

RECLAMATION

Managing Water in the West

Loma Rica Hydroelectric Generating Facility

WaterSMART Water Energy and Efficiency Grant

Environmental Assessment

August 2017



**U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
Central California Area Office
Folsom, California**

Mission Statements

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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List of Acronyms and Abbreviations

BCP	Banner-Cascade Pipeline
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
DOI	Department of the Interior
EA	Environmental Assessment
GHG	Greenhouse gases
IS	Initial Study
ITAs	Indian Trust Assets
LCC/BCPP	Lower Cascade Canal/Banner Cascade Pipeline Project
LRCF	Loma Rica Control Facility
NAAQS	National Ambient Air Quality Standards
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NSAQMD	Northern Sierra Air Quality Management District
PG&E	Pacific Gas and Electric Company
PM10	Particulate matter less than 10 micrometers in diameter
Reclamation	U.S. Bureau of Reclamation
ROG	Reactive organic gases
SHPO	State Historic Preservation Officer
VOC	Volatile organic compounds
WTP	Water Treatment Plant

1 Introduction

1.1 Background

The Nevada Irrigation District's (NID) has proposed to construct and operate a hydroelectric generation station near the Loma Rica Water Treatment Plant and an energy dissipation structure at the terminus of the Banner-Cascade pipeline (BCP) (Proposed Action). The Proposed Action is located within west-central Nevada County, California just east of Nevada City and Grass Valley (see Figures 1 and 2).

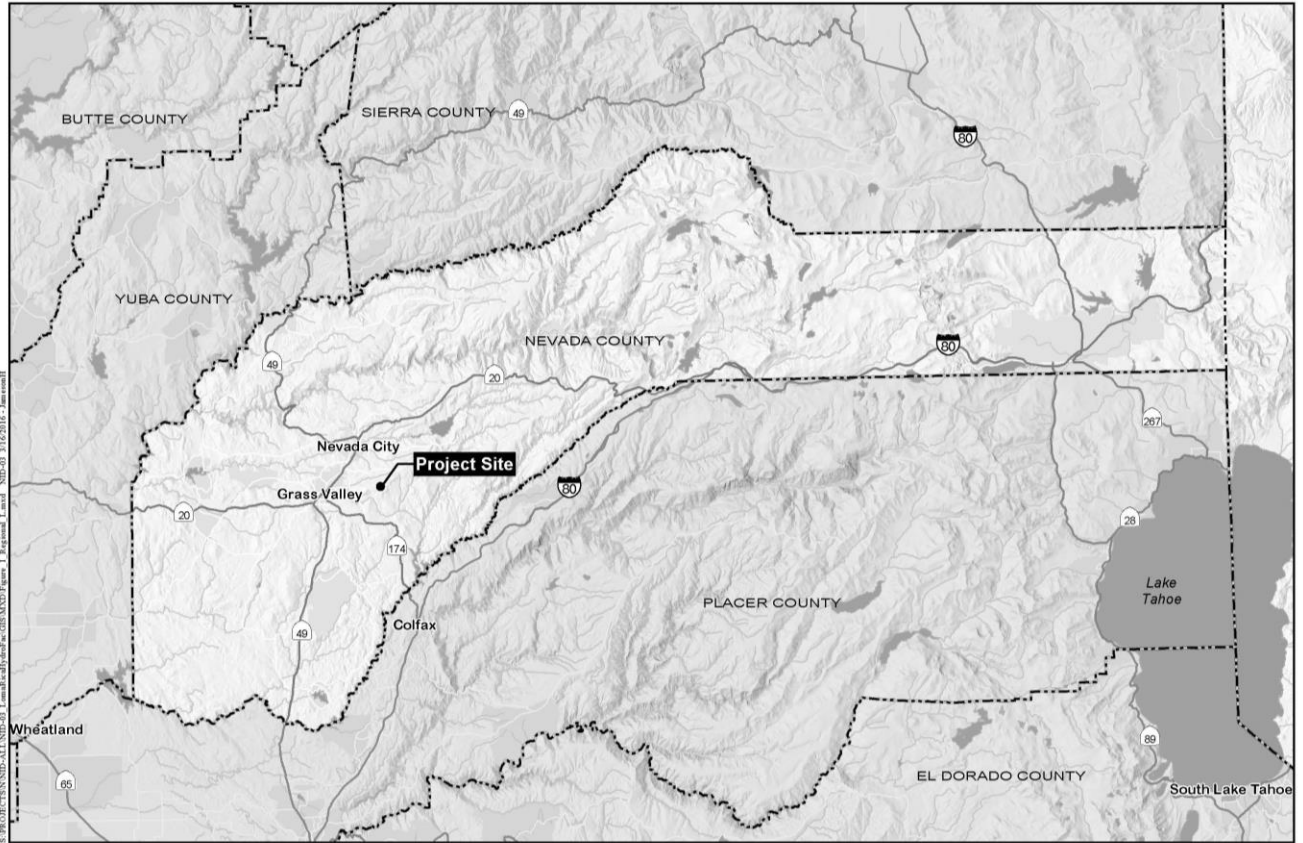
Reclamation proposes to provide a Department of the Interior (DOI) WaterSMART Water Energy and Efficiency Grant to NID to help fund the Proposed Action.

