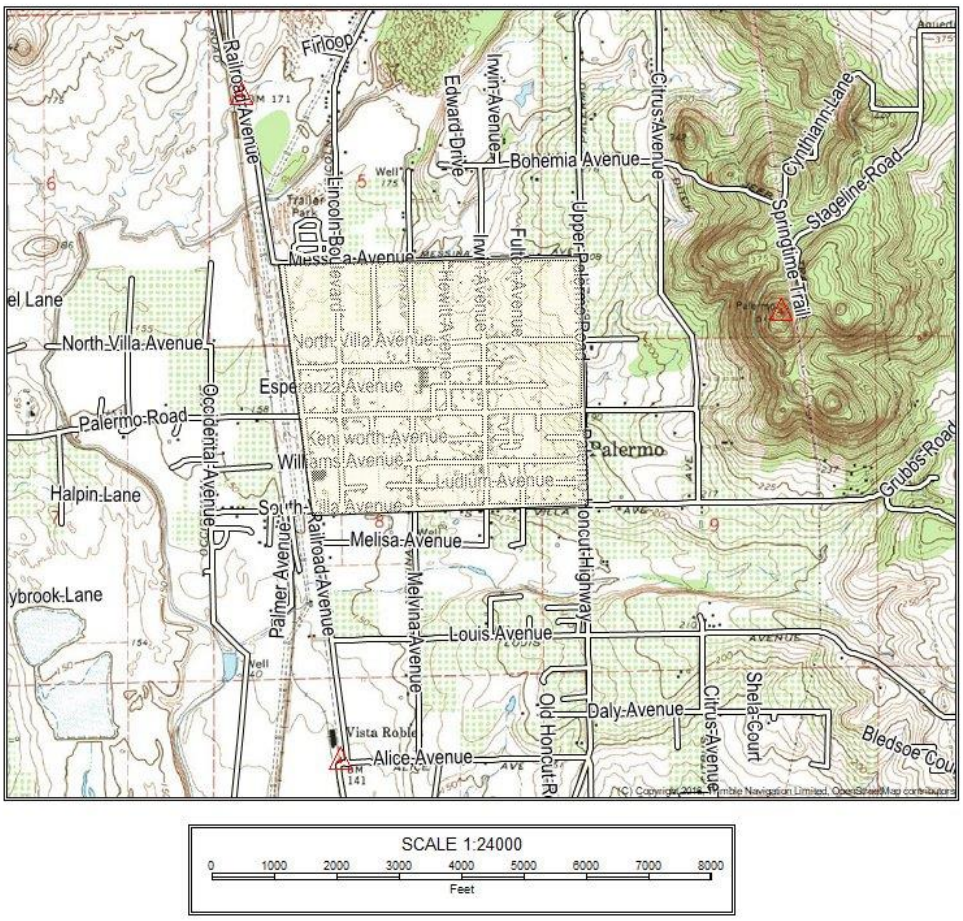

Figure 2. Palermo

Project Description

The Town of Palermo proposes to install new water service lines to end users (**Figure 3**). The current plan is to install these lines under existing road pavement, outside of the right-of-way. The BSA included the County/Town road easement.

Background

Most parcels in Palermo have individual water wells for their potable water supply, and on-site septic systems for wastewater treatment and disposal. Due to flooding, high groundwater levels and continued septic system failures, cross-contamination of existing wells and possibly the groundwater aquifer have occurred. Many of the wells are shallow and old, well beyond their 30-year useful life and may not comply with the Revised Total Coliform Rule as well as having high nitrate levels which are close to exceeding the maximum contaminant level.

The South Feather Water and Power Agency (SFWPA) and Butte County are collaborating to resolve these health and safety issues through the Palermo Clean Water Consolidation Project to provide a safe reliable water supply that meets Safe Drinking Water Act requirements. The SFWPA currently already supplies treated surface water to over 100 parcels within the Palermo Community. The project would connect existing SFWPA infrastructure and install new water mains, valves, fire hydrants and meters for those not adjacent to the existing SFWPA facilities. The service area is bounded by Messina Avenue to the north, South Villa Avenue to the south, the railroad to the west and Upper Palermo Road to the east.

METHODS

References Consulted

Based upon the extent of disturbance GHC obtained lists of special-status species that occur in the vicinity of the BSA. TheCNDDB Geographic Information System (GIS) database was also consulted and showed special-statusspecies within a 3-mile radius of the BSA (**Figure 3**). Other primary sources of information regarding theoccurrence of federally listed threatened, endangered, proposed, and candidate species and theirhabitats within the BSA used in the preparation of this BA are:

• The USFWS IPaC Official Species List for the Project area, , Consultation Code 08ESMF00-2021-SLI-2900 (**Appendix A; Species Lists**);
• The results of a species record search of the CDFW CNDDB RareFind 5 for the 7.5 minute USGSPalermo quadrangle (**Appendix A; Species Lists**);
• The review of the CNPS Inventory of Rare and Endangered Vascular Plants of California for the 7.5 minute USGS Palermo quadrangle (**Appendix A; Species Lists**);
• Results from the habitat assessments conducted by GHC on October 6, 2021 **(Appendix B; Observed Species Lists**).

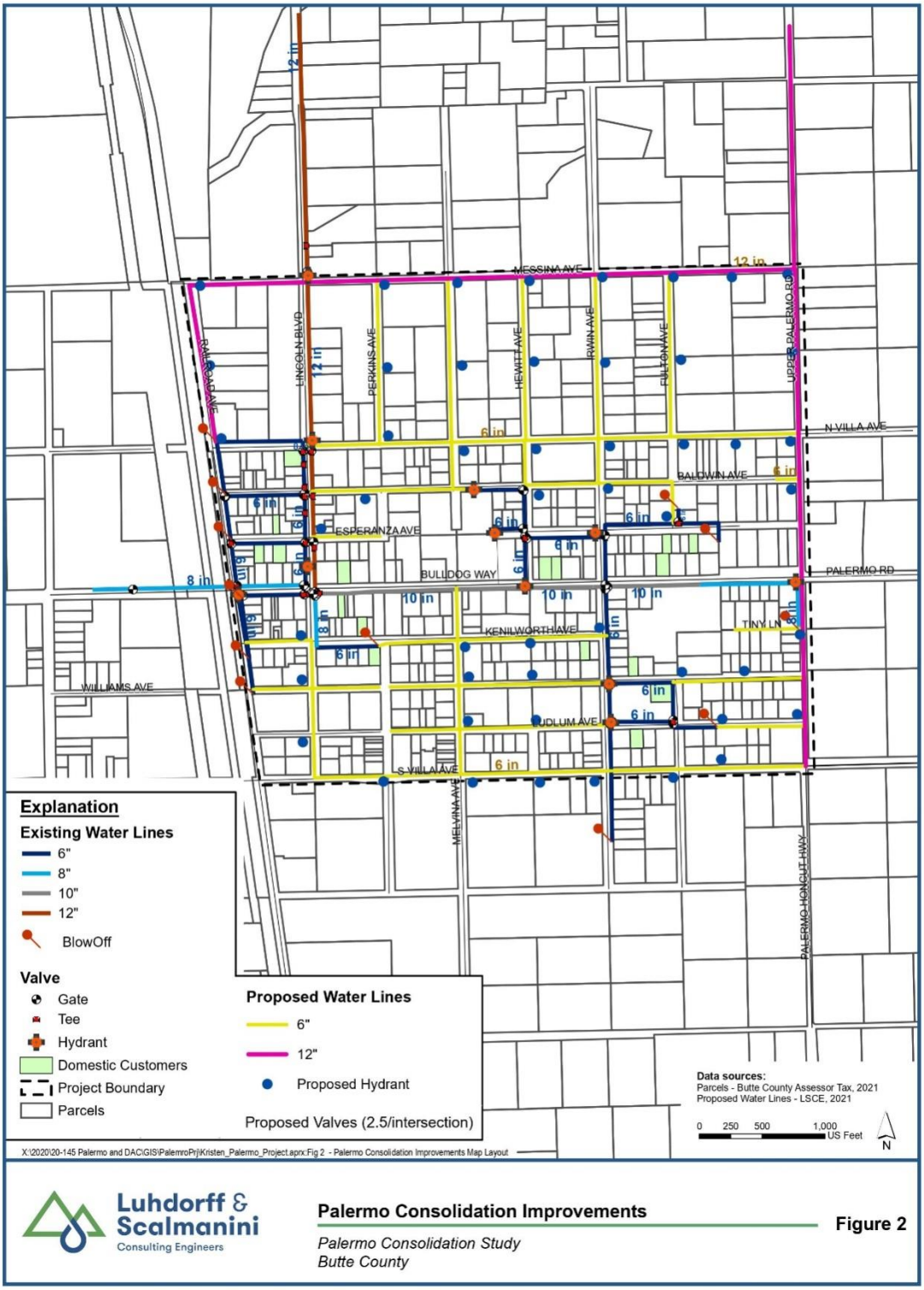

Figure 3. Palermo Consolidation Improvements

Special-Status Species
Special-status species that have potential to occur in the BSA are those that fall into one of the followingcategories:

• Listed as threatened or endangered, or are proposed or candidates for listing under the California Endangered Species Act (CESA, 14 California Code of Regulations 670.5) or the FederalEndangered Species Act (ESA, 50 Code of Federal Regulations 17.12);
• Listed as a Species of Special Concern (SSC) by CDFW or protected under the California Fish andGame Code (CFGC) (e.g. Fully Protected species);
• Ranked by the CNPS as 1A, 1B, or 2;
Protected under the Migratory Bird Treaty Act (MBTA);
• Protected under the Bald and Golden Eagle Protection Act; or
• Species that are otherwise protected under policies or ordinances at the local or regional level as required by the California Environmental Quality Act (CEQA §15380).

Critical Habitat
The ESA requires that critical habitat be designated for all species listed under the ESA. Critical habitat isdesignated for areas that provide essential habitat elements that enable species survival and which areoccupied by the species during the species listing under the ESA. Areas outside of the species range ofoccupancy during the time of its listing can also be determined as critical habitat if the agency decidesthat the area is essential to the conservation of the species.

Sensitive Natural Communities
Sensitive Natural Communities (SNCs) are monitored by CDFW with the goal of preserving these areas ofhabitat that are rare or ecologically important. Many SNCs are designated as such because theyrepresent a historical habitat assemblage.

Habitat Assessments
Habitat assessments were conducted by GHC on October 6, 2021. At that time, biological and botanical habitat assessment was conducted by field biologist/botanist Mary Bailey. Habitat assessments for botanical and wildlife species were conducted to determine the suitable habitatelements for special-status species within the BSA. The habitat assessments were conducted by drivingthe entire BSA, with frequent stops to observe or photograph, and recorded observed species and specific habitat types and elements. If habitat was observed for special-status species it was then evaluated for quality based on vegetation composition and structure, physical features (e.g. soils, elevation), microclimate, surrounding area, presence of predatory species and available resources (e.g. prey items, nesting substrates), andland use patterns. A list of species observed within the BSA is included in **Appendix B**.

RESULTS

Habitats

Barren

The current pipeline installation plan is to trench within the road pavement, reducing or eliminating significant impact to adjacent habitat. All roads involved in this project are asphalt and are barren of suitable habitat for floral or faunal species.

Barren habitat occurs as adjacent habitat at the main intersection of Lincoln Boulevard and Palermo Road due to commercial development requiring paved access.

Other habitats

These exist adjacent to the proposed pipeline such ditches, residences, and right-of-ways (ROWs).

Ruderal

This habitat is within the road ROWs, consisting mainly of weedy, non-native species such as wild oats (*Avenabarbata*), field mustard (*Brassica rapa*), wild lettuce (*Lactucaserriola*), ripgut brome (*Bromusdiandrus*), bull mallow (*Malva nicaeensis*), Johnson grass (*Sorghumhalepense*), tree-of-heaven (*Ailanthus altissima*), and others. This habitat would not be impacted directly by the proposed project. Within the ROW, there are occasional small oaks (*Quercus* spp.), but no large oaks were seen.

Developed/Residential

Originally, the town of Palermo would have been annual grassland habitat, with a transition to oak savanna at the eastern edge of town. The town is well developed with small to medium parcel sizes, with larger parcels containing small orchards. Some residences are maintained to the edge of pavement where horticultural species such as mimosa (*Albiziajulibrissin*) are found. Common fauna species found utilizing this habitat type include western fence lizards (*Sceloporus occidentalis*) common garter snakes (*Thamnophis elegans*), California ground squirrels (*Otospermophilusbeecheyi*), jackrabbits (*Lepus californicus*), and a variety of avian species.

Wetland

Within the ROW ditches, fresh emergent wetland occurs where there is at a minimum, semi-perennial water flow. Species encountered include cattails (*Typha angustifolia*), common tule (*Schoenoplectusacutus var. occidentalis*), primrose-willow (*Ludwigiapeploides subsp. Montevidensis*), dotted smartweed (*Persicaria punctata*), and water plantain (*Alismalanceolatum*). These plant species are all obligate hydrophytes. The wetlands are tightly limited to within relatively short lengths of certain roadside ditch channels and do not

extend beyond. They occur infrequently within the town, being seen in the mid-northern half of the town, or near the southwest portion of the town.Locations of these wetlands are shown on **Figure 4**.

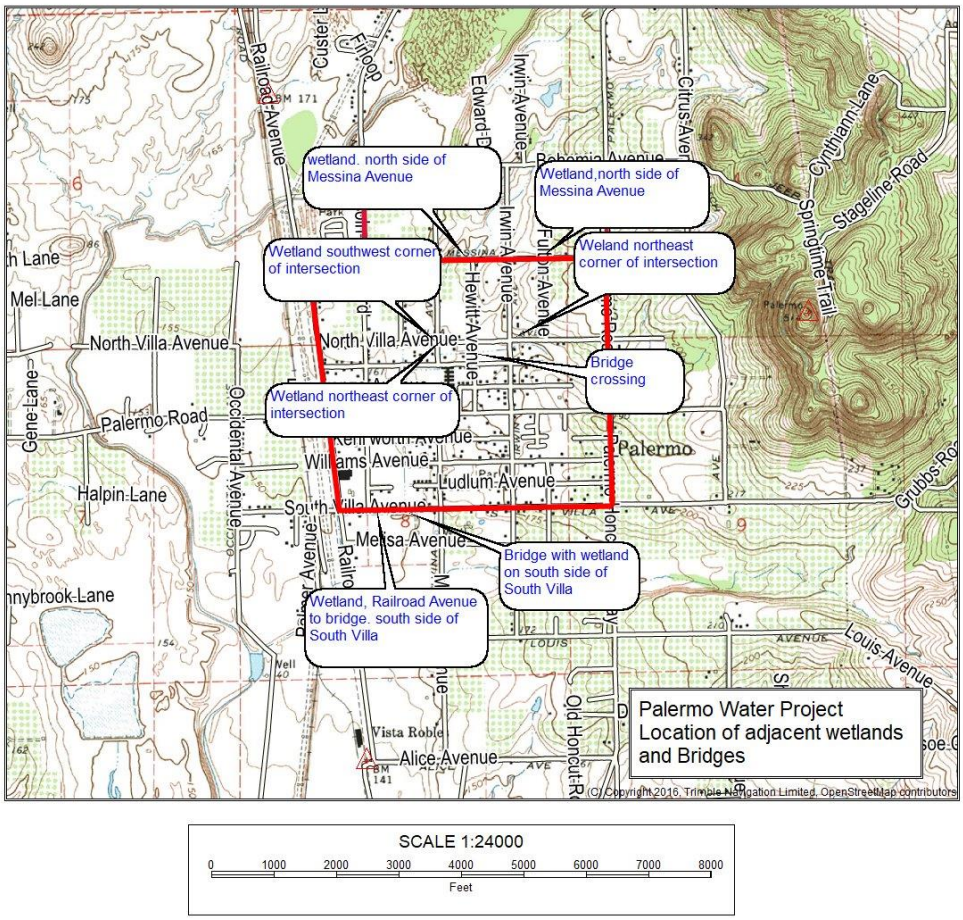

Figure 4. Ditch Wetland Locations

Critical Habitat

There is no designated critical habitat within the BSA.

Sensitive Natural Communities

No SNCs occur within the BSA.

Special-Status Species

A summary of special-status species assessed for potential occurrence within the BSA based on theUSFWS IPaC and CNDDB species lists and the CNPS list of rare and endangered plants within the USGS 7.5 minute quadrangles is presented in **Table 1**. Potential foroccurrence was determined by reviewing database queries from federal and state agencies, performingsurveys, and evaluating habitat characteristics.

Table 1. Special-status species and their potential to occur in the BSA of Palermo, Butte County, CA.