NID prepared an Initial Study and Environmental Evaluation (IS) in May 2016 on the Loma Rica Hydroelectric Generating Facility to meet California Environmental Quality Act (CEQA) compliance requirements. This IS was an addendum to the Lower Cascade Canal/Banner Cascade Pipeline Project (LCC/BCPP) Environmental Impact Report approved in February 2007.

Reclamation has reviewed the IS and determined it would sufficiently meet National Environmental Policy Act (NEPA) requirements for the proposed project with the addition of supplemental analysis related to potential effects on cultural resources, air quality, Indian Trust Assets, Indian Sacred Sites, and Environmental Justice which are discussed in this environmental assessment (EA). This EA has been prepared in compliance with the provisions of NEPA (42 U.S.C. §4321-4370), Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508), and DOI Regulations (43 CFR Part 46). The IS is incorporated by reference and is available at: http://nidwater.com/wp-content/uploads/2016/09/6947_EIR_Adden_May2016.pdf.

1.2 Need for Action

NID would like to maximize hydropower potential from their BCP to help reduce electrical costs within the system and to provide a potential source of income to NID.



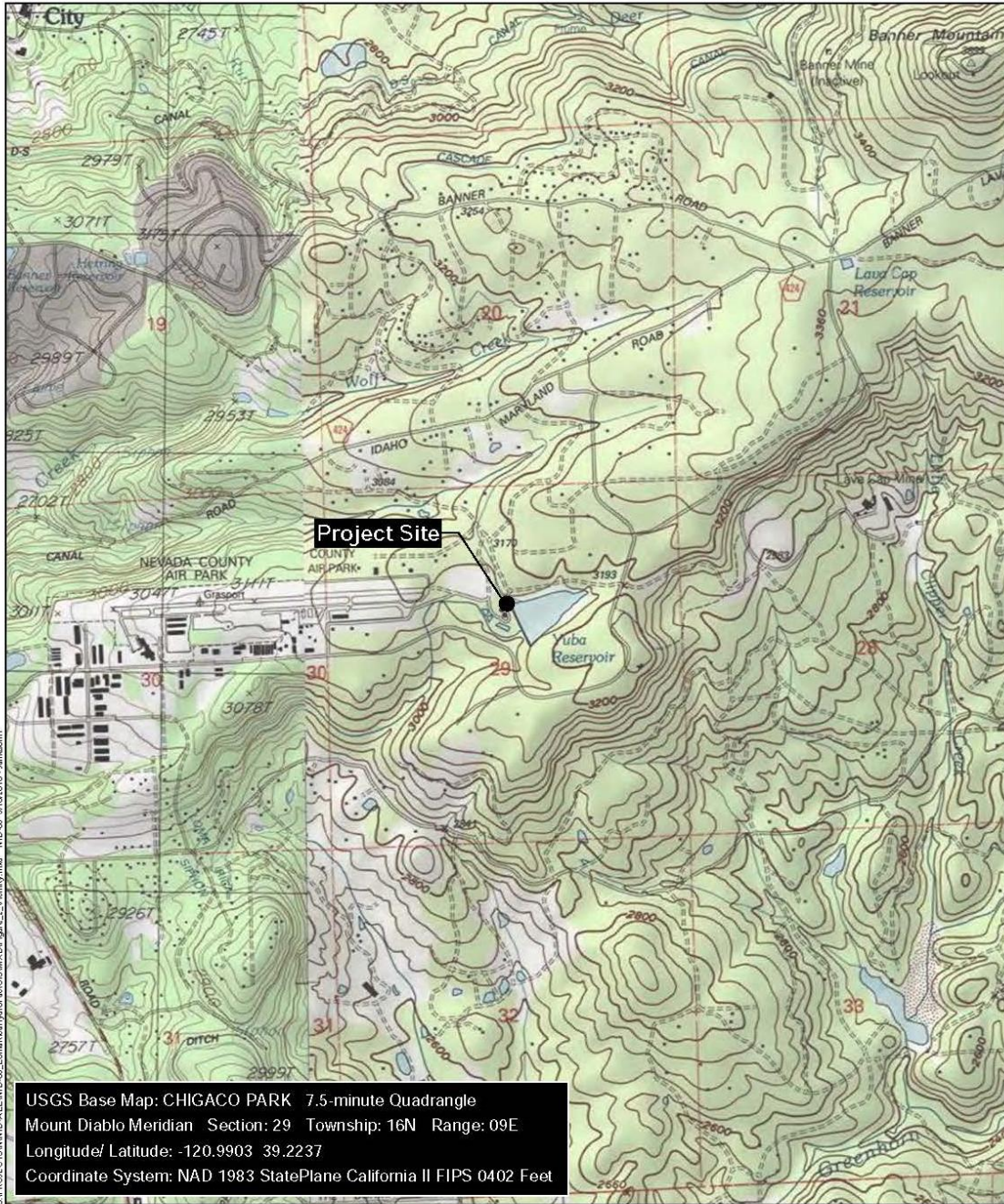
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Regional Location Map

NEVADA IRRIGATION DISTRICT:
LOMA RICA HYDROELECTRIC GENERATING FACILITY

Figure 1



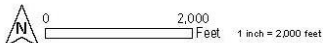


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Project Vicinity Map

NEVADA IRRIGATION DISTRICT:
 LOMA RICA HYDROELECTRIC GENERATING FACILITY

Figure 2



2 Alternatives Including the Proposed Action

2.1 No Action

Under No Action, Reclamation would not award a CALFED Water Use Efficiency Grant to partially fund NID to construct and operate a hydroelectric generation station near the Loma Rica Water Treatment Plant (WTP).