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
CRITICAL HABITATS			
			There are no critical habitats within the BSA
PLANTS			
Ahart's dwarf rush (*Juncus leiospermus var. ahartii*)	_/_/1B.2	Vernal pools in valley/foothill grasslands. (BP: Mar - May)	None. There is no suitablehabitat present within the BSA.
Mexican mosquito fern *(Azollamicrophylla)*	_/_/4.2	Marshes and swamps	None. There is no suitable habitat present within the BSA.
Bristly leptosiphon *(Leptosiphonacicularis)*		Chaparral, cismontane woodland	
Wooly meadowfoam *(Limnanthes floccosa ssp. floccosa*	_/_/4.2	Valley and foothill grassland	
Slender Orcutt grass *(Orcuttia tenuis)*	FT/SE/1B.1	Vernal pools, typically deep . (BP: May – Sep[Oct])	None. There is no suitablehabitat present within the BSA.
Brazilian watermeal *(Wolffia brasiliensis)*	_/_/2B.3	Marshes and swamps	None. There is no suitable habitat present within the BSA.
INVERTEBRATES			
Vernal pool fairy shrimp *(Branchinecta lynchi)*	FT/_/_	Vernal pools.	None. There are no vernal pools within the BSA.
Vernal pool tadpole shrimp	FE/_/_	Vernal pools.	None. There are no vernal pools

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
(Lepiduruspackardi)			within the BSA.
California linderiella *(Linderiellaoccidentalis)*	_/SSC/_	Vernal pools	None. There are no vernal pools within the BSA.
FISH			
Chinook salmon Central Valley spring-run *(Oncorhynchus tshawytscha)*	FT/_/_	Sacramento River and its tributaries.	None. There are no creeks or drainages of sufficient size with a hydrologic connection to the Feather River.
Steelhead Central Valley DPS *(Oncorhynchus mykiss)*	FT/SE/_	Sacramento River and its tributaries.	None. There are no creeks or drainages of sufficient size with a hydrologic connection to the Feather River.
Delta smelt *(Oncorhynchus mykiss)*	FT/SE/_	Found only from the San Pablo Bay upstreamthrough the Delta inContra Costa, Sacramento,San Joaquin, Solano, and Yolo Counties.	None. There are no creeks or drainages of sufficient size with a hydrologic connection to the Feather River.
HERPTILES			
California redlegged frog *(Rana draytonii)*	FT/SSC/_	Ponds in humid forests, woodlands, grasslands, coastal scrub, and stream sides with plant cover.	None. California red-leggedfrogs have been extirpated from the Central Valley since the 1960s (USFWS 2002).
Foothill yellow-legged frog Feather River clade *(Rana boylii)*	_/ST/_	Partly shaded, shallow streams and riffles with rocky substrates in a variety of habitats, commonly found in canyons and narrow streams.	None. The BSA does not containsuitable aquatic habitat during the FYLF breeding period (April – July) and tadpole development period (3-4

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
			months afterbreeding) (Zeiner et al. 1990).
Giant garter snake *(Thamnophis gigas)*	FT/ST/_	Prefers freshwater marshand low gradient streams.Has adapted to drainagecanals and irrigation ditches.	None. There is no suitable habitat present within the BSA.
Western pond turtle *(Emys marmorata)*	_/SSC/_	Perennial tointermittentbodies of water with deeppools,locations for haulout, and locations for oviposition.	None. There is no suitable habitat present within the BSA.
Western spadefoot *(Speahammondii)*	_/SSC/_	Occurs primarily in grassland habitats. Vernalpools and seasonaldrainages are typicallyused for breeding andegg-laying.	None. There is no suitable habitat present within the BSA.
BIRDS			
California black rail *(Laterallus jamaicensis coturniculus)*	_/ST, FP/_	Brackish and fresh emergent wetlands withdense vegetation (bulrushes and cattails).	None**.** There is no suitablehabitat within or adjacent to the BSA.
Tricolored blackbird *(Agelaius tricolor)*	_/ST/_	Colonial nester in large freshwater marshes. Forages in open habitatssuch as farm fields,pastures, cattle pens,large lawns.	None. Although stands of cattails do exist adjacent to the project, these are too small and separated to be adequate habitat.
Yellow-billed cuckoo *(Coccyzusamericanus)*	T/_/_	Riparian forests with cottonwood and	None**.** There is no suitable habitat

Common Name *(Scientific Name)*	**Status** Fed/State/CNPS	**Associated Habitats**	**Potential for Occurrence**
		willows. Requires a dense understory for nesting	within or adjacent to the BSA.
INSECTS			
Monarch butterfly *(Danaus plexippus)*	Candidate/_/_	Larval host plants are members of the milkweed family (Asclepidaceae)	None**.** There is no suitable habitat within or adjacent to the BSA. No milkweed (*Asclepias spp.)* seen.
Valley elderberry longhorn beetle *(Desmoceruscalifornicusdimorphus)*	T/_/_	Larval host plant is the elderberry.	None**.** There is no suitable habitat within or adjacent to the BSA. No elderberry bushes seen.

CODE DESIGNATIONS	
FE or FT = Federally listed as Endangered or Threatened **FC** = Federal Candidate Species **SE or ST=** State listed as Endangered or Threatened **SC** = State Candidate Species **SR** = State Rare Species **SSC** = State Species of Special Concern **FP** = State Fully Protected Species **SNC** = CDFW Sensitive Natural Community	**CNPS California Rare Plant Rank (CRPR):** **CRPR 1B** = Rare or Endangered in California or elsewhere **CRPR 2** = Rare or Endangered in California, more common elsewhere **CRPR 3** = More information is needed **CRPR 4** = Plants with limited distribution **0.1** = Seriously Threatened **0.2** = Fairly Threatened **0.3** = Not very Threatened
Potential for Occurrence: for plants it is considered the potential to occur during the survey period; for birdsand bats it is considered the potential to breed, forage, roost, or over-winter in the BSA during migration. Anybird or bat species could fly over the BSA, but this is not considered a potential occurrence. The categories forthe potential for occurrence include: **None:** The species or natural community is known not to occur, and has no potential to occur in the BSA based on sufficient surveys, the lack suitable habitat, and/or the BSA is well outside of the known distributionof the species.	

<u>Endangered, Threatened and Rare Plants</u>

No habitat for rare plants was encountered during the October 6, 2021 survey.

Endangered, Threatened Special Status Wildlife

No suitable habitat for wildlife was located during the October 6, 2021 survey.

Migratory Birds and Raptors

Nesting birds are protected under the MBTA (16 USC 703), the CFGC (§3503), and the California Migratory Bird Protection Act (CMBPA, AB 454). The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13).

The CFGC (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

The CMBPA amends the CFGC (§3513) to mirror the provisions of the MBTA and allow the State of California to enforce the prohibition of take or possession of any migratory nongame bird as designated in the federal MBTA, including incidental take. Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance have the potential to affect bird species protected by the MBTA and the CFGC.

CNDDB occurrences

The majority of migratory birds and raptors protected under the MBTA and CFGC are not recorded on the CNDDB because they are abundant and widespread.

Status of migratory birds and raptors occurring in the BSA

There is suitable nesting habitat for a variety of avian species adjacent to the BSA.

REGULATORY FRAMEWORK

The following describes federal, state, and local environmental laws and policies that may be relevant if the BSA were to be developed or modified.

Federal

Federal Endangered Species Act

The United States Congress passed the ESA in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Under the ESA, species may be listed as either "endangered" or "threatened." Endangered means a species is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. All species of plants and animals, except non-native species and pest insects, are

eligible for listing as endangered or threatened. The USFWS also maintains a list of "candidate" species. Candidate species are species for which there is enough information to warrant proposing them for listing, but that have not yet been proposed. "Proposed" species are those that have been proposed for listing, but have not yet been listed.
The ESA makes it unlawful to "take" a listed animal without a permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Through regulations, the term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."

Migratory Bird Treaty Act

The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13).

State of California

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the California Environmental Quality Act (CEQA). The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, "species of special concern" receive consideration by CDFW. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

California Fish and Game Code (§3503.5)

The CFGC (§3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (all owls except barn owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

California Migratory Bird Protection Act

The CMBPA amends the CFGC (§3513) to mirror the provisions of the MBTA and allow the State of California to enforce the prohibition of take or possession of any migratory nongame bird as designated in the federal MBTA, including incidental take.

Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance have the potential to affect bird species protected by the MBTA and CFGC. Thus, vegetation removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31). If vegetation removal or grounddisturbing

activities are conducted during the breeding season, then a qualified biologist mustdetermine if there are any nests of bird species protected under the MBTA and CFGC present in theProject area prior to commencement of vegetation removal or ground-disturbing activities. If activenests are located or presumed present, then appropriate avoidance measures (e.g. spatial or temporalbuffers) must be implemented.

Rare and Endangered Plants

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS California Rare Plant Rank (CRPR) plants receive consideration under CEQA review. The CNPS CRPR categorizes plants as follows:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2A: Plants presumed extirpated or extinct in California, but not elsewhere;
- Rank 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and Game Code §1913 exempts from the 'take' prohibition "the removal of endangered or rare native plants from a canal, lateral channel, building site, or road, or other right of way."

California Environmental Quality Act Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g. candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

CONCLUSIONS AND RECOMMENDATIONS

Endangered, Threatened, and Rare Plants

There are no special-status botanical species present within the BSA and no suitable habitat for specialstatusbotanical species was identified within the BSA; therefore, there will be no effects to botanical
species and no avoidance and minimization measures are proposed.

Endangered, Threatened, and Special-status Wildlife

The following are the recommended minimization and mitigation measures to further reduce or eliminate Project-associated impacts to special-status wildlife species. These proposed measures may be amended or superseded by the Project-specific permits issued by the regulatory agencies.

Migratory Birds and Raptors

To avoid impact to migratory birds and raptors, the following avoidance and minimization measure is proposed:

If the Project is undertaken or continued within nesting season (March 15-July 31), a nesting bird survey by a qualified biologist should be done 48-72 hours prior to trenching and pipe installation.

Wetlands

Although no disturbance to wetland areas within the ditches is planned, care should be taken during activities so that fill or discharge into those wetland areas does not occur.

Appendix A

Species Lists:

Fish and Wildlife Service

California Natural Diversity Database

California Native Plant Society

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2021-SLI-2900
Event Code: 08ESMF00-2021-E-08468
Project Name: Palermo Consolidation Improvements

September 29, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2021-SLI-2900
Event Code: Some(08ESMF00-2021-E-08468)
Project Name: Palermo Consolidation Improvements
Project Type: WATER SUPPLY / DELIVERY
Project Description: Installation of new community water supply lines
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.436567350000004,-121.54564152214613,14z

Counties: Butte County, California

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

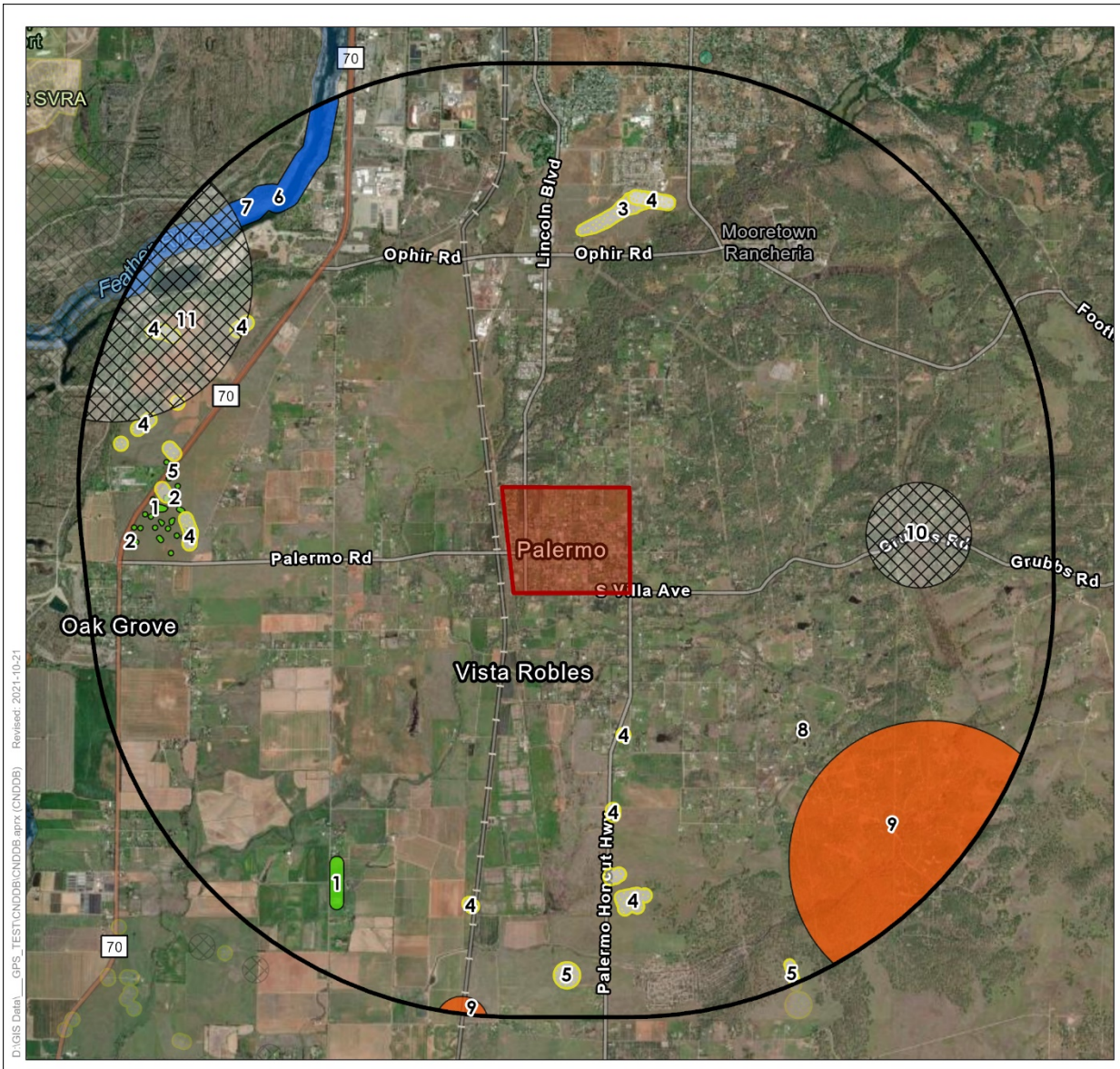
NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Slender Orcutt Grass *Orcuttia tenuis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



Study Area

3-mile Buffer of the Study Area

Taxonomic Group

Plants (1-2)

Crustaceans (3-5)

Fish (6-7)

Reptiles (8)

Amphibians (9)

Birds (10-11)

Label	Common Name
1	Ahart's dwarf rush
2	slender Orcutt grass
3	California linderiella
4	vernal pool fairy shrimp
5	vernal pool tadpole shrimp
6	chinook salmon - Central Valley spring-run ESU
7	steelhead - Central Valley DPS
8	western pond turtle
9	western spadefoot
10	California black rail
11	tricolored blackbird

Notes

1. Coordinate System: NAD 1983 (2011) StatePlane California II

2. Data Sources: CNDDB Sept 2021

3. Background: World Imagery: Earthstar Geographics
Hybrid Reference Layer: Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

N

0 0.5 1 Mile

(At original document size of 8.5x11)

Prepared on 2021-10-21

CNPS list for Palermo quadrangle

Scientific Name	Common Name	CRPR	CESA	FESA	Blooming Period	Habitat
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	4.2	None	None	Mar-May(Jun)	Chaparral, Cismontane woodland, Valley and foothill grassland, Vernal pools
Juncus leiospermus var. ahartii	Ahart's dwarf rush	1B.2	None	None	Mar-May	Valley and foothill grassland
Orcuttia tenuis	slender Orcutt grass	1B.1	CE	FT	May-Sep(Oct)	Vernal pools
Azollamicrophylla	Mexican mosquito fern	4.2	None	None	Aug	Marshes and swamps
Leptosiphonacicularis	bristly leptosiphon	4.2	None	None	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland
Wolffia brasiliensis	Brazilian watermeal	2B.3	None	None	Apr-Dec	Marshes and swamps

Appendix B

Observed Species List

Scientific Name[1]	Common Name	Family	Nativity	Wetland Indicator Status (Arid West Region)[3]
*Acmisponamericanus*var. *americanus*	Spanish clover	Fabaceae	Native	UPL
Ailanthus altissima	Tree-of-Heaven	Simaroubaceae	Naturalized	FACU
Airacaryophyllea	Common silver-hair grass	Poaceae	Naturalized	FACU
Albiziajulibrissin	Silk tree, mimosa	Fabaceae	Naturalized	
Alismalanceolatum	Lance-leaf water-plantain	Alismataceae	Naturalized	OBL
Amaranthus retroflexus	Red-root, redroot pigweed	Amaranthaceae	Naturalized	FACU
Artemisia douglasiana	Douglas' wormwood, mugwort	Asteraceae	Native	FAC
Asclepiasfascicularis	Narrow-leaf milkweed	Apocynaceae	Native	FAC
Avenabarbata	Slender wild oat	Poaceae	Naturalized	
Bidensfrondosa	Devil's-pitchfork, sticktight	Asteraceae	Native	FACW
Brassica rapa	Rape, turnip, field mustard	Brassicaceae	Naturalized	FACU
Briza maxima	Rattlesnake grass, large quaking grass	Poaceae	Naturalized	
Bromusdiandrus	Ripgut grass	Poaceae	Naturalized	
Bromushordeaceus	Soft brome, soft chess	Poaceae	Naturalized	FACU
Catalpa bignonioides	Southern catalpa	Bignoniaceae	Naturalized	UPL
Centaurea solstitialis	Yellow star-thistle	Asteraceae	Naturalized	
Centromadiafitchii	Fitch's false tarplant	Asteraceae	Native	FACU
Cichorium intybus	Chicory	Asteraceae	Naturalized	FACU
Croton setigerus	Turkey-mullein, dove weed	Euphorbiaceae	Native	
Cynodondactylon	Bermuda grass	Poaceae	Naturalized	FACU
Cyperuseragrostis	Tall flat sedge, umbrella sedge	Cyperaceae	Native	FACW
Cyperusstrigosus	Straw-color flat sedge, false nutsedge	Cyperaceae	Native	FACW
Elymus caput-medusae	Medusa-head grass	Poaceae	Naturalized	
Erigeron bonariensis	Asthmaweed, flax-leaved horseweed	Asteraceae	Naturalized	FACU
Eriogonum nudum var.*pubiflorum*	Fremont's wild buckwheat	Polygonaceae	Native	
Eucalyptus camaldulensis	River red gum, red gum	Myrtaceae	Naturalized	FAC
Festuca perennis	Perennial rye grass, Italian ryegrass	Poaceae	Naturalized	FAC
Ficuscarica	Common fig, edible fig	Moraceae	Naturalized	FACU
Foeniculum vulgare	Fennel	Apiaceae	Naturalized	
Scientific Name[1]	**Common Name**	**Family**	**Nativity**	**Wetland Indicator Status (Arid West Region)[3]**