2.2 Proposed Action

Under the Proposed Action, Reclamation would award a CALFED Water Use Efficiency Grant to partially fund NID to construct and operate a hydroelectric generation station near the Loma Rica Water Treatment Plant (WTP). The grant would provide \$300,000 and NID would provide the remaining \$4,299,000 for the Proposed Action.

The hydroelectric generating facility is proposed to be constructed adjacent to Loma Rica Reservoir and WTP (Figure 2). Electricity generated by the proposed hydroelectric generating facility could be used to operate the WTP. The WTP has an average electrical power usage of 65 kilowatts (kW). As the proposed hydroelectric generating facility would generate far more electric power than needed by the Loma Rica WTP, the excess electrical power would be sold to Pacific Gas and Electric Company (PG&E) or other similar power companies. This would assist NID in recovering a portion of its annual operating costs for these facilities.

The new hydroelectric building would be a concrete structure measuring 36 by 36 feet with an expansion area designated for a second hydroelectric turbine in the future. The intake would be connected to the BCP upstream of the LRCF (Loma Rica Control Facility), and the discharge would connect directly to the LRCF stilling basin to provide maximum operational flexibility. Connection to the PG&E distribution system is expected to occur near the existing 12-kilovolt (kV) service at the WTP. Figure 3 is the conceptual site plan for the hydroelectric station.

Water would be diverted from the existing 48-inch BCP and delivered to the new hydroelectric station by approximately 120 feet of new pipeline, measuring 34-inch in diameter and decreasing to a 24-inch pipeline to connect to the new building. The steel and concrete reinforced pipeline would be buried in a trench measuring, at maximum, approximately 6 feet wide and up to 12 feet deep.

A new pad-mounted electrical transformer would be constructed as close to the new Loma Rica hydroelectric station as possible. The new electrical line would connect to the existing Pacific Gas and Electric distribution system at an existing pad-mounted electrical transformer next to the Loma Rica WTP control building. The new hydroelectric station would be surrounded by an eight-foot chain-link fence topped with barbed wire. The new fencing would connect with the existing fencing around the Loma Rica FCF. The existing access road would be paved, along with a parking area adjacent to new hydroelectric station, the recessed driveway to the generator room door, and turnaround area next to the existing Loma Rica WTP control facility.

The BCP is the lower-elevation portion of a piping system that conveys water from Deer Creek to the WTP, Loma Rica Reservoir, and Elizabeth George Water Treatment Plant. The upper portion of the piping system includes the Upper and Lower Bench pipelines, Cascade Shore's siphon, and Clipper Creek siphon. Normal operating water surface elevation at the Deer Creek intake is 3,630 feet above mean sea level, and the elevation of the weir in the stilling basin at the terminus of BCP is 3,167 feet, providing approximately 463 feet of available head that could be used to generate hydroelectric power. Flow in the BCP is controlled by LRCF, which consists of two parallel sleeve valves that dissipate energy prior to discharging into a stilling basin adjacent to the LCC just upstream of the Loma Rica Reservoir.

It is anticipated that the proposed project would begin construction in January 2019 and be completed and in operation in August 2019. See the IS for more details on the proposed action.

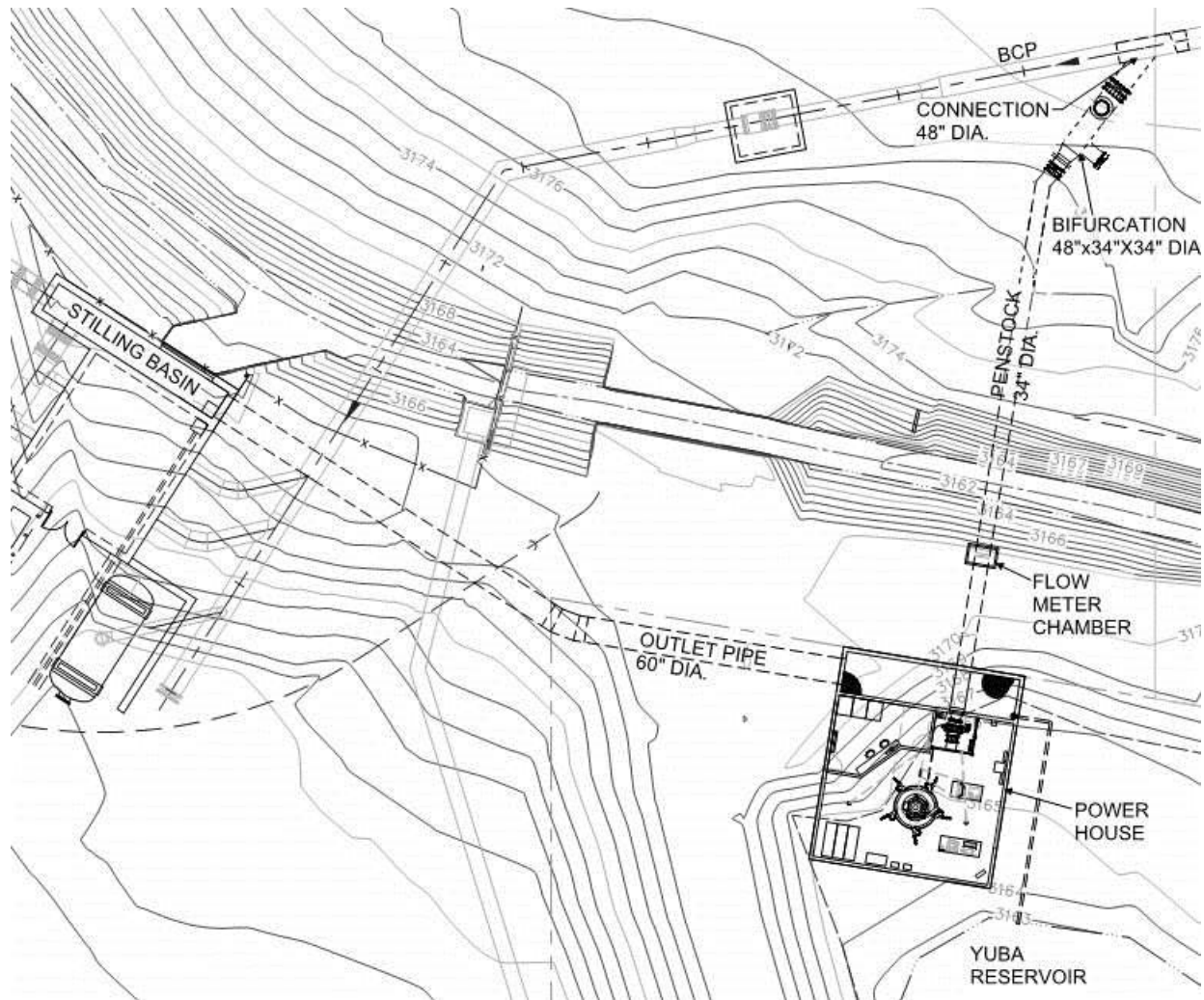


Figure 3. Conceptual Site Plan for Proposed Power House

3 Affected Environment and Environmental Consequences

This section consists of a summary of project impacts from the IS, additional air quality analysis, and a discussion of resources that were not analyzed pursuant to CEQA that are required by CEQ and DOI regulations for implementing NEPA.

3.1 Summary of Impacts from the Initial Study

3.1.1 Air Quality

Construction and operation of the Proposed Action would not generate emissions of ROG and PM10 that would exceed thresholds established by the Northern Sierra Air Quality Management District (NSAQMD). However, projected NOx emissions associated with the approved project could exceed thresholds established by the NSAQMD and require threshold controls. Mitigation Measures have been prescribed by the NSAQMD and would reduce NOx impacts to below the threshold.

3.1.2 Biology

The project site is mostly barren of vegetation and does not provide habitat for special-status species, based on biological surveys. The proposed action would not affect any Federal or State listed or candidate threatened or endangered species.

The proposed project would implement mitigation to avoid disturbance of migratory nesting birds and raptors. Additionally, mitigation would be implemented for raptor protection if new power lines are installed as part of the proposed modified project. The project would also be required to shield lighting and direct it downward to limit adverse effects to common and special-status species that could potentially occur in the surrounding habitats.

3.1.3 Water Quality

The project would be sited in an upland area that does not contain wetlands or other waters of the United States or California. Water quality Best Management Practices (BMPs) would be implemented to prevent runoff from the construction site from entering the adjacent Loma Rica Reservoir or the Lower Cascade Canal. Soil erosion for all affected soils would be reduced with both temporary and permanent erosion control practices.

NID would implement construction BMPs to avoid significant adverse erosion and sedimentation related environmental impacts from construction activities associated with application of air blown concrete to canal sections or pipeline construction. Moreover, any additional measures specified by the applicable permits required for grading activities associated

with air blown concrete application operations or construction of the pipeline not covered below, also would be implemented. Procedures or measures to be implemented would minimize soil erosion, stream sedimentation, habitat alteration, and the potential for chemical contamination of creek waters.

3.1.4 Noise

Residences located one-quarter mile from construction or power plant operations are not predicted to be exposed to noise exceeding even the most stringent 55-dBA nighttime noise impact threshold for Nevada County. Additionally, vibration from construction would be far below the 0.10 impact threshold. Mitigation would ensure that noise from the final design of the plant does not exceed County noise standard.

3.1.5 Recreation

Construction of the proposed hydroelectric generating facility would not substantially affect recreational facilities or activities. The site is not currently used for recreational activities and no public recreationists are permitted on NID-owned land. The project would not increase use of existing neighborhood or regional parks or require the construction or an expansion of recreational facilities. Additionally, the project is not considered or intended for recreation and is not a park, or related to one.

3.1.6 Traffic

The estimated vehicle trips required for construction of the hydroelectric generating facility would represent a small percentage of existing average daily traffic levels, which would not be anticipated to result in a change to the Level of Service.

During construction operation, Loma Rica Drive and the airport access would be utilized by construction-related vehicles and personnel. It is anticipated that this would result in traffic delays along this roadways, due to the slow movement of large construction vehicles and their limiting turning radii. Impact to project area residents and commuters utilizing this roadway would be minor and temporary, although could still pose a nuisance for motorists along this roadway. Limited residential properties exist along Loma Rica Drive, as it also travels through Loma Rica Industrial Park and is located adjacent to the County Airpark. As such, ingress and egress options for residents traveling to/from individual properties would not be affected, besides the expected traffic delays occurring throughout the construction effort.