Glyceria ×occidentalis	Western manna grass	Poaceae	Naturalized	
*Grindelia hirsutula*var.*davyi = G. camporum*	Gum plant			
*Hordeummarinum*subsp.*gussoneanum*	Seaside barley, Mediterranean barley	Poaceae	Naturalized	FAC
Hordeum murinum subsp.*leporinum*	Wall barley, hare barley	Poaceae	Naturalized	FACU
Hypochaerisradicata	Hairy cat's-ear, rough cat's-ear	Asteraceae	Naturalized	FACU
Juglans hindsii	Northern California walnut, Northern California black walnut	Juglandaceae	Native	FAC
Lactucaserriola	Prickly wild lettuce	Asteraceae	Naturalized	FACU
Leontodon saxatilis	Lesser hawkbit, hairy hawkbit	Asteraceae	Naturalized	FACU
*Ludwigiapeploides*subsp.*montevidensis*	Floating primrose-willow	Onagraceae	Naturalized	OBL
Malva nicaeensis	Bull mallow	Malvaceae	Naturalized	
Mentha aquatica	Water mint	Lamiaceae	Naturalized	FACW
Muhlenbergiarigens	Deer grass	Poaceae	Native	FAC
Odontostomumhartwegii	Hartweg'sodontotomum	Tecophilaeaceae	Native	
Olea europaea	European olive	Oleaceae	Naturalized	
Paspalumdilatatum	Golden crown grass, dallis grass	Poaceae	Naturalized	FAC
Persicariapunctata	Dotted smartweed	Polygonaceae	Native	OBL
Pinus sabiniana	Gray, ghost, or foothill pine	Pinaceae	Native	
Plantago lanceolata	English plantain	Plantaginaceae	Naturalized	FAC
Polygonum aviculare	Yard knotweed, knotgrass	Polygonaceae	Naturalized	FACW
*Populusfremontii*subsp.*fremontii*	Fremont cottonwood	Salicaceae	Native	FAC
Prunus cerasifera	Cherry plum	Rosaceae	Naturalized	
Quercus douglasii	Blue oak	Fagaceae	Native	
Quercus lobata	Valley oak, roble	Fagaceae	Native	FACU
*Quercus wislizeni*var.*wislizeni*	Interior live oak	Fagaceae	Native	
Raphanusraphanistrum	Jointed charlock	Brassicaceae	Naturalized	
Rosa californica	California rose	Rosaceae	Native	FAC
Rubusarmeniacus	Himalayan blackberry, Himalayan berry	Rosaceae	Naturalized	FACU
Rumex crispus	Curly dock	Polygonaceae	Naturalized	FAC
Rumexpulcher	Fiddle dock	Polygonaceae	Naturalized	FAC
Rumexsalicifolius	Willow dock	Polygonaceae	Native	FACW
*Schoenoplectusacutus*var. *occidentalis*	Hard-stem club-rush, common tule	Cyperaceae	Native	OBL
*Setariapumila*subsp. *pumila*	Yellow bristle grass	Poaceae	Naturalized	FAC
Sorghum halepense	Johnson grass	Poaceae	Naturalized	FACU
Torilis arvensis	Tall sock-destroyer	Apiaceae	Naturalized	
Tribulus terrestris	Puncture vine	Zygophyllaceae	Naturalized	
Trifolium dubium	Suckling clover, little hop clover	Fabaceae	Naturalized	UPL
Scientific Name[1]	**Common Name**	**Family**	**Nativity**	**Wetland Indicator Status (Arid West**

				Region)[3]
Trifoliumhirtum	Rose clover	Fabaceae	Naturalized	
Trifolium repens	White clover	Fabaceae	Naturalized	FACU
Typha angustifolia	Narrow-leaf cat-tail	Typhaceae	Native or Naturalized	OBL
Verbena bonariensis	Purple-top vervain	Verbenaceae	Naturalized	FACW
Viciavillosa	Hairy vetch, winter vetch	Fabaceae	Naturalized	
Vinca major	Greater periwinkle	Apocynaceae	Naturalized	
Vitis californica	California grape, California wild grape	Vitaceae	Native	FACU

Wildlife observed during the survey, October 6, 2021, Palermo	
Scientific Name	**Common Name**
Aphelocomacalifornica	Scrub jay
Cathartes aura	Turkey vulture
Melospizamelodia	Song sparrow
Mimuspolyglottos	Mockingbird
Zenaida macroura	Mourning dove

APPENDIX G

Cultural Resource Assessment for the Palermo Clean Water Consolidation Project

A Phase 1 Archaeological Study
Palermo Clean Water Consolidation Project.
Negative Survey
I.C. File # D-21-229

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October 2021

Summary of Findings

At the request of Inland Ecosystems, A Phase 1 Archaeological Study was prepared for an environmental document in support of Palermo Clean Water Consolidation Project., Palermo, Butte County, California.

The intent of this document is to assist the client in achieving compliance with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act of 1966. The scope of work consisted of:

1. Reviewing the records search from The Northeast Information Center (NEIC) at Chico State University, Chico, California.
2. Conducting an on-foot surface reconnaissance of the entire project area.
3. Preparing a report summarizing the results of the records search and field phases.
4. Sacred Lands Search and Native American Consultation.

The project is located within a portion of the northwest quarter of Section 5 of Township 18 North, Range 4 East section 5, of the USGS Palermo, California (1970), 7.5 Series Quad, starting at the intersection of Railway and Messina Avenues (see Figure 1).

A records search was performed by the Northeast Information Center (NEIC) at Chico State University, Chico, California on **October 6, 2021**. The results indicated that two previous surveys have been conducted within the project area (839 and 14341). These surveys were negative for resources and no resources have been located within the project area. There are 3 known resources within ¼ of the project area (04-004575, 51-000222, 51-000223) all of which are transmission lines. These resources will not be impacted by the current project.

A pedestrian survey, which entailed the inspection of all land surfaces that can reasonably be expected to contain cultural resource remains without major modification of the land surface, was performed on September 29th, 2021. The ground, was examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, baked clay items, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations) or historic debris (e.g., metal, glass, ceramics).

Photographs of the current project area, potential features, and items of interest were taken with a digital camera. Locational data was recorded with a handheld Garmin GPS eTrex Venture global positioning system (GPS) unit. In addition, the surrounding neighborhood was reviewed by car to check on the general topography.

The project area consisted of a planned neighborhood and rural farmlands. The intensive pedestrian survey consisted of 3 meter wide transects in an east/west and north/south direction. Ground visibility varied from 100 to 0% visibility due to the heavily built environment.

The results of the pedestrian survey were negative for cultural content. There was no surface evidence of historic or prehistoric sites, features, artifacts or isolates.

Any improvements within the project area will have no adverse impacts on known cultural resources. No additional hindrances affected the results of this survey, and no conditions are placed on the project based on the results of this study.

Should unanticipated cultural resource be encountered during land modification activities, work must cease, and a qualified archaeologist contacted immediately to determine appropriate measures to mitigate any adverse impacts to the discovered resources. If human remains are discovered during construction-related activities notification of the Butte County Coroner is required. If the Butte County Coroner determines that the discovered remains are those of Native American ancestry, then the Native American Heritage Commission must be notified by telephone within 24 hours. Sections 5097.94 and 5097.98 of

the Public Resources Code describe the procedures to be followed after the notification of the Native American Heritage Commission.

Table Contents

Purpose and Scope of the Project:

At the request of Inland Ecosystems, A Phase 1 Archaeological Study was prepared for an environmental document in support of Palermo Clean Water Consolidation Project, Palermo, Butte County, California.

The intent of this document is to assist the client in achieving compliance with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act of 1966. The scope of work consisted of:

5. Reviewing the records search from The Northeast Information Center (NEIC) at Chico State University, Chico, California.
6. Conducting an on-foot surface reconnaissance of the entire project area.
7. Preparing a report summarizing the results of the records search and field phases.
8. Sacred Lands Search and Native American Consultation.

Location and Project Description:

The project is located within a portion of the northwest quarter of Section 5 of Township 18 North, Range 4 East section 5, of the USGS Palermo, California (1970), 7.5 Series Quad, starting at the intersection of Railway and Messina Avenues (see Figure 1).

The Project Area is rural in nature consisting of small homesteads, houses, and farms. The area is highly disturbed by previous road building, housing and utility installation. The current project intends to consulate the water system of the community of Palermo (groundwater) with the South Feather Water and Power agency (surface water). The project consists of constructing new 6-inch and 12-inch water mains, gate valves, fire hydrants, water services, water meters, water meter boxes, and abandoning existing domestic wells (see Figure 2). The project will connect the residents who are currently on domestic groundwater wells to the South Feather Water and Power agency through the water system improvements project. The project estimates that approximately 40,000 lineal feet (7.6 lineal miles) of new pipes utilized. The pipe will be laid in the existing road right-of-way in previously disturbed soils.

Laws, Ordinances, Regulations, and Standards

Compliance

This cultural resource's analysis is designed to provide compliance with the statutes and regulations of the federal and state governments.

This project is subject to the requirements of the California Environmental Quality Act (CEQA), as amended. CEQA requires consideration of the potential effects of proposed projects on cultural and archaeological resources (State of California Office of Planning and Research, 1992). Guidance for compliance with CEQA is found in various Public Resource Code sections. The California Register of Historical Resources, modeled after the National Register of Historic Places (NRHP), provides a mechanism and criteria for determining the significance of cultural resources. Information for CEQA compliance can be gathered during compliance with Section 106 of the National Historic Preservation Act, described below.

The National Historic Preservation Act of 1966, Section 106 (16 U.S. Code 470), requires federal agencies to consider the effects of their actions, including approval, permitting, and technical assistance on properties that are eligible for, or included in, the NRHP. Historical sites, objects, districts, and historic structures, and cultural landscapes that are eligible for listing on the NRHP are referred to as "historic properties." Section 106 also requires the federal agency to afford the Advisory Council on Historic

Preservation an opportunity to comment on the agency's efforts to consider historic properties. The implementing regulations for Section 106, found at 36 CFR 800, describe a process of inventory, evaluation, and consultation that satisfies the federal agency's requirements. The criteria used for determining the eligibility of cultural resources are found at 36 CFR 60.4.

Standards and Guidance

Federal and State governments offer guidance for the conduct of historic preservation activities. The Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (1983) establishes standards for the gathering and treatment of data related to cultural resources. Guidance is also offered for compliance with Section 106 through the Advisory Council on Historic Preservation, and Section 110 Guidelines are available through the office of the Secretary of the Interior.

Environment

Climate, Vegetation Patterns and Faunal Composition

The project area is located in Oroville which lies within the Sacramento Valley between the Cascade Range and Sierra Nevada Mountain Range to the east and the Coast Range to the west. The climate is characterized by hot, dry summers and mild, wet winters. Chico falls within a climate region with much of the winter precipitation falling as rain instead of snow. Current winter temperatures have highs around 12 degrees Celsius (54 degrees Fahrenheit), and current summer temperatures have highs around 36 degrees Celsius (97 degrees Fahrenheit). When California initially was occupied, the climate was moister and cooler than today's Mediterranean climate (Major 1988).

Current land uses in the project vicinity include livestock grazing, agricultural croplands, orchards and homesteads. Historically, the vicinity was characterized by vegetation communities that included freshwater marshland in low-lying areas, riparian scrub or forests along drainages, and grasslands in upland areas Foothills and mountains along the northern portion of the Sacramento Valley also included chaparral, oak woodlands, and mixed coniferous forest. With this mosaic of ecological communities, the area would have provided a very productive environment for its prehistoric occupants, one well suited to a hunting–gathering economy with a variety of water birds, small and large mammals, fish, reptiles, amphibians, and edible plant species.

Figure 1: Project Location, APE and Survey Map

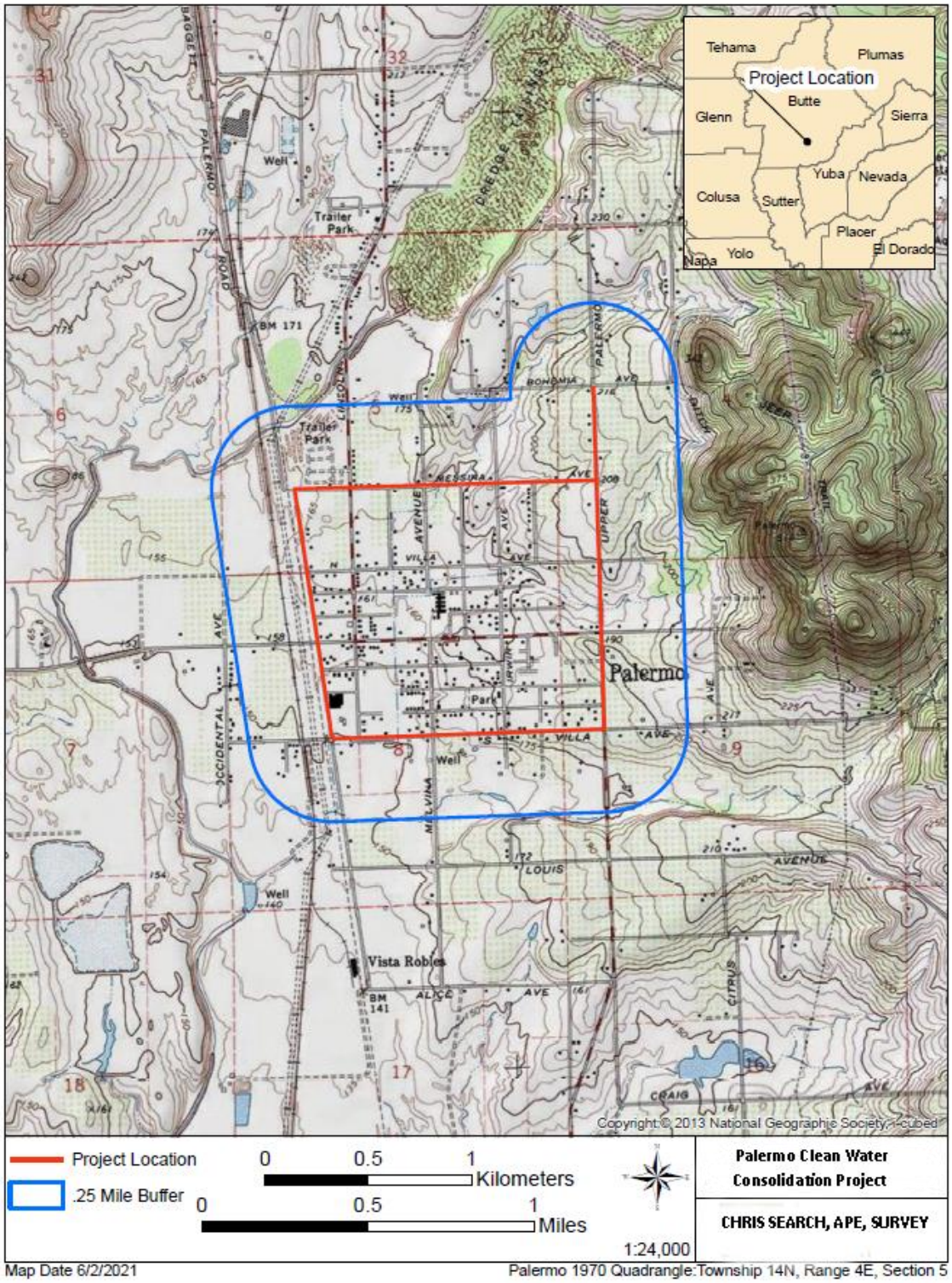
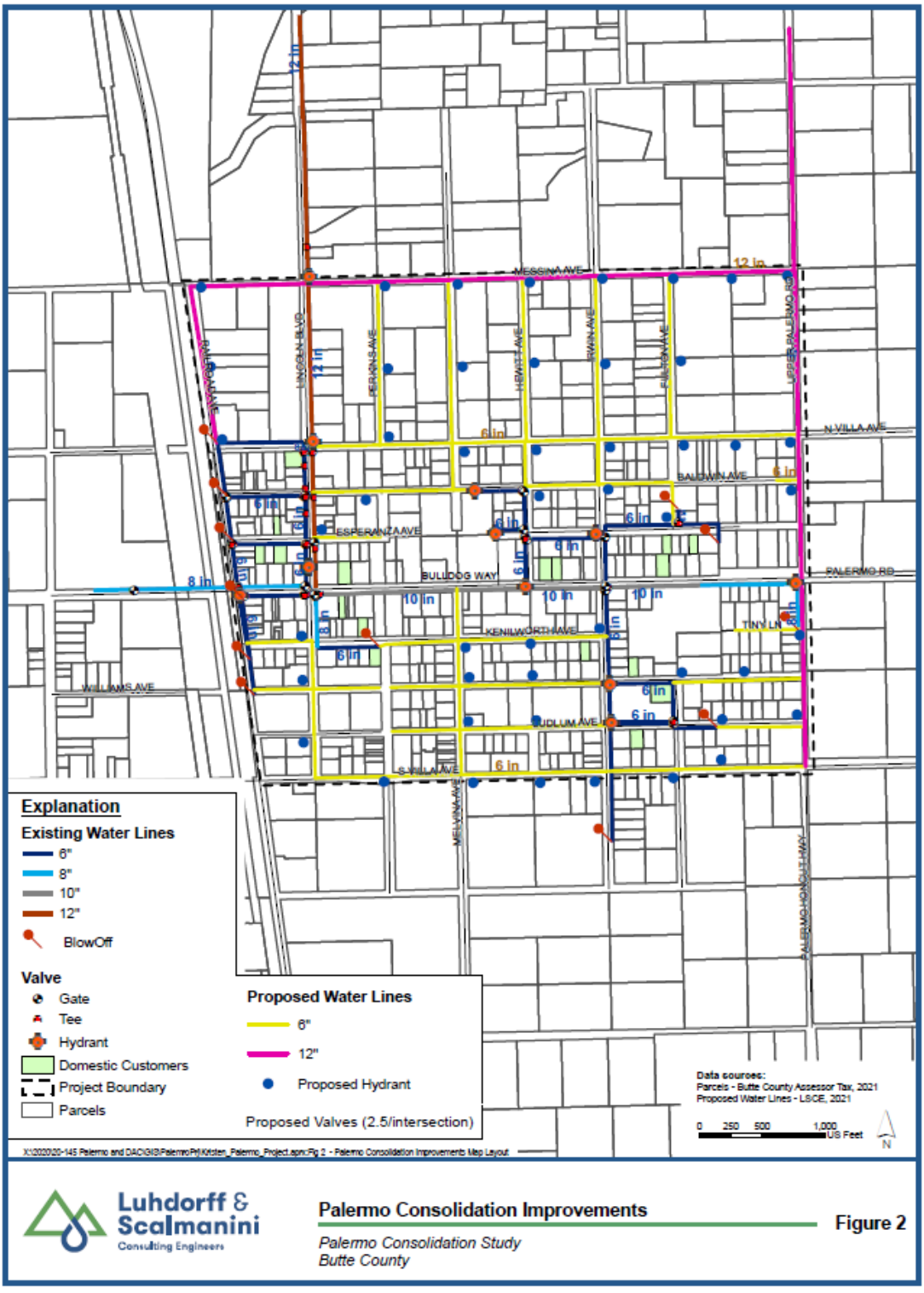


Figure 2: Proposed improvements Map



Ethnography:

The project is located within an area that was historically occupied by the Native American social group called the Konkow (also known as Northwestern Maidu) (Kroeber 1925; Riddell 1978). Konkow is a branch of the Maiduan language family and constitutes one of the family's four major languages (along with Maidu proper, Konkow, and Nisenan [Southern Maidu]) (Mithun 2001:455) spoken by peoples of the middle Sacramento River Valley and adjacent Sierra Nevada Mountain foothills. The Maiduan language family is part of the Penutian linguistic stock that includes the majority of central Californian tribes (Kroeber 1925:347; Shipley 1978:83).

The Konkow inhabited the lower reaches of the Feather River area west of Richbar, extending southwestward past Honcut Creek and westward nearly to the Sutter Buttes, and including a portion of the Sacramento River drainage extending from about Butte City in the south to Vina in the north. Konkow lands continued east into the Sierra Nevada Mountain foothills between Chico and Oroville and the two river drainages (Riddell 1978:370–372). The Konkow shared their southern border with the Patwin, their southeastern border with the Valley Nisenan, and the northeastern border with the Maidu. Their northern neighbor was the Yana, and their northwestern neighbor was the Nomlaki. Konkow villages along the project segment include Mícupda, 'éskeni, and Utapi south of Chico; Wabusi, Botok, and Taichida just north of the Yuba River; and Hincho at the Yuba River (Riddell 1978:370–371).

Political organization of the Konkow was limited to a settlement pattern of village communities (Kroeber 1925:397–398; Riddell 1978:373). A central village housed a circular, semisubterranean ceremonial assembly structure and the home of the community spokesman. A community was composed of three to five villages, and the villages apparently were self-sufficient. Kroeber (1925:397) estimated village population at less than 200. Houses were either semisubterranean or conical bark structures.

The locations of Konkow settlements depended primarily on elevation, exposure, and proximity to water and other natural resources (Dixon 1905:175; Riddell 1978:371, 373). Permanent villages were usually on ridges above major watercourses. Ridge-crest flats or midslope terraces were generally the preferred village settings. The villages were inhabited mainly in the winter months, since spring, summer, and fall were the prime seasons for hunting and gathering resources in nearby foothills and higher elevations. The Konkow erected brush shelters close to their hunting and gathering sites (Riddell 1978:376).

The fundamental economy of the Konkow was one of subsistence hunting, fishing, and collecting plant foods in an area where abundant natural resources varied seasonally (Riddell 1978:373–374). Acorns were a dietary staple and were collected from oak groves at lower elevations. Oak varieties in the area included black oak (Quercus kelloggii), canyon or golden oak (Q. chrysolepis), and interior live oak (Q. wislizenii). The Konkow gathered nuts from digger pine (Pinus sabiniana) and ate them raw or ground into flour. Other vegetal resources included hazelnuts, buckeye nuts, wild nutmeg, grass seeds, berries, and underground bulbs and roots, including camas, cattail, and tule roots. The Konkow also ate salmon, eel, birds, waterfowl, grasshoppers, other insects, and large and small mammals. Deer and elk were among the large animals hunted.

To gather and collect food resources, the Konkow used a wide variety of tools, implements, and enclosures. These included (1) bows and arrows, traps, nets, slings, snares, clubs, and blinds for hunting land mammals and birds, and (2) salmon gigs, traps, and nets for catching fish. During communal hunts, deer were driven over cliffs or shot by concealed hunters. Woven tools—seed beaters, burden baskets, and carrying nets—and sharpened digging sticks were used to collect plant resources. Unlike the neighboring Maidu and Nisenan, Konkow did not use watercraft since the swift river waters within their territory were not navigable. They traded with neighboring groups for salmon and pine nuts (Riddell 1978:373–380).

The Konkow processed food resources with a variety of tools, including portable stone mortars, bedrock mortars and pestles, anvils, woven strainers and winnowers, leaching baskets and bowls, storage baskets, woven parching trays, wooden mortars, and knives. Baskets were made using a simple twining technique.

The Konkow also traded with neighboring groups for various resources and implements, including shell beads, obsidian, and abalone shell used for ornaments.

Religious beliefs included practice of the Kuksu cult, primarily a ceremonial and dance organization. The leader of the cult was a powerful shaman. Log drums, rattles, flutes, and whistles accompanied the ceremonial dances. Mortuary practices included flexed burials, generally facing west, that were accompanied by grave offerings. The goods and property of the deceased were burned during an annual mourning ceremony (Riddell 1978:381–384).

Before construction of the extensive modern levee and dam system that turned the Sacramento Valley into an inland sea, the Sutter Buttes, approximately three miles west of the Chico to Wheatland segment, was an island refuge for indigenous Californians (California State Parks 2005). The Maidu Indians (including the Northwest Maidu, or Konkow) called the Buttes Histum Yani, which translates as "Middle Mountains of the Valley" or "Spirit Mountain." An important part of their religious tenets, the Maidu believed that the spirits of their dead rested in the Buttes before the journey to the afterlife.

Prior to the discovery of gold in 1848 at Sutter's Mill near Coloma on the American River, Konkow lifeways were little affected by exploration into their territory by Spanish explorers and American trappers. The great epidemic that swept the Sacramento Valley in 1833, however, followed by thousands of gold seekers, combined to decimate the Konkow. The results were devastating and included the loss of land and territory (including traditional hunting and gathering locales), violence, malnutrition, and starvation. Local survivors were hired by the miners and later worked as laborers on Euro-American ranches and farms.

In 1850, the Konkow signed a treaty that gave them only a portion of their traditional lands. Some of the people then were moved to a reservation at Nome Lackee in 1855. In 1863, the Konkow were marched forcibly to the Round Valley Reservation, with few provisions or water over the two-week, hot, dry trek. By 1910, a reduced Konkow population was estimated at 450 individuals, down from more than 3,000 prior to contact (Kroeber 1925; Riddell 1978:385–386). Today, there are more than 2,500 Maiduan people, including the Maidu of Plumas and Lassen Counties, the Konkow of Butte and Yuba Counties, and the Nisenan of El Dorado, Nevada, Placer, Sacramento, and Yuba Counties; these people live primarily on the rancherias of Auburn, Berry Creek, Chico, Enterprise, Greenville, Mooretown, and Susanville, as well as on the Round Valley Reservation (White 2005). Berry Creek, Chico, Enterprise, and Mooretown Rancherias, with a combined population of 2,080, are within Konkow traditional territory (CIAP 2003:64, 92, 119).

Prehistory:

Little was known of the archaeology of the Sacramento Valley until the 1950s, when intensive fieldwork was conducted in association with federal and state water projects. As a result of this fieldwork, a sequence of cultural patterns was defined for the area.

Occupation in the Sacramento Valley during the Prehistoric Period is estimated to have occurred as early as 12,000 years ago, but only a few archaeological sites have been identified that predate 5,000 years ago. It is possible that Holocene alluvial deposits buried many prehistoric sites in this area. For example, Moratto (1984:214) has estimated that as much as 10 meters of sediment accumulated along the lower stretch of the Sacramento River drainage system during the last 5,000–6,000 years.

Prehistoric material culture in central California (including the Sacramento Valley) subsequent to the Paleoindian Period has been categorized according to "horizons" or "patterns" that define broad technological, economic, social, and ideological elements over long periods of time and large areas. The taxonomic system historically used for central California is a tripartite classification scheme with Early, Middle, and Late Horizons. This Central California Taxonomic System (CCTS) was the result of efforts of a number of researchers (e.g., Beardsley 1954; Heizer 1949) and was developed further after the advent of radiocarbon dating (Fredrickson 1973, 1974; Heizer 1958; Ragir 1972).

Today, a series of generalized periods associated with regionally based "patterns" typically are used as part of the CCTS for the Sacramento Delta area, San Francisco Bay area, and North Coast ranges (Bennyhoff and Fredrickson 1969; Fredrickson 1973, 1974). Smaller units of patterns are referred to as "aspects" and "phases," which emphasize more local features. Revisions of the widely accepted CCTS (Bennyhoff 1994; Fredrickson 1994a, b) are found in a recent volume edited by Hughes (1994).

Fredrickson (1973, 1974) defined several regionally based patterns, three of which are specific to Central Valley prehistory and the current project area. Referred to as the Windmiller Pattern, Berkeley Pattern, and Augustine Pattern, each represents a general pattern of resource exploitation, as identified between 2500 B.C. and the beginning of Euro-American contact in the early 1800s. The Windmiller Pattern was first identified at the Windmiller site (CA-SAC-107) near the Cosumnes River in Sacramento County; the Berkeley Pattern initially identified in the San Francisco Bay area; and the Augustine Pattern at the Augustine site (CA-SAC-127) in the Sacramento–San Joaquin Delta. These patterns are present within the following periods: Middle Archaic Period/Windmiller Pattern (formerly Early Horizon), Upper Archaic Period/Berkeley Pattern (formerly Middle Horizon), and Emergent Period/Augustine Pattern (formerly Late Horizon).

Windmiller Pattern (2500–500 B.C.)

Clearly documented evidence for human occupation in the general area is found at sites characteristic of the Windmiller Pattern during the Middle Archaic Period. These sites date to as early as 4,500 years ago and as late as 2,500 years ago (2500–500 B.C.). Such sites often contain manos and metates (grinding stones), as well as many mortar fragments, indicating that acorns and/or various seeds formed an important part of the diet (Moratto 1984:201).

In addition to plant foods, the subsistence system included many other food resources, such as deer, elk, pronghorn, rabbits, and waterfowl. Numerous faunal remains have been documented at Windmiller Pattern sites, along with large quantities of projectile points. Also, the presence of angling hooks and baked clay artifacts possibly used as net or line sinkers, along with the remains of sturgeon, salmon, and smaller fishes, indicate that fishing was an additional source of food (Fredrickson 1973; Heizer 1949; Ragir 1972). Items made of baked clay included net sinkers, pipes, and discoids, as well as cooking "stones." Ground and polished charmstones, impressions of twined basketry, shell beads, and bone tools, also have been found at Windmiller Pattern sites. Some items, such as shell beads, obsidian tools, and quartz crystals, were obtained by trade.

The archaeological record during the Windmiller period indicates people practiced a mixed procurement strategy of both game and wild plants, with the addition of acorns and/or seeds. The mixed exploitation of a wide range of natural resources ties into a seasonal foraging strategy. Populations likely occupied the lower elevations of the Sacramento Valley in the winter months and shifted to higher elevations during the summer (Moratto 1984:206). Mortuary practices included burials, accompanied by grave goods, in cemeteries that were separate from the habitation sites.

Berkeley Pattern (500 B.C.–A.D. 500)

Over a 1,000-year period, the Windmiller Pattern began to shift to the more specialized adaptive Berkeley Pattern during the Upper Archaic Period. A shift to a greater reliance on acorns as a dietary staple is interpreted during the Berkeley Pattern from the increase in mortars and pestles, along with a decrease in manos and metates. Mortars and pestles are better suited to crushing and grinding acorns, while manos and metates were used primarily for grinding wild grass grains and seeds (Moratto 1984:209–210).

As demonstrated by the artifact assemblage, hunting remained an important aspect of food procurement during the Berkeley Pattern (Fredrickson 1973:125–126). The archaeological record, which consists of numerous large shell midden/mounds, also demonstrates that the majority of Berkeley Pattern sites located near, or in the vicinity of, water (both fresh and salt) made intensive use of aquatic resources. The artifact assemblage also includes shell beads and ornaments, as well as numerous types of bone tools.

Interment continues to dominate mortuary practices, but a few cremations are also found at Berkeley Pattern sites.

Artifact assemblages and radiocarbon dating of sites from this period suggest this subsistence pattern may have developed in the San Francisco Bay region and later spread to surrounding coastal locales and into central California. Moratto (1984:207–211) suggests that pattern is related to the expansion of Eastern Miwok populations from the San Francisco Bay area to the Sacramento Valley and Sierra foothills.

Augustine Pattern (A.D. 500–Historic Contact)

The Augustine Pattern is evidenced by a number of changes in subsistence, foraging, and land use patterns that begin to reflect the use pattern known from historic period Native American groups in the area. A substantial increase in the intensity of subsistence exploitation, including fishing, hunting, and gathering (particularly the acorn), evidenced in the archaeological record correlates directly with population growth (Moratto 1984:211–214).

Tools and cooking implements included shaped mortars and pestles, hopper mortars, bone awls used for producing coiled baskets, and the bow and arrow. Pottery vessels, known as Cosumnes Brownware, are found in some parts of the Central Valley, and most likely developed during this period from the prior baked clay industry.

During this period, an increase in sedentism led to the development of social stratification, accompanied by a shift to elaborate ceremonial and social organization. Exchange networks, with the use of clamshell disk beads as currency, also developed during the Augustine Pattern. Mortuary practices during this period included flexed burials and pre-interment burning of offerings in a grave pit, as well as cremation of high-status individuals (Fredrickson 1973:127–129; Moratto 1984:211). Additional items of material culture included flanged tubular pipes, harpoons, and small Gunther barbed series projectile points. The Augustine Pattern may represent the southward expansion of Wintu populations (Moratto 1984:211–214).

Historic:

Post-contact history for the state of California generally is divided into three specific periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present) (Grunsky 1989; Schuyler 1978). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the Spanish Period in California begins in 1769 with a settlement at San Diego and the first (Mission San Diego de Alcalá) of 21 missions established between 1769 and 1823. The Mexican Period begins with independence from Spain and is marked by an extensive era of land grants, most of which were in the interior of the state, and by exploration by American fur trappers west of the Sierra Nevada Mountains.

The signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, is the start of the American Period when California and several other western states became a territory of the United States (Grunsky 1989; Schuyler 1978). The discovery of gold in 1848 at Sutter's Mill near Sacramento and the resulting Gold Rush era influenced the history of the state and the nation. The rush of tens of thousands of people to the gold fields also had a devastating impact on the lives of indigenous Californians, with the introduction and concentration of diseases, the loss of land and territory (including traditional hunting and gathering locales), violence, malnutrition, and starvation (Castillo 1978:107–113; Cook 1978:98). Thousands of settlers and immigrants continued to pour into the state, particularly after the completion of the transcontinental railroad in 1869.

Spanish Period (1769–1822)

The first Spanish settlement in California was established in 1769 by Gaspar de Portolá in San Diego. With Friar Junípera Serra, Portolá also founded the first (Mission San Diego de Alcalá) of 21 missions that would be built by the Spanish and the Franciscan Order between 1769 and 1823. Portolá continued

north and reached San Francisco Bay on October 31, 1769. Later Spanish expeditions, Pedro Fages in 1772 and Juan Bautista De Anza in 1776, explored the land east of San Francisco Bay (Grunsky 1989:2–3). Seeking sites for a mission (Fages) or a presidio and mission (De Anza), these explorers noted the vast plains that lay to the east of the Bay area.

Spanish Lieutenant Gabriel Moraga led the first expedition into the Sacramento Valley in 1808. Traveling northward along the Sacramento River, this expedition was seeking sites for new missions and also searching for runaway Indian neophytes from the coastal missions. Moraga's expedition explored parts of the American, Calaveras, Cosumnes, Feather, Mokelumne, and Stanislaus Rivers to the north, and also traveled south as far as the Merced River. The final Spanish expedition into the California interior was led by Luis Arguello in 1817. Before returning to the coast, he traveled northward up the Sacramento River to the mouth of the Feather River, passing by the future site of the City of Sacramento (Beck and Haase 1974:18, 20; Grunsky 1989:3–4).

The final and northernmost Spanish mission (San Francisco Solano de Sonoma) was founded in 1823 by Padre Jose Altimira in the Sonoma Valley. This site, today's town of Sonoma, was chosen by the Spanish in their effort to deter movement by the Russians into the interior lands north of San Francisco. By 1812, the Russians had already established a settlement at Fort Ross, on the coast approximately 70 miles from San Francisco.

Mexican Period (1822–1848)

Extensive land grants to Mexican citizens in California (Californios) were established in the interior during the Mexican Period, in part to increase the population away from the more settled coastal areas where the Spanish had concentrated their colonization efforts. At the same time, the influence of the California missions waned in the late 1820s through the early 1830s. This decline resulted from a combination of outside events and pressures, including increasing hostilities between missionaries and local civilians who demanded mission lands, decimation of the Native American population by introduced diseases, and the influence of private traders in the hide and tallow industry.

Following adoption of the Secularization Act of 1833, the Mexican government privatized most Franciscan lands, including holdings of their California missions. By 1836, this sweeping process effectively reduced the California missions to parish churches and released their vast landholdings. Although earlier secularization schemes had called for redistribution of lands to Native American neophytes who were responsible for construction of the mission empire, the vast mission lands and livestock holdings were instead redistributed by the Mexican government through several hundred land grants to private, non–Native American ranchers (Langum 1987:15–18). The private Mexican citizens who received the land and their holdings subsequently released their neophyte "workers" to fend for themselves.

With the opening by Mexico of California to Americans, fur trappers (also known as "mountain men") started exploring the area west of the Sierra Nevada Range. Jedediah Smith was the first trapper to enter California. His small party trapped and explored along the Sierra Nevada Range in 1826, and entered the Sacramento Valley in 1827. They traveled along American and Cosumnes rivers, and camped near the Rosemont section of today's Sacramento and near Wilton. Maps of the Sacramento Valley were created and circulated in the 1830s as an outcome of the explorations by Smith and other trappers (Grunsky 1989:9–11).

Another outcome of exploration of the Sacramento Valley by American trappers or settlement by the local Mexican population was the introduction of diseases, from which large numbers of the indigenous population died between 1830 and 1833. Records indicate that whole tribes along the American, Merced, Tuolumne, and Yuba rivers were exterminated (Cook 1955). Native Americans had no immunity from

introduced foreign diseases that accompanied exploration and settlement by foreign groups. A second epidemic further decimated the indigenous population the Sacramento Valley in 1837.