3.2 Air Quality Conformity

This section supplements the air quality analysis in the IS. Section 176 (c) of the Clean Air Act (CAA) (42 USC 7506 (c)) requires that any entity of the Federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the CAA (42 USC 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be

consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable SIP before the action is taken. The NSAQMD is currently considered in non-attainment for ozone and particulate matter for federal and state air quality standards.

NSAQMD has developed a tiered approach to significance levels for air quality impacts as well: a project with emissions meeting Level A thresholds would be potentially significant and require the most basic mitigations; projects with projected emissions in the Level B range would be potentially significant and require more extensive mitigations; and those projects which exceed Level C thresholds would have significant impacts and require the most extensive mitigations (see Table 4 for local threshold ranges).

Construction emissions would vary from day to day and by activity, timing and intensity, and wind speed and direction. Generally, air quality impacts from the Proposed Action would be localized in nature.

Short-term air quality impacts would be associated with construction, and would generally arise from dust generation (fugitive dust) and operation of construction equipment. Fugitive dust results from land clearing, grading, excavation, concrete work, and vehicle traffic on paved and unpaved roads. Fugitive dust is a source of airborne particulates, including PM₁₀ and PM_{2.5}

Earth-moving equipment, trucks, and other mobile sources powered by diesel or gasoline are also sources of combustion emissions, including nitrogen dioxide, carbon monoxide, volatile organic compounds, sulfur dioxide, and small amounts of air toxics. Table 1 below shows the type of equipment and duration of operation estimated for the Proposed Action. Table 2 below provides a summary of the estimated emissions (with control measures) during construction and a comparison to federal and local emission thresholds in tons per year. Calculated emissions from the Proposed Action were estimated using the 2013 California Emissions Estimator Model (CalEEMOD) software (version 2013.2.2), which incorporates emission factors for reactive organic gases (ROG), NO_x, CO, SO₂, and both fugitive and exhaust PM₁₀, and PM_{2.5}.

Comparison of the estimated Proposed Action emissions (with control measures) and the thresholds for Federal conformity determinations (Table 2) indicates that project emissions are estimated to be below these thresholds. Therefore, a Federal general conformity analysis report is not required.

Comparison of the estimated Proposed Action emissions (with control measures) and the NSAQMD Thresholds of Significance for New Projects (NSAQMD 2009) in Table 3 shows that the project emissions are estimated to be at the Level A threshold. Projects meeting Level A thresholds require the most basic mitigation.

Table 1 - Type of Equipment and Duration of Operation for Loma Rica Hydroelectric Station Project

Type of Equipment	Proposed Use	Number of Equipment	Duration of Operation ¹
Skip Loader	Loading of excess materials, moving material, cleanup	1	6 months
Compactor	Scarify and re-compact material	1	4 months
Excavator	Digging and material handling	1	4 months
Concrete Trucks	Transportation of concrete mix	1	3 months
Motor Grader	Final grading of area	1	1 month
Water Truck	Dust abatement and moisture conditioning of soil	1	6 months
Pick-up Trucks	Service of equipment and worker transportation	3	7 months
Crane/Fork Lift	Lifting in equipment into areas, off-loading equipment from transport trucks	1	5 months

¹Equipment operated 8 hours/day for 5 days/week for the duration shown.

Table 2 - Estimated Loma Rica Hydroelectric Station Project Emissions for Criteria Air Pollutants in Nonattainment, with Control Measures During Construction, and Federal Thresholds in Tons per Year

Pollutant	NSAQMD Attainment Status	Federal Attainment Status ^a	Thresholds for Federal Conformity Determinations	Estimated Project Emissions ^b
VOC ¹ (as an ozone precursor)	Nonattainment (8-hour ozone)	Nonattainment	10	0.29
PM ₁₀ ³	Not classified	Nonattainment	100	0.23
CO ₂	Not classified	Not classified	-	287.92 (metric tons/year)

1 = volatile organic compounds

2 = nitrogen oxides

3 = particulate matter less than 10 micrometers in diameter

4 = particulate matter less than 2.5 micrometers in diameter

^aNSAQMD (2009)

^bConstruction emissions estimated with CalEEMOD Windows Version 2013.2.2

Table 3. Estimated Loma Rica Hydroelectric Station Project Emissions with Control Measures During Construction and Local Thresholds in Tons per Year

Pollutant	NSAQMD Thresholds of Significance for New Projects ^a	Estimated Project Emissions ^b
VOC ¹ (as an ozone precursor)	Level A: <24 lbs/day or <4.38 tons/year Level B: 24 to 136 lbs/day or 4.38 to 24.82 tons/year Level C: >136 lbs/day or >24.82 tons/year	0.29
NO _x ² (as an ozone precursor)	Level A: <24 lbs/day or <4.38 tons/year Level B: 24 to 136 lbs/day or 4.38 to 24.82 tons/year Level C: >136 lbs/day or >24.82 tons/year	3.29
PM ₁₀ ³	Level A: <79 lbs/day or <14.42 tons/year Level B: 79 to 136 lbs/day or 14.82 to 24.82 tons/year Level C: : >136 lbs/day or >24.82 tons/year	0.23

^aNSAQMD (2009)

^bConstruction emissions estimated with CalEEMOD Windows Version 2013.2.2

3.3 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the National Historic Preservation Act requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 CFR Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects, determine if historic properties are present within that area of potential effects, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

3.3.1 Affected Environment

Reclamation proposes to award a CALFED Water Use Efficiency Grant to the NID for constructing the Loma Rica Hydroelectric Station. This is the type of action that has the potential to cause effects to historic properties pursuant to 36 CFR §800.3 of the Section 106 implementing regulations. As a result of this determination, Reclamation implemented the steps in the Section 106 process as outlined at §800.3 to §800.6.