Beginning in 1833, a number of land grants were issued in the Sacramento region. John Rogers Cooper, a British sea captain who married into an established Californio family, received the first grant (Grunsky 1989:14). The two largest land grants in the Sacramento Valley were awarded to John Augustus Sutter. He founded a trading and agricultural empire, called New Helvetia, in 1839. Sutter's Fort was established as the headquarters of this enterprise. Sutter's Fort, a National Historical Landmark, was situated near the divergence of the Sacramento and American Rivers within the boundaries of today's City of Sacramento.

American Period (1848–Present)

In 1848 California became a territory of the United States under the Treaty of Guadalupe Hidalgo, and the discovery of gold on January 14th by John Marshall near Coloma on the American River was followed by a vast influx of immigrants. This discovery in El Dorado County at Sutter's Mill—now a California Historical Landmark within Marshall Gold Discovery State Historic Park—was soon acknowledged worldwide. Within a year, nearly 90,000 people had traveled to the gold fields by land or sea, drawn by the tales of easy pickings and large nuggets. The bustling Gold Rush boomtown of Sacramento was established on a portion of Sutter's Mexican land grant. In 1850, California became the 31st state, largely as a result of the Gold Rush. The City of Sacramento was incorporated the same year, and became the state capital in 1854.

The Gold Rush resulted in a vast population increase, with the population of the state exceeding 300,000 by 1853. It also resulted in an economic boon, particularly for the new port city of Sacramento, as well as San Francisco and Stockton. After Sutter began a steamer service, Sacramento began its history as a river transportation hub and landward destination for freight and riverboat passengers traveling up the Sacramento River from San Francisco. With its central location to the foothill mining district, Sacramento had 12 stage lines by 1853, and was the westernmost point of the Pony Express, which operated between 1860 and 1861 (Beck and Haase 1974:51, 53, 68). This thriving city survived several early devastating fires and floods; it was flooded so many times that its buildings were raised 12 feet. The first California railroad, the Sacramento Valley Railroad, began operations in 1856 and ran 23 miles from Sacramento east to Folsom.

After the completion of the transcontinental railroad in 1869, thousands of immigrants and settlers poured into the state. California was rapidly becoming a national leader in the production of agricultural products. Today's economy of both the Sacramento and San Joaquin Valleys is largely based on agriculture. The fertile soils of the vast Central Valley combined with the construction of irrigation canals promoted this burgeoning agro-business during the second half of the nineteenth century. Products include fruits, nuts, vegetables, grapes and wine from the vineyards introduced early in the Spanish and Mexican periods, hay, cotton, rice, and barley, as well as livestock (cattle and sheep).

The dominant industry in the Sacramento area became agriculture and livestock (sheep, beef, and dairy cattle) production. Rice, hay, vegetables, fruits, and nuts were the primary agricultural products and in turn, these promoted the growth of food-processing plants in Sacramento and nearby Yolo County. By the 1940s, Sacramento County was chosen for the location of several military installations (Mather and McClellan Air Force bases), not far from downtown Sacramento. By the 1950s, some of the leading aerospace industries in the state of California had also located in this region.

Butte County

The earliest accounts by non-native people in Butte County are from employees of the Hudson's Bay Company, who hunted and trapped the area in the 1830s (Garth 1978:243) Butte County is one of California's original 27 counties, founded in February 1850. The county seat settled at Oroville in 1856, after initially being established at Hamilton and then Bidwell's Bar. The county, like many others in this area, was the site of extensive gold mining activity, especially along the Feather River in the southeastern

part of the county (Marschner 2001:210). The town of Chico is the site of extensive agricultural farmlands and the location of California State University at Chico.

Local History

European settlement of the Oroville area began when gold was discovered in 1849. By 1856 Oroville had grown into an incorporated city of more than 4,000 people making it the fifth largest town in California (McGie, 1982). During the 1850's, Oroville developed into a typical Gold Rush boomtown, complete with a main street surrounded by miners' cabins and tents. By the end of the 1850, with the easily extracted placer deposits were largely exhausted, Oroville economy shifted towards agriculture.

During the late 19th century wheat, citrus and olive production became important as miners settled down with their families to farm. Wheat became the predominant agricultural commodity grown in the Oroville area especially during the 1860s when the Civil War disrupted wheat supplies in the eastern states. With the completion of a ferry crossing in 1852, a gristmill in 1858, and a railroad line from Marysville to Oroville in 1864, Oroville became a significant trading point for grain growers in the area.

During the 1890s, with the development of river dredging, mining again became an important industry for Oroville. Gold dredging along the Feather River transformed Oroville into the "mother dredging field of the state" (Mansfield, 1918:328). From 1898 to 1916, Butte County was one of the most important gold-producing counties in California (Mc Gie 1982). By 1916, the placer deposits stated to deplete and by 1930, dredging companies no longer found it possible to continue operations and moved from the Oroville area.

Palermo

The town was named after Palermo, Sicily due to its excellent climate for growing olives. The first post office was established in 1888. The area was home to a country club, two railroad stations, gold mining, a brick yard, library, general mercantile store, school and even a semi-pro baseball team. The rich clay soil attracted the planting of olive and orange orchards and a thriving zucca melon industry. Mining magnate George Hearst purchased 700 acres in 1888, and then subdivided. (Durham, 1998:289).

Background Research

Record Search:

A records search was performed by the Northeast Information Center (NEIC) at Chico State University, Chico, California on **October 6, 2021**. The results indicated that two previous surveys have been conducted within the project area (839 and 14341). These surveys were negative for resources and no resources have been located within the project area. There are 3 known resources within ¼ of the project area (04-004575, 51-000222, 51-000223) all of which are transmission lines. These resources will not be impacted by the current project.

Native American Consultation

In conjunction with the records search for the present project, the Native American Heritage Commission (NAHC) was contacted regarding Sacred Land Listings. The NAHC indicated that there are no Sacred Land listings for the project area or adjacent lands (response dated June 9, 2021copy attached). The contact list from the Native American Heritage Commission included the following individuals and groups, all of whom were contacted and requested to supply any information they might have concerning prehistoric sites or traditional use areas within the project area (see attached letter Appendix B):

To date, one response has been received from Creig Marcus, Tribal Administrator for the Estome Yumeka Tribe of the Enterprise Rancheria who stated *"…Thank you for the notification. After a thorough examination of the project and discussions with our cultural site monitor, we have determined that this project is in the aboriginal territory of the Estom Yumeka Maidu Tribe. Our records search failed to*

locate any known cultural sites within the project boundaries. However, the Tribe retains the right to consult should any post review discoveries be made." (See Appendix B for additional information).

Field Reconnaissance Methodology**:**

A pedestrian survey, which entails the inspection of all land surfaces that can reasonably be expected to contain cultural resource remains without major modification of the land surface, was performed on September 29, 2021.

Crew:

The crew consisted of Principal Investigator, ***Lori Harrington*** who has a: MA in Anthropology from California State University Hayward (CSEB); 20 years of professional experience in California archaeology; certification by the Register of Professional Archaeologists [RPA], and Meets NPS Standards & Guidelines for Archaeology.

Methodology:

The ground, was examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, baked clay items, fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., postholes, foundations) or historic debris (e.g., metal, glass, ceramics).

Photographs of the current project area, potential features, and items of interest were taken with a digital camera. Locational data was recorded with a handheld Garmin GPS eTrex Venture global positioning system (GPS) unit. In addition, the surrounding neighborhood was reviewed by car to check on the general topography.

The project area consisted of planned neighborhood and rural farmlands. The intensive pedestrian survey consisted of 3 meter wide transects in an east/west and north/south direction. Ground visibility varied from 100 to 0% visibility due to the heavily built environment.

Photo 1: Start of project area Railway and Messina Ave.

Photo 2: General neighbor looking north

Photo 3: General vegetation adjacent to the project area.

Photo 4: Average Ranch style home adjacent to the project area

Photo 5: New home development adjacent to the project area.

Photo 6: Typical small farming operations adjacent to the project area.

Results:

The pedestrian survey was negative for cultural content. There was no surface evidence of historic or prehistoric sites, features, artifacts or isolates.

Potential for Subsurface Archaeological Deposits

The project area has undergone extensive disruption due to grading and construction activities. The potential for subsurface deposits being encountered at a depth of 48 inches or less is very unlikely. Cultural sensitivity for this project area is considered ***low***.

Recommendations:

Any improvements within the project area will have no adverse impacts on known cultural resources. No additional hindrances affected the results of this survey, and no conditions are placed on the project based on the results of this study. Should unanticipated cultural resource be encountered during land modification activities, work must cease, and a qualified archaeologist contacted immediately to determine appropriate measures to mitigate any adverse impacts to the discovered resources. If human remains are discovered during construction-related activities notification of the Butte County Coroner is required. If the Butte County Coroner determines that the discovered remains are those of Native American ancestry, then the Native American Heritage Commission must be notified by telephone within 24 hours. Sections 5097.94 and 5097.98 of the Public Resources Code describe the procedures to be followed after the notification of the Native American Heritage Commission.

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Appendix A (Record Search)

Confidential Information

Northeast Center of the
California Historical Resources
Information System

BUTTE
GLENN
LASSEN
MODOC
PLUMAS
SHASTA

SIERRA
SISKIYOU
SUTTER
TEHAMA
TRINITY

1074 East Avenue, Suite F
Chico CA 95973
Phone (530) 898-6256
neinfocntr@csuchico.edu

October 6, 2021

Cultural Research Associates
295 E. 8th Street
Chico, CA 95928
Attn: Lori Harrington

IC File # D21-229
Priority Records Search

RE: Palermo Ground Water
T18N, R4E, Section 35 MDBM
USGS Palermo 7.5' (1970) & Gridley 15' (1952) quadrangle maps
427 acres (Butte County)

Dear Ms. Harrington,

In response to your request, a records search for the project cited above was conducted by examining the official maps and records for cultural resources and reports in Butte County. Please note, the search includes the requested ¼-mile radius surrounding the project area.

RESULTS:

Resources within project area:	There are no resources located in the project area.
Resources within ¼-mile radius:	04-004575, 51-000222, 51-000223
Reports within project area:	839, 14341
Reports within ¼-mile radius:	There are no reports located in the ¼-mile vicinity.

As indicated on your data request form, the locations of resources and reports are provided in the following format: ☒ Custom Maps ☐ GIS Data

Resource Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Other Reports: *	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
Built Environment Resources Directory:	☒ enclosed	☐ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☐ not requested	☒ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☒ enclosed	☐ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:	☒ enclosed	☐ not requested	☐ nothing listed
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed

Notes: *These are classified as studies that are missing maps or do not have a field work component.

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if it is for public distribution.

The provision of California Historical Resources Information System (CHRIS) Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation (OHP), or the State Historical Resources Commission.

Due to processing delays and other factors, it is possible that not all of the historical resource reports and resource records that have been submitted to the OHP are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

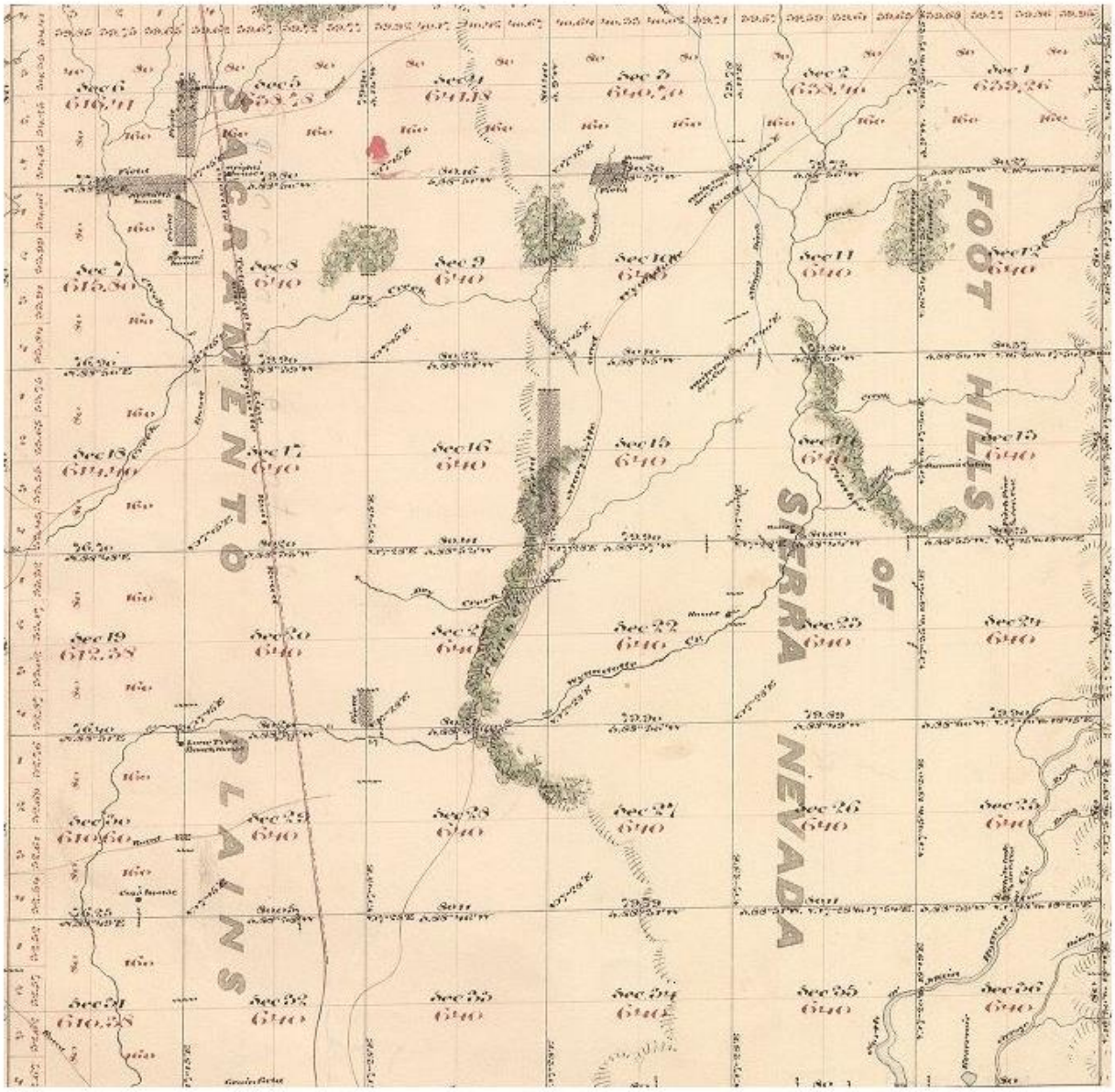
An invoice will follow from Chico State Enterprises for billing purposes. Thank you for your concern in preserving California's cultural heritage, and please feel free to contact us if you have any questions or need any further information.

Sincerely,

Ashlyn Weaver

Ashlyn Weaver
Assistant Coordinator
Northeast Information Center
(530) 898-6256

3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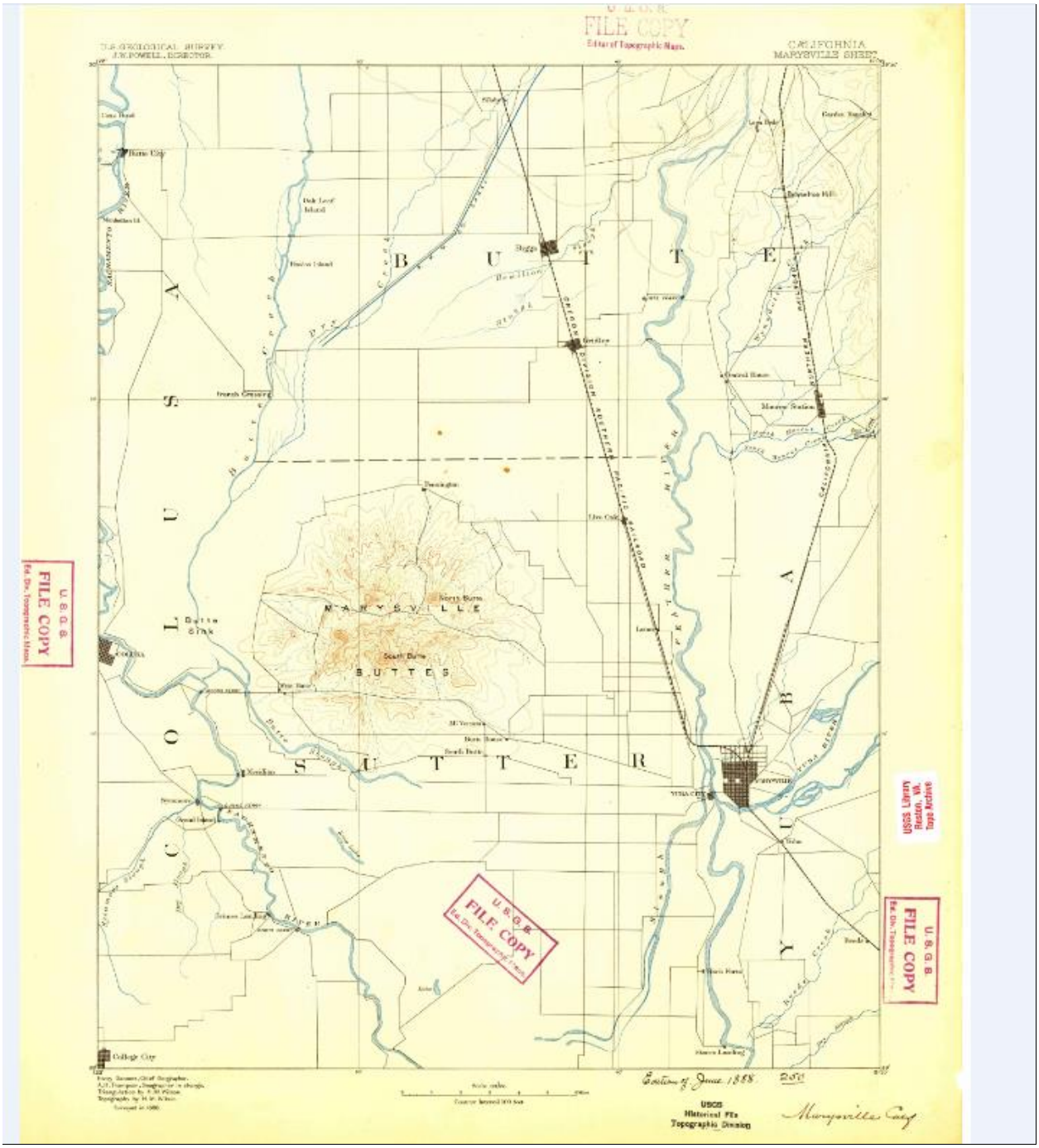
SIERRA NEVADA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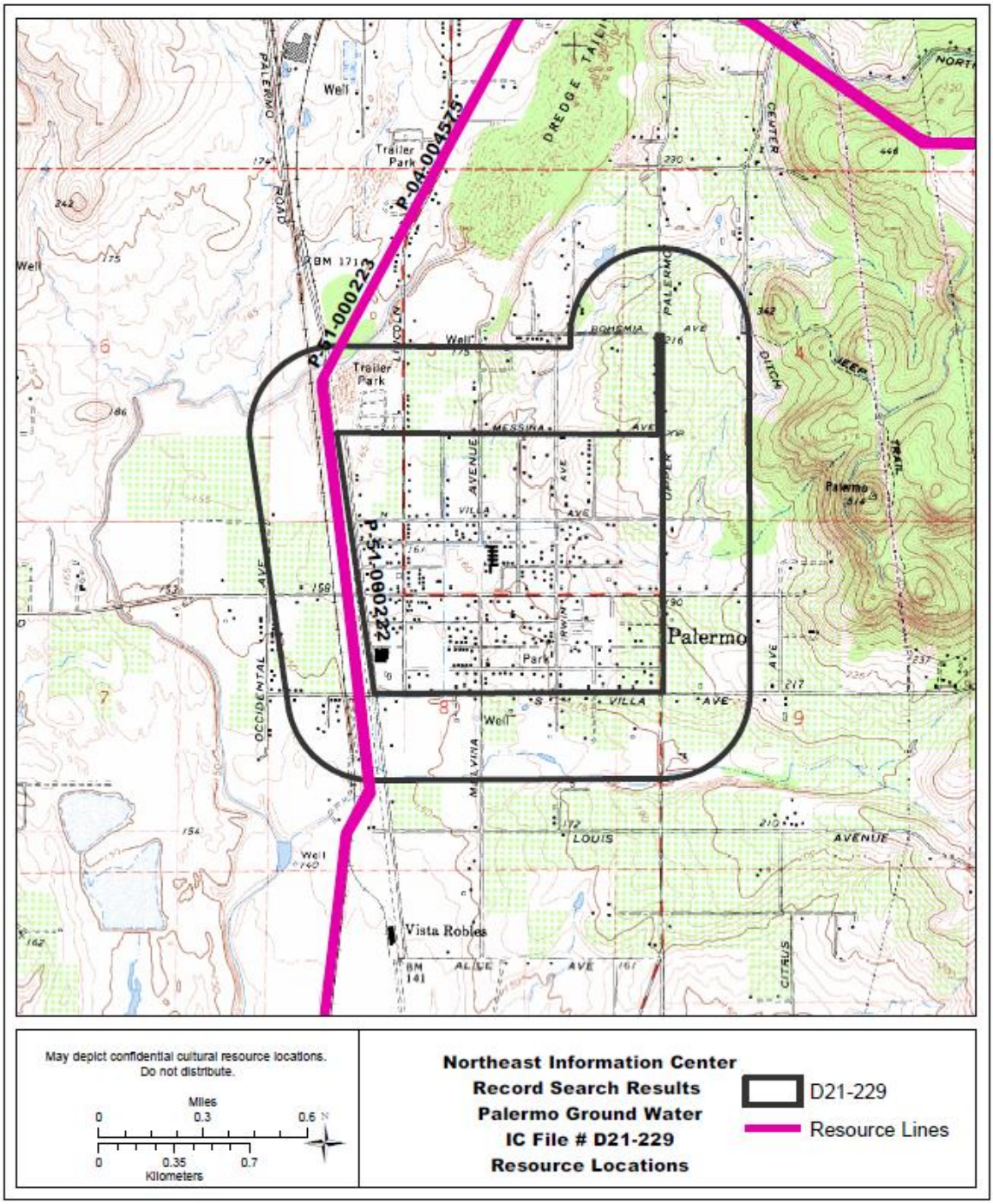

P-04-004575
P-51-000223
P-51-000222
Palermo
Vista Robles
Trailer Park
Well
Park
May depict confidential cultural resource locations.
Do not distribute.
Miles
0 0.3 0.6
0 0.35 0.7
Kilometers
Northeast Information Center
Record Search Results
Palermo Ground Water
IC File # D21-229
Resource Locations
D21-229
Resource Lines

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # 04-004575
HRI #
Trinomial
NRHP Status Code _____
Other Listings _____
Review Code _____ Reviewer _____ Date

Page 1 of 39 *Resource Name or #: (Assigned by recorder) Caribou-Valona Transmission Line (FS 05115000006)

P1. Other Identifier: Caribou-Palermo 115 kV, Paradise-Table Mountain 115 kV, Palermo-Wyandotte 115kV, Palermo-Pease 115 kV, Pease-Rio Oso 115 kV, Rio Oso-West Sacramento 115 kV, Brighton-Davis 115 kV, Brighton-Davis 115 kV (idle), Vaca-Suisun-Jamison 115 kV, Ignacio-Mare Island No.1 115 kV, and Oleum-G No.1 & No.2 115 kV

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Plumas, Butte, Yuba, Sutter, Sacramento, Yolo, Solano, Napa, Marin, Sonoma, Contra Costa

*b. USGS 7.5' Quad Caribou (1979); Belden (1991); Storrie (1979); Pulga (1957); Berry Creek (1994); Cherokee (1994); Oroville (1970); Palermo (1970); Honcut (1952); Yuba City (1952); Sutter (1952); Paradise East (1994); Hamlin Canyon (1951); Shippee (1948); Olivehurst (1952); Nicolaus (1952); Sheridan (1953); Verona (1967); Pleasant Grove (1967); Rio Linda (1967); Sacramento East (1967); Sacramento West (1967); Florin (1968); Clarksburg (1967); Saxon (1952); Davis (1954); Liberty Island (1978); Dozier (1952); Birds Landing (1953); Denverton (1953); Fairfield South (1949); Cordelia (1959); Benicia (1959); Mare Island (1949); Cuttings Wharf (1951); Sears Point (1959); Petaluma Point (1954); Novato (1953); Allendale (1953); Fairfield North (1951); Richmond (1959).

c. Address/City/Zip: N/A

d. UTM: Caribou Powerhouse Zone 10, 657871 mE/ 4438907 mN; El Cerrito G Substation Zone 10, 561245 mE/ 4196743 mN

e. Other Locational Data:

*P3a. Description: The Caribou-Valona Transmission Line extends for 186 miles between Caribou Powerhouse at its north end and the Oleum G Substation at its south end. The line consists of a mix of single circuit and double circuit lattice and tubular steel towers. The Caribou-Valona Transmission Line has been renamed and segmented and is now represented by eleven transmission lines including: Caribou-Palermo 115 kV, Paradise-Table Mountain 115 kV, Palermo-Wyandotte 115kV, Palermo-Pease 115 kV, Pease-Rio Oso 115 kV, Rio Oso to West Sacramento 115 kV, Brighton to Davis 115 kV, Brighton to Davis 115 kV (idle), Davis to Vaca-Suisun-Jamison 115 kV, Ignacio-Mare Island No.1 115 kV, and Oleum-G No.1 & No.2 115 kV transmission lines. See attached records for additional information.

P5a. Photograph or Drawing

*P3b. Resource Attributes: HP11 – Engineering Feature

*P4. Resources Present: ☐Building ☒Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5b. Description of Photo: Caribou-Valona Tower, Tower 10/85. Photographed April 20, 2018.

*P6. Date Constructed/Age and Source: ☒ Historic ☐ Prehistoric ☐ Both: 1921, Great Western Power Company

*P7. Owner and Address: Pacific Gas & Electric Company, 77 Beale Street, San Francisco, CA 94105

*P8. Recorded by: Stephanie Cimino, PG&E, 245 Market Street, San Francisco, CA 94105 (with updates by Polly Allen, Cardno August 2018)

*P9. Date Recorded: April 2017 *P10. Survey Type: Intensive

*P11. Report Citation: Cimino, Stephanie and Nettles, Wendy, updated by Allen, Polly, *National Register of Historic Places Inventory and Evaluation, of Eleven Transmission Lines Associated with the Historical Alignment of the Caribou-Valona Transmission Corridor, April 2017 (updated August 2018).*

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

P51-000222

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

Primary # 51-000222
HRI #
Trinomial CA-SUT-2224
NRHP Status Code

Other Listings
Review Code Reviewer Date

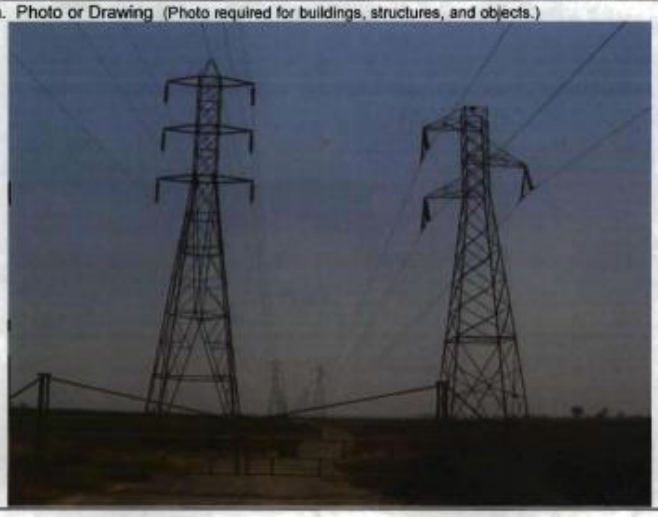
Page 1 of 18 *Resource Name or #: Palermo-East Nicolaus Transmission Line

P1. Other Identifier:
*P2. Location: ☐ Not for Publication ■ Unrestricted *a. County: Butte, Yuba, Sutter
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
*b. USGS 7.5' Quad: Palermo, Honcut, Yuba City, Olivehurst, Nicolaus Date: T ; R ; ¼ of ¼ of Sec ; M.D. B.M.
c. Address: City: Zip:
d. UTM: Zone: 10 ; mE/ mN (G.P.S.)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: The Palermo-East Nicolaus Transmission line stretches from the Pacific Gas and Electric Company (PG&E) Palermo Substation, northwest of Palermo, Butte County, in a predominantly southerly direction (much of it paralleling the Western Pacific Railroad alignment) to Trowbridge, where it branches in a southwesterly direction to the PG&E East Nicolaus Substation in Sutter County.

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) The double-circuit Palermo-East Nicolaus Transmission Line is supported by steel lattice towers. It extends approximately 38 miles on a predominately north-south alignment between PG&E's Palermo and East Nicolaus Substations. The line carries PG&E's Palermo-Nicolaus-Rio Oso 115kV and Palermo-Bogue-Rio Oso 115kV circuits. The tower alignment of this double-circuit line parallels the single-circuit Palermo-Rio Oso No. 2 transmission line from Palermo south to Trowbridge.

*P3b. Resource Attributes: (List attributes and codes) HP9 Public Utility
*P4. Resources Present: ☐Building ■Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

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



P5b. Description of Photo: (View, date, accession #): View of parallel transmission lines and tower alignments near Woodruff Road, Palermo-East Nicolaus double-circuit line and towers on left, camera facing south, July 23, 2008

*P6. Date Constructed/Age and Sources: ■Historic ☐Prehistoric ☐Both
1908

*P7. Owner and Address:
Pacific Gas and Electric
5555 Florin Perkins Road
Room 137
Sacramento, CA 95826

*P8. Recorded by: (Name, affiliation, and address)
Mark Bowen/Tim Yates
ICF Jones & Stokes
630 K Street, Suite 400
Sacramento, CA 95814

*P9. Date Recorded: July 23, 2008
*P10. Survey Type: (Describe) Intensive
*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Cultural Resources Inventory Report for the Proposed Palermo-East Nicolaus 115 kV Transmission Line Reconducturing Project, Butte, Sutter, and Yub Counties, California.

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

P51-000223

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

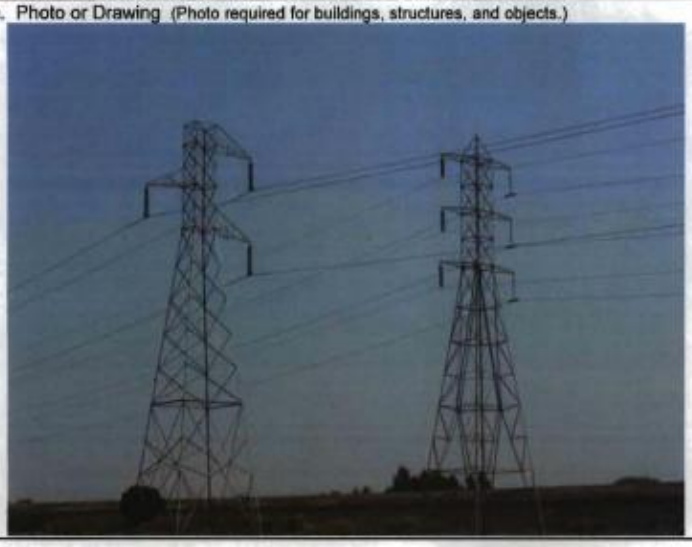
Primary # 51-000223
HRI #
Trinomial CA-SUT-223H
NRHP Status Code

Other Listings
Review Code Reviewer Date

Page 1 of 18 *Resource Name or #: Palermo-Rio Oso No. 2 Transmission Line

P1. Other Identifier: Caribou Transmission Line / Caribou-Golden Gate Transmission Line
*P2. Location: ☐ Not for Publication ■ Unrestricted *a. County: Butte, Yuba, Sutter
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
*b. USGS 7.5' Quad: Palermo, Honcut, Yuba City, Olivehurst, Nicolaus Date: T ; R ; ¼ of ¼ of Sec ; M.D. B.M.
c. Address: City: Zip:
d. UTM: Zone: 10 ; mE/ mN (G.P.S.)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: This transmission line stretches from the Pacific Gas and Electric Company (PG&E) Palermo Substation, northwest of Palermo, Butte County, in a predominantly southerly direction (much of it parelling the Western Pacific Railroadalignment). The tower alignment of this single-curcuit line parallels the double-circuit Palermo-East Nicolaus line from Palermo south to Trowbridge, in Sutter County.
*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) The Palermo-Rio Oso No. 2 Transmission line is a single-circuit 115kV transmission line supported by steel lattice towers. It extends 38 miles on a predominately north-south alignment.
*P3b. Resource Attributes: (List attributes and codes) HP9 Public Utility
*P4. Resources Present: ☐Building ■Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

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



P5b. Description of Photo: (View, date, accession #): Transmission lines and tower alignment in the Rio Oso area, Palermo-Rio Oso No. 2 line on left (southwest), camera facing northeast, July 23, 2008
*P6. Date Constructed/Age and Sources: ■Historic ☐Prehistoric ☐Both
1919
*P7. Owner and Address:
Pacific Gas and Electric Company
5555 Florin Perkins Road
Room 137
Sacramento, CA95826
*P8. Recorded by: (Name, affiliation, and address) Mark Bowen/Tim Yates
ICF Jones & Stokes
630 K Street, Suite 400
Sacramento, CA 95814
*P9. Date Recorded: July 23, 2008
*P10. Survey Type: (Describe)
Intensive
*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Cultural Resources Inventory Report for the Proposed Palermo-East Nicolaus 115 kV Transmission Line Reconducturing Project, Butte, Sutter, and Yub Counties, California.

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

DPR 523A (1/95) *Required information

Appendix B (Native American Consultation)

Confidential Information

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
915 Capitol Mall, RM 364
Sacramento, CA 95814
(916) 653-4082
(916) 657-5390 – Fax
nahc@pacbell.net

Information Below is Required for a Sacred Lands File Search

Project: Palermo Clean Water Consolidation Project.

Address: Railroad Ave at Messina Ave to Railroad Ave and S. Villa Ave

County: Butte

USGS Quadrangle: Palermo

Township 18N, Range 4E Section(s) 5

Company/Firm/Agency: Cultural Research Assoc

Contact Person: Lori Harrington

Street Address: 295 E. 8th Street

City: Chico Zip:95928

Phone: 530 521-8046

Fax: 530 566-1657

Email: cra_lori@sbcglobal.net

Project Description:

Approximately 7.5 linear miles of ground water pipe replacement.

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

June 9, 2021

Lori Harrington, M.A. RPA
Cultural Research Assoc.

Via Email to: : cra_lori@sbcglobal.net

Re: Palermo Ground Water Project, Butte County

Dear Ms. Harrington:

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

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

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

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

Sincerely,

Rob Wood
Associate Environmental Planner

Attachment

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

Native American Heritage Commission
Native American Contact List
Butte County
6/9/2021

Berry Creek Rancheria of Maidu Indians
Francis Steele, Chairperson
5 Tyme Way — Maidu
Oroville, CA, 95966
Phone: (530) 534 - 3859
Fax: (530) 534-1151
fsteele@berrycreekrancheria.com

Estom Yumeka Maidu Tribe of the Enterprise Rancheria
Glenda Nelson, Chairperson
2133 Monte Vista Avenue — Maidu
Oroville, CA, 95966
Phone: (530) 532 - 9214
Fax: (530) 532-1768
info@enterpriserancheria.org

Greenville Rancheria of Maidu Indians
Kyle Self, Chairperson
P.O. Box 279 — Maidu
Greenville, CA, 95947
Phone: (530) 284 - 7990
Fax: (530) 284-6612
kself@greenvillerancheria.com

KonKow Valley Band of Maidu
Jessica Lopez, Chairperson
8998 Fruitridge Road — KonKow
Sacramento, CA, 95803 — Maidu
Phone: (530) 777 - 8094
jessica@konkowmaidu.org

Mooretown Rancheria of Maidu Indians
Benjamin Clark, Chairperson
#1 Alverda Drive — KonKow
Oroville, CA, 95966 — Maidu
Phone: (530) 533 - 3625
Fax: (530) 533-3680
frontdesk@mooretown.org

Mooretown Rancheria of Maidu Indians
Guy Taylor,
#1 Alverda Drive — KonKow
Oroville, CA, 95966 — Maidu
Phone: (530) 533 - 3625

Tsi Akim Maidu
Grayson Coney, Cultural Director
P.O. Box 510 — Maidu
Browns Valley, CA, 95918
Phone: (530) 383 - 7234
tsi-akim-maidu@att.net

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 Palermo Ground Water Project, Butte County.