The new hydroelectric station at the existing Loma Rica WTP is a part of the overall Banner-Cascade pipeline project, for which a cultural resources investigation was completed in 2003 (JRP 2003). A Reclamation archaeologist conducted a site visit of the APE on November 3, 2014 to assess the extent of the built environment and to identify any other cultural resources that might be present. The area of potential effects (APE) is situated entirely within the construction foot print for the water treatment plant (completed in 1966, then modified and expanded in 1974) and Loma Rica Reservoir (constructed in 1973). All proposed activities for this undertaking will be conducted entirely within the limits of the contemporary built environment, which consists of pavement or engineered gravel/earth fill (canal/reservoir berms, roads). Therefore, there is no potential for intact buried archaeological resources in the APE. No other cultural resources were identified other than contemporary infrastructure.

Prior to completion of the final design, Reclamation initiated tribal consultation. Pursuant to the regulations at 36 CFR § 800.3(f)(2), Reclamation identified the Ione Band of Miwok Indians, Shingle Springs Band of Miwok Indians, and United Auburn Indian Community as an Indian

tribe who might attach religious and cultural significance to historic properties within the APE, and sent a letter on April 21, 2016, to invite their participation in the Section 106 process pursuant to 36 CFR § 800.4(a)(4). Reclamation also sent letters to the Colfax Todd Valley Consolidated Tribe and Todd Valley Miwok Maidu Cultural Foundation, which are identified as Native American organizations likely to have knowledge or concerns with historic properties in the area, requesting their assistance in identifying historic properties which may be affected by the proposed undertaking pursuant to 36 CFR § 800.4(a)(3). The Shingle Springs Band of Miwok Indians responded on May 18, 2017 expressing interest in the project, but did not identify any specific concerns regarding sites religious and cultural significance that may be affected by the project.

3.3.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no impacts to cultural resources since there would be no change in operations and no ground disturbance. Conditions related to cultural resources would remain the same as existing conditions.

Proposed Action

The Proposed Action is a type of activity that has the potential to cause effects on historic properties under 36 CFR § 800.3(a). A records search, a cultural resources survey, and Tribal consultation identified no historic properties within the APE. Reclamation determined that there will be no historic properties affected pursuant to 36 CFR § 800.4(d)(1); therefore, no cultural resources would be affected as a result of implementing the Proposed Action.

Cumulative Impacts

Reclamation determined that there will be no historic properties affected pursuant to 36 CFR § 800.4(d)(1); therefore, there will be no cumulative impacts to cultural resources as a result of implementing the Proposed Action.

3.4 Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in assets that are held in trust by the United States for federally recognized Indian tribes or individuals. There are no Indian reservations, rancherias or allotments in the project area. The nearest ITA is the Mooretown Rancheria of Maidu Indians, a public domain allotment approximately 11.32 miles north of the project site. The Proposed Action does not have a potential to affect ITAs. (See Appendix B).

3.5 Indian Sacred Sites

Executive Order 13007 (May 24, 1996) requires that federal agencies accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and avoids adversely affecting the physical integrity of such sacred sites. The proposed action would not be located on Federal lands and therefore would not affect access to or use of Indian sacred sites.

3.6 Environmental Justice

Executive Order 12898 requires each Federal agency to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects of its program, policies, and activities on minority populations and low-income populations. Reclamation has not identified adverse human health or environmental effects on any population as a result of implementing the Proposed Action. Therefore, implementing the Proposed Action would not have a significant or disproportionately negative impact on low-income or minority individuals within the Proposed Action area.

3.7 Cumulative Impacts

According to Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA, a cumulative impact is defined as *the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time* (40 CFR 1508.7).

The Proposed Action has the potential to impact air quality through emissions of the criteria pollutants of most concern from ground disturbance and construction equipment. As described earlier, the Project lies within the NSAQMD, which currently does not meet all NAAQS. The above analysis shows that VOC and PM₁₀ emissions associated with the Proposed Action would be below Federal and local thresholds, and therefore are exempt from the General Conformity Regulations and further minimization measures. Since the NSAQMD encompasses Nevada, Sierra, and Plumas counties, emissions from projects occurring in those counties within the same general time period as the Proposed Action could lead to a cumulative impact. Table 3 shows examples of similar Reclamation construction projects proposed to be implemented at about the same time as the Proposed Action in the NSAQMD and their estimated emissions.

Table 3. Estimated Cumulative Mitigated Project Emissions

Pollutant	Proposed Action ^a	Boca Dam Safety of Dams Modification ^b	Stampede Dam Safety of Dams Modification ^c	Total
ROG/VOC (tons/year)	0.29	1.76 (maximum)	1.62	3.67
PM ₁₀ (tons/year)	0.23	1.79 (maximum)	1.14	3.16
Carbon dioxide equivalents (metric tons/year)	286	1,772 (maximum)	3,000	5,060

^a Source: CalEEMOD Windows Version 2013.2.2

^b Source: Reclamation 2016

^c Source: Reclamation 2015

As shown in Table 3, the proposed action and the two other projects have been estimated to individually emit less than the *de minimus* thresholds for ROG/VOC as O₃ precursors and PM₁₀. In combination with the Project's emissions, the total for these criteria pollutants are still well below the *Federal and local* thresholds.