PROJ-2021-003166 — 06/09/2021 10:42 AM — 1 of 1

CULTURAL RESEARCH
ASSOC.

295 E. 8th Street
Chico, CA 95928
Phone Number 521-8046
Fax: 530 566.1657

Francis Steele
Berry Creek Rancheria of Maidu Indians
5 Tyme Way
Oroville, Ca 95966

Subject: Palermo Clean Water Consolidation Project.

Date: October 1, 2021

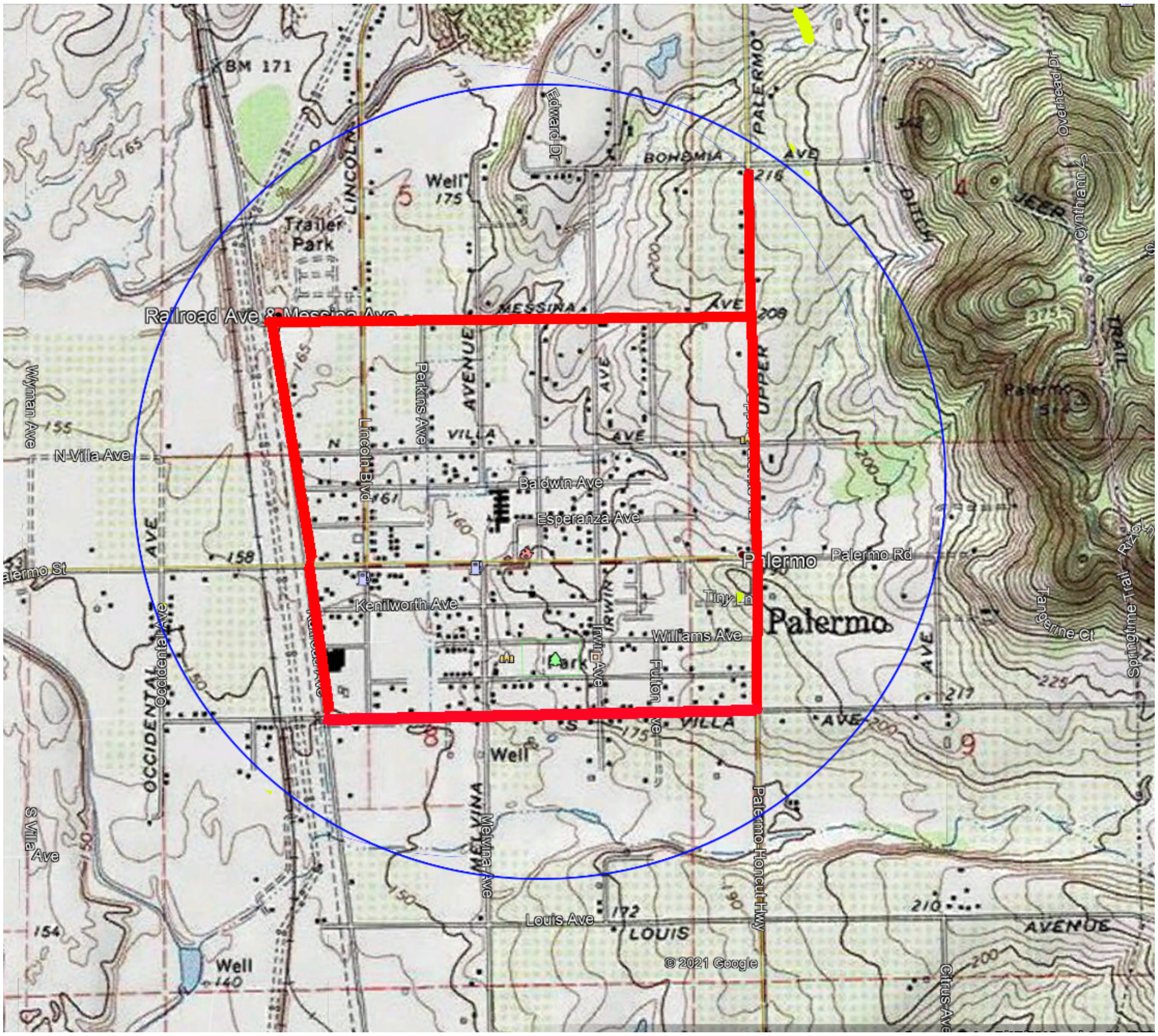
The purpose of this letter is to apprise you of a proposed project development in Chico, CA (see enclosed map.)
Proposed Project – Installation/ upgrade of groundwater piper, hydrants etc. into existing previously disturbed road right-of-way.

On behalf of the project, the subcontractor Cultural Research Assoc. has contacted the Native American Heritage Commission (NAHC) to obtain a list of groups or individuals that may have specific knowledge of cultural resources or other concerns within the defined project areas. A search of the sacred lands file indicated that there are no known Native American cultural resources within or adjacent to the project area. The project area has been highly disturbed due to grading. The record search for the project was negative and nothing has been recorded in the general project vicinity. The field survey was also negative for historic and prehistoric resources.

Your name was supplied to us by the NAHC because you may have knowledge of specific cultural resources within the defined project areas, or know of other individuals or groups who may have specific knowledge. Please contact me at (530) 521-8046, or email at: cra_lori@sbcglobal.net regarding specific concerns in the project area. For your convenience, I can also be reached via fax (530) 566-1657 or email at: cra_lori@sbcglobal.net.

If you do not reply by October 10, 2021, noon, it will be assumed that you have no comments regarding the current project area outlined on the enclosed map.

Sincerely, Lori Harrington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Tangerine Ct
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Park
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Fulton Ave
Edward Dr
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CULTURAL RESEARCH
ASSOC.

295 E. 8th Street
Chico, CA 95928
Phone Number 521-8046
Fax: 530 566.1657

Glenda Nelson
Estome Yumeka Maidu Tribe of the Enterprise Rancheria
2133 Monte Vista Ave
Oroville, Ca 95966

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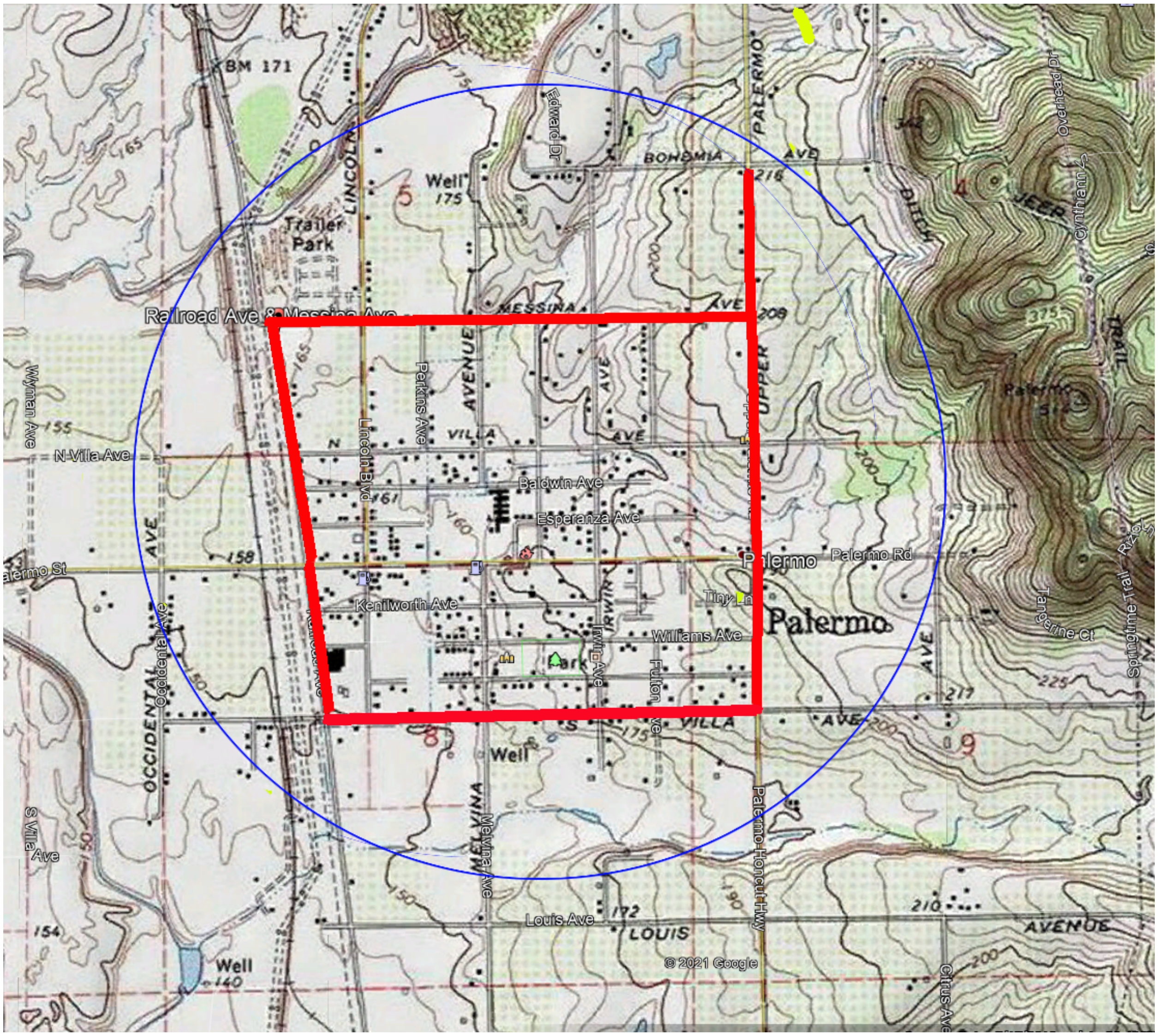
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S Villa Ave
MELVINA
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Louis Ave
LOUIS
AVENUE
Palermo-Honcut Hwy
Citrus Ave
Tangerine Ct
Edward Dr
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BM 171

CULTURAL RESEARCH
ASSOC.

295 E. 8th Street
Chico, CA 95928
Phone Number 521-8046
Fax: 530 566.1657

Kyle Self
Greenville Rancheria of Maidu
P.O. Box 279
Greenville, Ca 95947

Subject: Palermo Clean Water Consolidation Project.

Date: October 1, 2021

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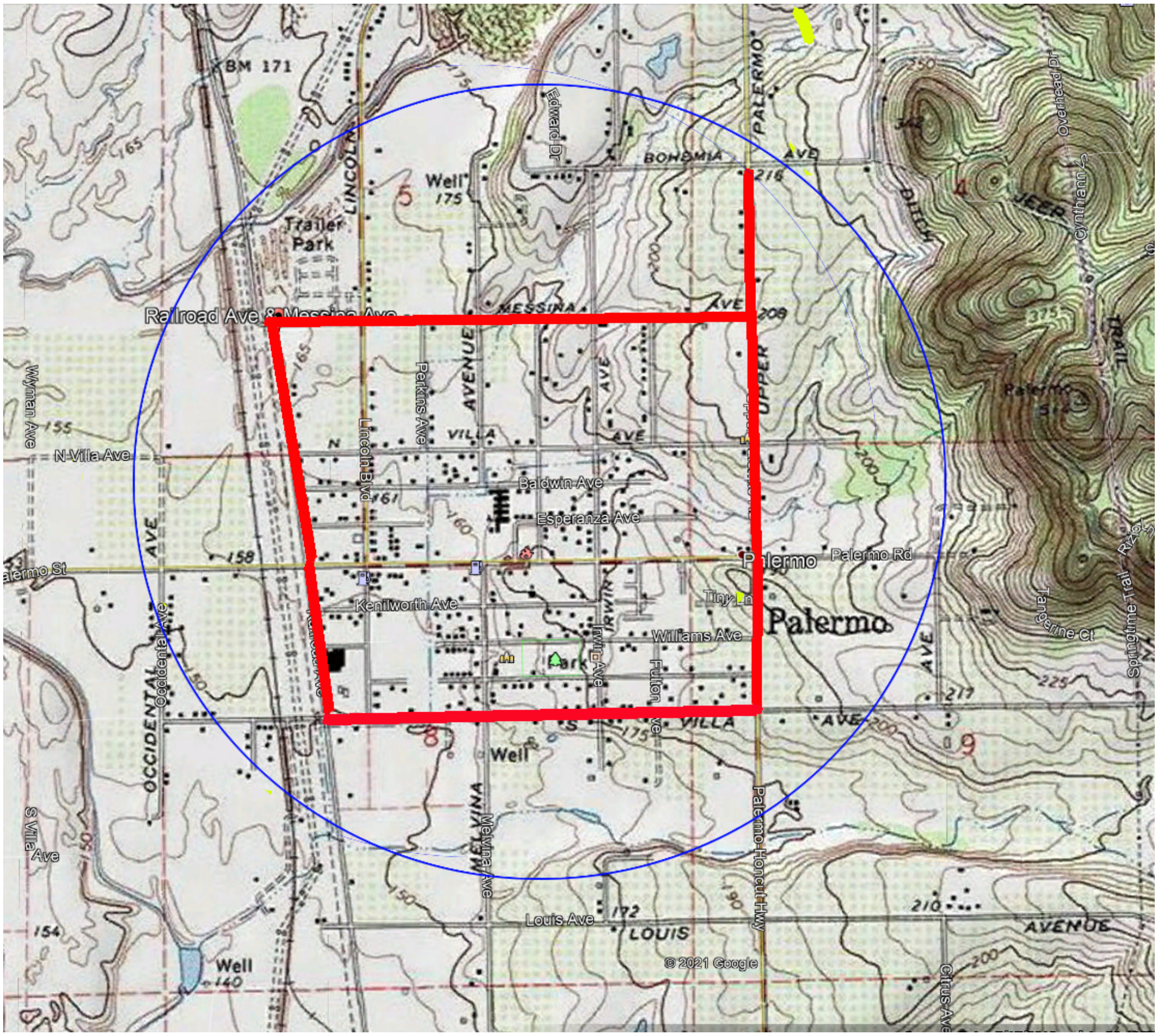
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TRAIL
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Sometime Trail
Cynthann Ct

CULTURAL RESEARCH
ASSOC.

295 E. 8th Street
Chico, CA 95928
Phone Number 521-8046
Fax: 530 566.1657

Konkow Valey Band of Maidu
Jessica Lopez
8998 Fruitridge Road
Sacramento, CA 95803

Subject: Palermo Clean Water Consolidation Project.

Date: October 1, 2021

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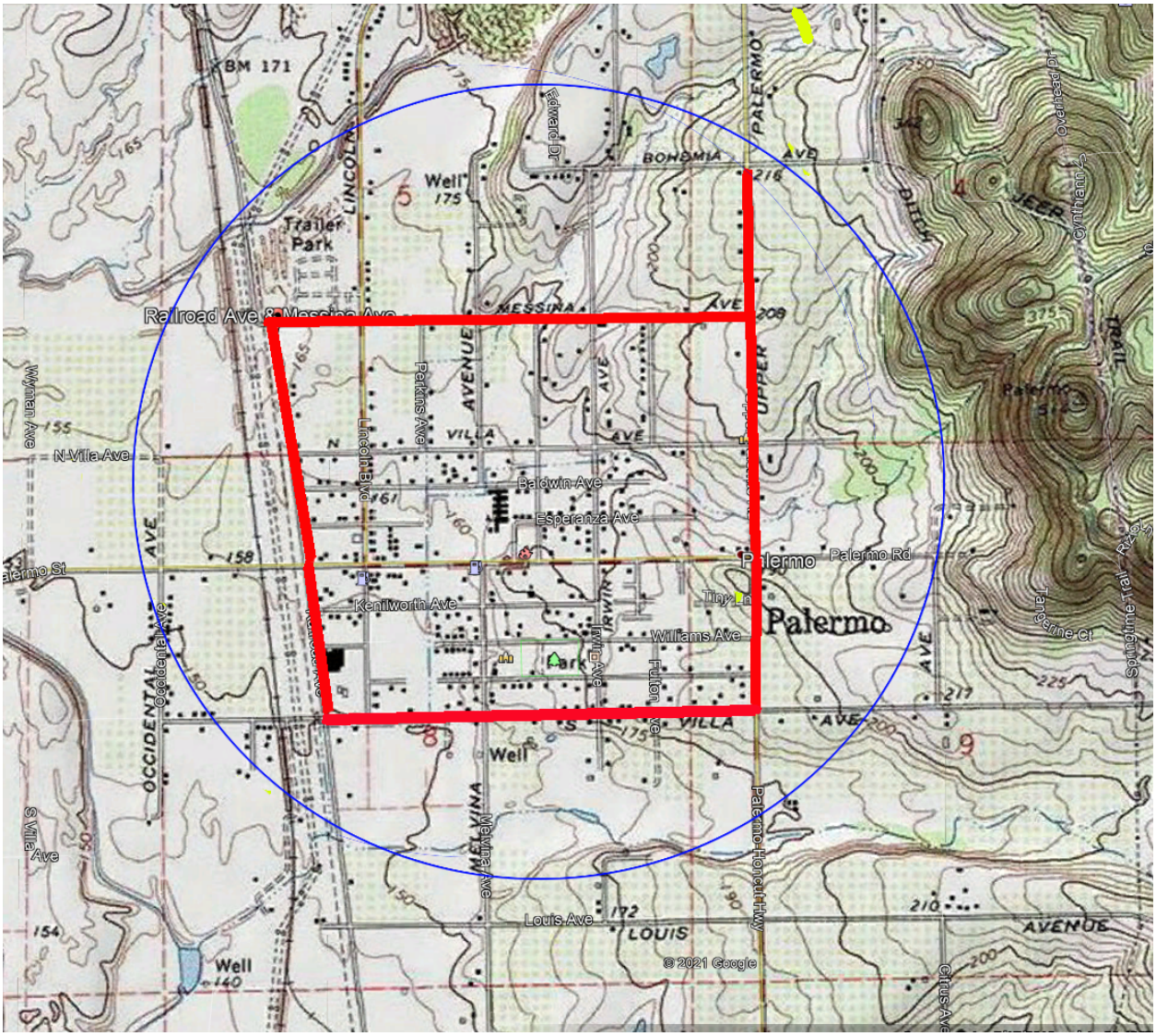
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Benjamin Clark / Guy Taylor
Mooretown Rancheria of Maidu Indians
#1 Alverda Drive
Oroville, CA 95966

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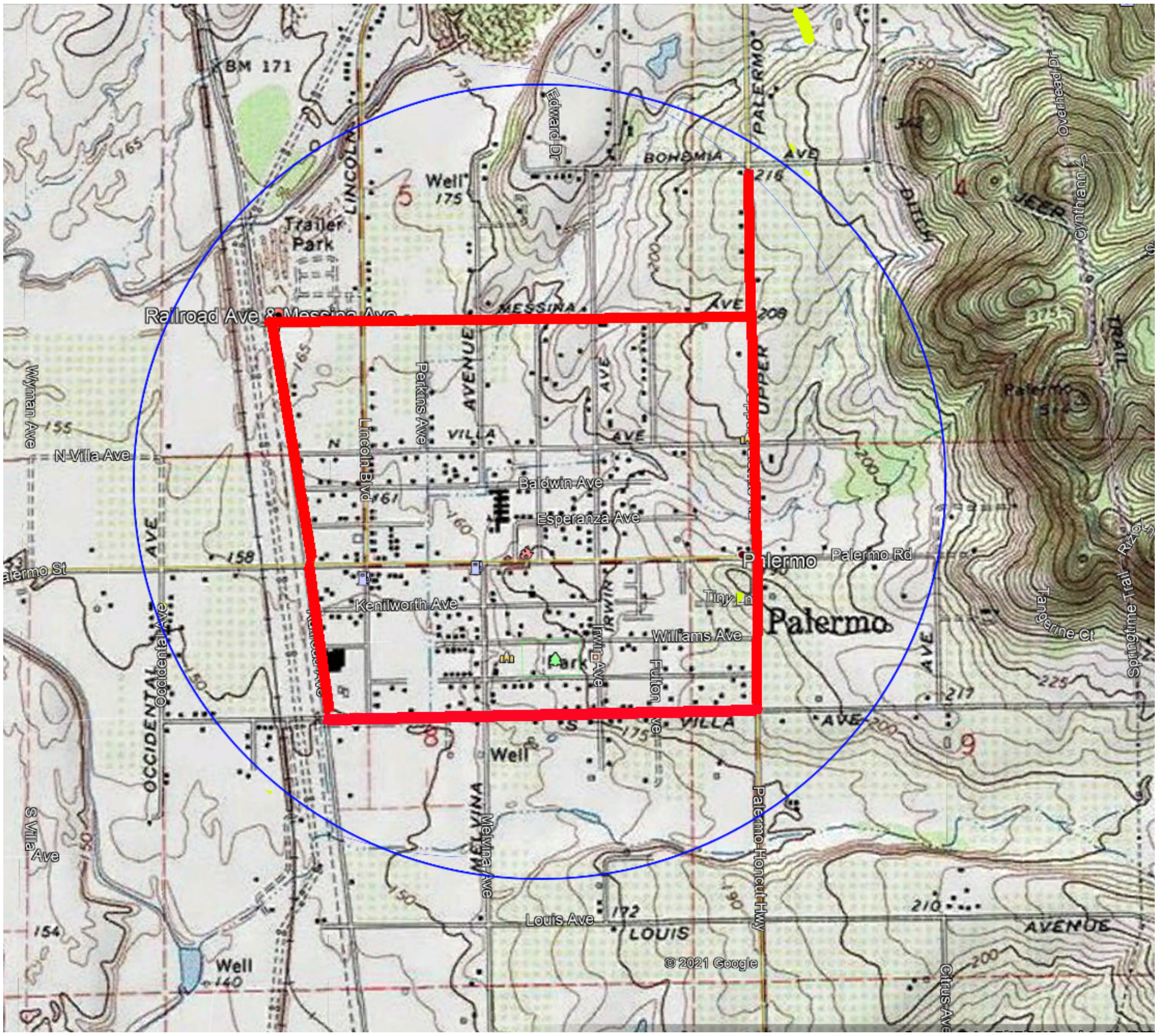
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Tsi Akim Maidu
Grayson Coney
P.O. Box 510
Browns Valley, CA 95918

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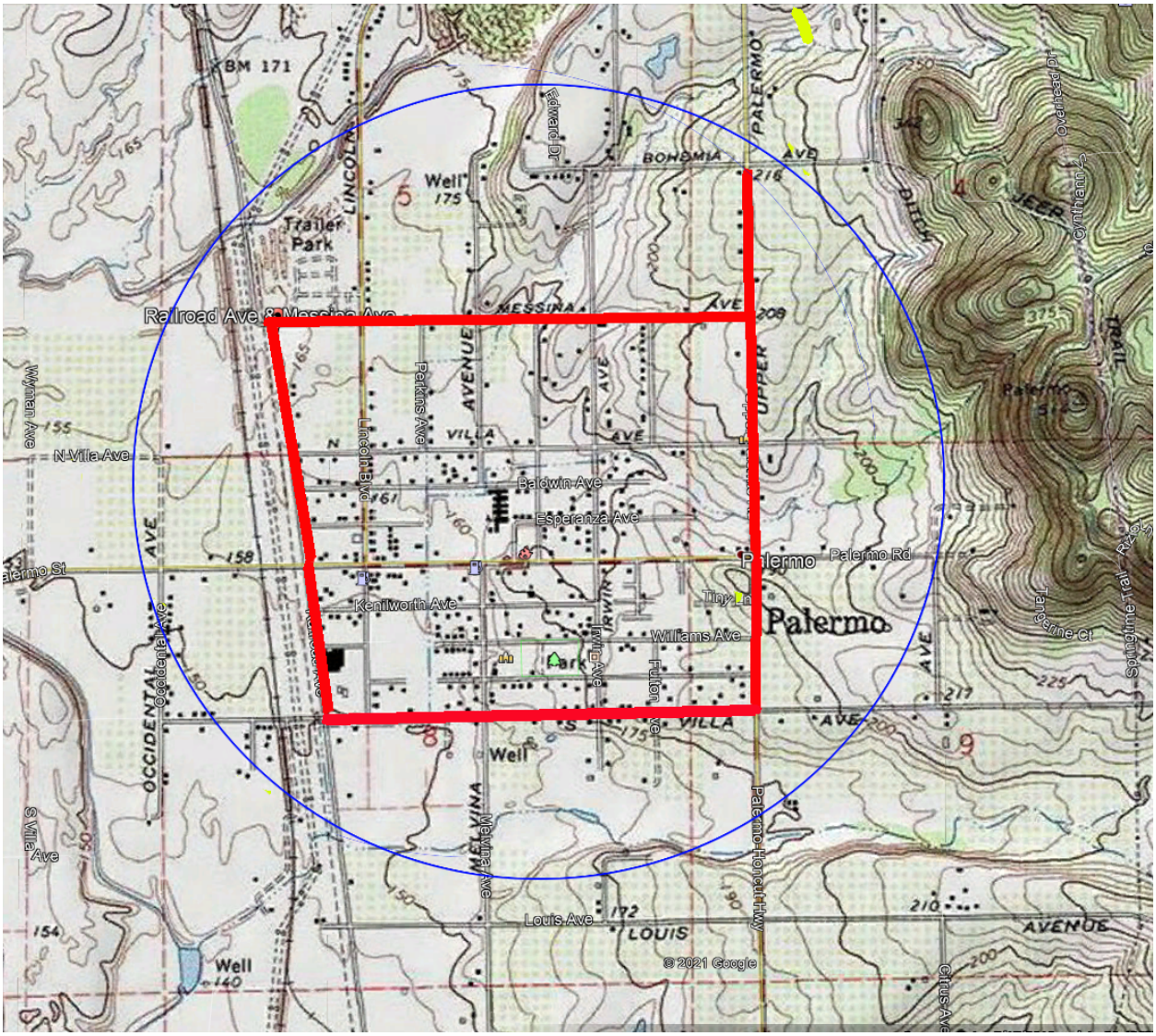
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Palermo Honcut Hwy
Louis Ave
LOUIS AVENUE
Well
Well
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Native American Call list

	Sent Letter	**Responded**	**Concerns**	**Called**
Berry Creek Rancheria of Maidu Indians Francis Steele	10/01/2021 via email	No	N/A	10/6/2021 Left message to call with concern,
Estome Yumeka Maidu Tribe of the Enterprise Rancheria Glenda Nelson	10/01/2021 via email	**Yes**	None Good afternoon, Thank you for the notification. After a thorough examination of the project and discussions with our cultural site monitor, we have determined that this project is in the aboriginal territory of the Estom Yumeka Maidu Tribe. Our records search failed to locate any known cultural sites within the project boundaries. However, the Tribe retains the right to consult should any post review discoveries be made. Thanks, Creig Marcus Tribal Administrator	
Greenville Rancheria of Maidu Indians Kyle Self	10/01/2021 via email	No	N/A	10/6/2021 Left message to call with concern,
Konkow Valley Band of Maidu Jessica Lopez	10/01/2021 via email	No	N/A	10/6/2021 Left message to call with concern,

Mooretown Rancheria of Maidu Indians Benjamin Clark Guy Taylor	10/01/2021 via email. Invalid email. Sent letter	No	N/A	10/6/2021 Left message to call with concern,
Tsi Akim Maidu Grayson Coney	10/01/2021 via email	No	N/A	10/6/2021 Left message to call with concern,

APPENDIX H

CEQA Mitigation Monitoring and Reporting Program (MMRP)

PALERMO CLEAN WATER CONSOLIDATION PROJECT

December 2021

APPENDIX H

CEQA Mitigation Monitoring and Reporting Program (MMRP)

PALERMO CLEAN WATER CONSOLIDATION PROJECT

December 2021

MITIGATION MONITORING AND REPORTING PROGRAM

The California Environmental Quality Act (CEQA) Initial Study/Mitigated Negative Declaration (IS/MND) prepared for this project documents the impacts and mitigation measures that would reduce, avoid, or otherwise minimize these impacts. This Mitigation Monitoring and Reporting Program (MMRP) will ensure that each mitigation measure, adopted as a condition of project approval, is implemented. This MMRP complies with CEQA Guidelines Section 15074(d) that specifies the lead agency shall adopt a program for reporting on the changes that it has either required in the project or made a condition of approval to mitigate or avoid significant environmental effects.

ROLES AND RESPONSIBILITIES

Butte County, Department of Water and Resource Conservation will adopt this MMRP in order to mitigate environmental effects. This MMRP reflects all measures identified during the CEQA review process.

LIST OF MITIGATION MEASURES AND DATE OF COMPLETION

15.3 AIR QUALITY

a-c): The following mitigation measures to reduce impacts to air quality shall be incorporated into the project by the project applicant or contractors during project activities to minimize particulate matter and other pollutants to the atmosphere and include:

- All construction equipment shall be maintained in proper tune according to the manufacturer's specifications. Equipment shall be checked by a certified mechanic and determined to be running in proper condition before the start of work.

- All mobile and stationary Toxic Air Contaminants (TACs) sources shall comply with applicable Airborne Toxic Control Measures (ATCMs) promulgated by the California Air Resources Board (CARB) throughout the life of the project.

- Dust control measures shall be implemented during project construction. Use of water trucks or sprinkler systems shall be used in sufficient quantities to prevent airborne dust from leaving the project sites.

- All stockpiled material will be sufficiently covered when not in use to prevent sediment and other potential pollutants from leaving the project sites.

- Streets shall be swept at the end of each working day if visible soil, sand or other construction related debris is present.

- Construction activities will be conducted so that no track-out from the project sites is visible on any paved roadway.

- All trucks hauling dirt, sand, soil, or other loose material transported to and from the project sites shall be securely covered to avoid spilling.

- All roadways, driveways, sidewalks, etc. shall be repaved immediately after pipeline, services lines and meter boxes installation is complete.

- County and SFWPA field inspectors shall ensure compliance with Butte County Air Pollution Control District regulations.

- Signs shall be placed along construction areas with contact information to report air quality violations to Butte County Air Quality Management District at (530) 332-9400.

Mitigation Monitoring: South Feather Water and Power Agency

Timing Process: Prior to and during construction

Verification of Compliance (Initials, Date, Remarks):

15.4 BIOLOGICAL RESOURCES

a;d) - The following mitigation measures shall be incorporated into the project to avoid impacts to raptors, migratory birds and other special-status species.

- The proposed project is planned for construction over consecutive years during the raptor and migratory bird nesting seasons (March 15 – July 31). To mitigate potential impacts a qualified biologist will conduct multiple surveys over the course of the project and no earlier than two weeks prior to construction along planned roadways and visually assessing for active nests within 500 ft (150 m) of the project area, which is a CDFW recommended boundary. If an active nest is located the survey biologist will immediately consult with Butte County Department of Water and Resource Conservation and CDFW to avoid and/or minimize potential impacts such as establishing buffers. Other special-status species with a potential to occur in the project areas would be considered during the pre-construction survey.

b-c) - The following mitigation measure shall be incorporated into the project to avoid impacts to roadside ditches.

- Contractor shall have sediment control measures including silt fencing and wattles around all roadside ditches to avoid sediment entering these water features.

- Contractor shall ensure that all spoil piles are stabilized and covered with heavy-duty plastic sheeting when not in use or during any precipitation event.

- All soils disturbed during construction will be stabilized immediately following construction.

- Water that may be needed to flush and pressure test the pipelines will be properly discharged according to applicable waste discharge requirements. No water will be discharged to any perennial or ephemeral surface waters.

- All equipment will be inspected for leaks prior to and during construction operations.

- The contractor will have on-site, at all times, a Spill Containment Kit for immediate deployment in case of a sudden and unexpected spill of pollutants.

- All temporary and permanent BMPs implemented for this project will be properly maintained by the contractor to ensure their effectiveness.

- The contractor will conduct inspections of the site on a daily basis and more frequently prior to and after storm events. Equipment, materials, and workers will be available for immediate repairs and rapid response to emergencies if needed.

Mitigation Monitoring: South Feather Water and Power Agency

Timing Process: Prior to and during construction

Verification of Compliance (Initials, Date, Remarks):

15.5 CULTURAL RESOURCES

a-d): The following mitigation measures shall be incorporated into the project to avoid impacts to Cultural Resources.

- Should unanticipated cultural resource be encountered during project activities, work must cease, and a qualified archaeologist contacted immediately to determine appropriate measures to mitigate any adverse impacts to the discovered resources. If human remains are discovered during construction-related activities notification of the Butte County Coroner is required. If the Butte County Coroner determines that the discovered remains are those of Native American ancestry, then the Native American Heritage Commission must be notified by telephone within 24 hours. Sections 5097.94 and 5097.98 of the Public Resources Code describe the procedures to be followed after the notification of the Native American Heritage Commission.

Mitigation Monitoring - South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):

15.7 GREENHOUSE GAS EMISSIONS

a): The following mitigation measures shall be incorporated into the project to reduce impacts from Greenhouse Gas Emissions.

- All mitigation measures outlined in section **15.3** AIR QUALITY shall be implemented throughout the course of construction activities to minimize Greenhouse Gas Emissions.

Mitigation Monitoring - South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):

15.9 HAZARDS AND HAZARDOUS MATERIALS

(a;c) - The following mitigation measures shall be incorporated into the project to avoid impacts from hazards and hazardous materials.

- Fueling and application of lubricants and fluids will be performed in a designated area with appropriate BMPs.
- All construction equipment shall be maintained in proper tune according to the manufacturer's specifications.
- Fluids, oils, lubricants, and trash will be disposed according to County guidelines in order to prevent any potentially hazardous materials impact.

Mitigation Monitoring - South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):

15.10 HYRDOLOGY AND WATER QUALITY

a;e): The following mitigation measures outlined below shall be incorporated into the project to minimize impacts to hydrology and water quality.

1. Retain soil and sediment on the construction site

- Construction activities shall have erosion and sediment control measures including silt fencing and wattles as needed around the project perimeter for the duration of construction to avoid runoff especially during and after storm events.
- Contractor shall ensure that all spoil piles are stabilized and covered with heavy-duty plastic sheeting when not in use or during any precipitation event.
- In order to reduce the potential to release fugitive dust associated with project activities, dust control measures will be carried out as needed including sweeping and watering.
- All soils disturbed during construction will be stabilized immediately following construction.

2. Non-Storm Water Management

- Water that may be needed to flush and pressure test the pipelines will be properly discharged according to applicable waste discharge requirements. No water will be discharged to any perennial or ephemeral surface waters.

3. Spill Prevention and Control

- All equipment will be inspected for leaks prior to and during construction operations.
- The contractor will have on-site, at all times, a Spill Containment Kit for immediate deployment in the case of a sudden and unexpected spill of pollutants.

4. Maintenance, Inspection and Repair

- The contractor will conduct inspections of the site on a daily basis and more frequently prior to and after storm events. Equipment, materials, and workers will be available for immediate repairs and rapid response to emergencies if needed.

Mitigation Monitoring - South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):

15.13 NOISE

a-b): The following mitigation measures outlined below shall be incorporated into the project to minimize construction related noise impacts.

- All internal combustion engine driven equipment with intake and exhaust mufflers should be in good condition and appropriate for the equipment.
- Stationary noise-generating equipment shall be located as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Project activities will be limited to daytime hours between 7:00 a.m. and 7:00 p.m. on weekdays and Saturdays between 8:00 a.m. and 6:00 p.m.
- Unnecessary motorized idling of equipment will be avoided.
- Signs shall be placed along construction areas with contact information to report noise violations to Butte County Development Services/Code Enforcement at (530) 538-7601.

Mitigation Monitoring – South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):

15.18 TRIBAL CULTURAL RESOURCES

a) The following mitigation measures outlined below shall be incorporated into the project to minimize construction related impacts to tribal cultural resources.

- In the unlikely event resources are discovered during ground disturbing activities, compliance with mitigation measures outlined in Section 15.5 CULTURAL RESOURCES, which provides instructions in the event a material of potential cultural significance is uncovered, would reduce potential impacts to a less than significant level.

Mitigation Monitoring – South Feather Water and Power Agency

Timing Process: During construction

Verification of Compliance (Initials, Date, Remarks):