Greenhouse gas (GHG) impacts are considered to be cumulative impacts since any increase in greenhouse gas emissions would add to the existing inventory of gases that could contribute to climate change. As shown in Table 3, the estimated GHG emission due to temporary Project construction activities is 286 metric tons of carbon dioxide equivalents, and the total with the other two projects is 5,060 metric tons/year. There are no on-going operational emissions from the Project.

In considering when to disclose projected quantitative GHG emissions, CEQ has provided a reference point of 25,000 metric tons of carbon dioxide equivalent emissions on an annual basis below which a GHG emissions quantitative analysis is not warranted unless quantification below that reference point is easily accomplished (CEQ 2014). In California, Assembly Bill 32 established 25,000 metric tons/year as the threshold for mandatory emissions reporting for stationary sources. However, California did not establish a threshold for cumulative emissions from temporary mobile sources such as construction equipment, which would be lower than permanent stationary sources. Since the 5,060 metric tons of carbon dioxide equivalent per year anticipated to be emitted from the cumulative impacts is well below 25,000 metric tons/year, the contribution of greenhouse gases is negligible.

4 Consultation and Coordination

4.1 Public Involvement

Reclamation is making this EA available for a two-week public comment period.

4.2 Title 54 U.S.C. § 306108, Commonly Known as Section 106 of the National Historic Preservation Act

Title 54 U.S.C. § 306108, commonly known as Section 106 of the National Historic Preservation Act (formerly 16 U.S.C. 470 et seq.), requires Federal agencies to consider the effects of their undertakings on historic properties, properties determined eligible for inclusion in the National Register, and to afford the Advisory Council on Historic Preservation an opportunity to comment. Compliance with Section 106 follows a series of steps, identified in its implementing regulations found at 36 CFR Part 800, that include identifying consulting and interested parties, identifying historic properties within the area of potential effect, and assessing effects on any identified historic properties, through consultations with the California SHPO, Indian tribes and other consulting parties. Reclamation entered into consultation with the California State Historic Preservation Officer (SHPO) on July 14, 2017, notifying them regarding a finding of “no historic properties affected pursuant to 36 CFR § 800.4(d)(1).” SHPO responded on August 11, 2017 with no objections to Reclamations’ findings and determination. (Appendix A).

5 References

Council on Environmental Quality. 2014. Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews. Federal Register /Vol. 79, No. 247 /Wednesday, December 24, 2014.

Northern Sierra Air Quality Management District. 2009. Draft Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects.

Reclamation. 2015. Revised Final Environmental Assessment, Stampede Dam Safety of Dams Modification. Mid-Pacific Regional Office, Sacramento, CA.

Reclamation. 2016. Draft Environmental Assessment/Initial Study Boca Dam Safety of Dams Modification Project. Mid-Pacific Regional Office, Sacramento, CA.

JRP Historical Consulting Services. 2003. *Historic Resources Evaluation Report: NID Lower Cascade Canal-Banner/Cascade Pipeline Project, Nevada County, California*. Prepared by JRP Historical Consulting Services for Stantec Consulting Incorporated, Sacramento, California. June 2003.

Appendix A Cultural Resources Compliance

CULTURAL RESOURCE COMPLIANCE
Mid-Pacific Region
Division of Environmental Affairs
Cultural Resources Branch

MP-153 Tracking Number: 14-MPRO-239

Project Name: Nevada Irrigation District (NID) Loma Rica Hydroelectric Project

NEPA Document: Loma Rica Hydroelectric Generating Facility, EA #17-17-MP

MP 153 Cultural Resources Reviewer: Amy J. Barnes

Date: August 14, 2017

This proposed undertaking by Reclamation is to award a WaterSMART Grant to the NID for constructing the Loma Rica Hydroelectric Station approximately 3.5 miles east of Grass Valley, California. The expenditure of Federal funds constitutes an undertaking as defined in 36 CFR § 800.16(y), and requires compliance with Title 54 USC § 306108, commonly known as Section 106 of the NHPA, and its implementing regulations found at 36 CFR Part 800. This is the type of action that has the potential to cause effects to historic properties pursuant to 36 CFR §800.3 of the Section 106 implementing regulations. As a result of this determination, Reclamation implemented the steps in the Section 106 process as outlined at §800.3 to §800.6.

The NID proposes to construct a new hydroelectric station near the Loma Rica Water Treatment Plant (Loma Rica WTP), which is adjacent to the east side of the Nevada County Air Park. Water will be diverted from the existing 48 inch diameter Banner Cascade Pipeline (BCP). The water will be routed through a new hydroelectric station located adjacent to the Lower Cascade Canal and east of the existing Loma Rica pipeline flow control facility (Loma Rica FCF).

Building: The new hydroelectric building will be a concrete structure measuring 36 by 36 feet. This building is designed for one turbine with an additional 25 foot by 25 foot expansion area on the northwest side of the new building for a second turbine. Plans for future installation of a second turbine will be part of the design, but will not be built as part of this project. All below ground water bearing structures will be cast-in-place concrete. The turbine tailrace outlet will be connected to the Loma Rica FCF stilling well by an approximately 130 foot long, 60-inch diameter pipeline. Total construction depth for the new building and stilling basin will be, at maximum, approximately 12 feet.

Pipeline: Water will be diverted from the existing 48 inch BCP and delivered to the new hydroelectric station by approximately 120 feet of new pipeline, measuring 34 inch in diameter to connect to the new building. The steel and concrete reinforced pipeline will be buried in a trench measuring, at maximum, approximately 6 feet wide and up to 12 feet deep.

Ancillary Activities: A new pad-mounted electrical transformer will be constructed as close to the new Loma Rica hydroelectric station as possible. The new electrical line will connect to the existing Pacific Gas and Electric distribution system at an existing pad-mounted electrical transformer next to the Loma Rica WTP control building. The new hydroelectric station will be surrounded by an 8 foot chain-link fence topped with three strands of barbed wire. The new fencing will connect with the existing fencing around the Loma Rica FCF.

Access and Staging: The project area will be accessed from the existing Loma Rica WTP control facility complex. An existing box culvert provides vehicle access over the Lower Cascade Canal. The existing

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access road will be paved, along with a parking area adjacent to new hydroelectric station, with a recessed driveway to the generator room door, and turnaround area next to the existing Loma Rica WTP control facility. Pavement will consist of 3 inches of asphalt cement over 8 inches of aggregate base, and will be used as a parking lot for facility operations.

The area of potential effects (APE) includes the work area around and east of the existing Loma Rica WTP control facility, measuring approximately 1.26 acres. The APE is located in Section 29 in T. 16 N., R. 9 E., Mount Diablo Meridian, as depicted on the Chicago Park 7.5' U.S. Geological Survey topographic quadrangle map (see Enclosure 1: Figure 1 and Enclosure 2: Photos 1-4). This area is situated within the main Loma Rica WTP complex on the west side of Loma Rica Reservoir (Enclosure 1: Figure 3).

The new hydroelectric station at the existing Loma Rica WTP is a part of the overall Banner-Cascade pipeline project, for which a cultural resources investigation was completed in 2003. A Reclamation archaeologist conducted a site visit of the APE on November 3, 2014 to assess the extent of the built environment and to identify any other cultural resources that might be present. The APE is situated entirely within the construction foot print for the water treatment plant (completed in 1966) and Loma Rica Reservoir (constructed in 1973). The water treatment plant was entirely modified and expanded in 1974, and was therefore not recorded. All proposed activities for this undertaking will be conducted entirely within the limits of the built environment, which consists of pavement or engineered gravel/earth fill (canal/reservoir berms, roads). Therefore, there is no potential for intact buried archaeological resources in the APE.

Pursuant to the regulations at 36 CFR § 800.3(f)(2), Reclamation identified the Ione Band of Miwok Indians, Shingle Springs Band of Miwok Indians, and United Auburn Indian Community as an Indian tribe who might attach religious and cultural significance to historic properties within the APE, and sent a letter on April 21, 2016, to invite their participation in the Section 106 process pursuant to 36 CFR § 800.4(a)(4). Reclamation also sent letters to the Colfax Todd Valley Consolidated Tribe and Todd Valley Miwok Maidu Cultural Foundation, which are identified as Native American organizations likely to have knowledge or concerns with historic properties in the area, requesting their assistance in identifying historic properties which may be affected by the proposed undertaking pursuant to 36 CFR § 800.4(a)(3). The Shingle Springs Band of Miwok Indians responded on May 18, 2017 expressing interest in the project, but did not identify any specific concerns regarding sites religious and cultural significance that may be affected by the project. Reclamation responded to their email, and no other response from Shingle Springs Band of Miwok Indians has been received to date. No such properties have been identified, to date, through consultations with these Indian tribes and Native American organizations.

Reclamation entered into consultation with the California State Historic Preservation Officer (SHPO) on July 14, 2017, notifying them regarding a finding of "no historic properties affected pursuant to 36 CFR Part 800.4(d)(1)." SHPO responded on August 11, 2017 with no objections to Reclamations' findings and determination (consultation attached).

After reviewing the EA, dated March 2017 entitled *Loma Rica Hydroelectric Generating Facility* (EA Number 17-17-MP), I concur that this action would not have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places.

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This memorandum is intended to convey the completion of the NHPA Section 106 process for this undertaking. Please retain a copy in the administrative record for this action. Should changes be made to this project, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer, may be necessary. Thank you for providing the opportunity to comment.

**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

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August 11, 2017

In reply refer to: BUR_2017_0714_002

Ms. Anastasia T. Leigh, Regional Environmental Officer
U.S. Bureau of Reclamation, Mid-Pacific Regional Office
2800 Cottage Way, Sacramento, CA 95825-1898

Subject: Section 106 Consultation for the Nevada Irrigation District (NID) Loma Rica
Hydroelectric Project, Nevada County, California (Project #14-MPRO-239)

Dear Ms. Leigh:

The Office of Historic Preservation (OHP) received on July 14, 2017 your letter initiating consultation on the above referenced project to comply with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations that are found at 36 CFR Part 800. Reclamation proposes to award a CALFED Water Use Efficiency Grant to the NID for constructing the Loma Rica Hydroelectric Station at the Loma Rica Water Treatment Plant (WTP) located next to Loma Rica Reservoir, which is about 3.5 miles east of the city of Grass Valley. Pursuant to 36 CFR 800.4(d)(1), Reclamation has determined a finding of no historic properties affected and requests concurrence. Documents included with the submittal are:

- *Enclosure 1: Map Figures 1-4: Area of Potential Effects and plan of hydroelectric facility*
- *Enclosure 2: Project Photos*
- *Enclosure 3: Historical Resources Evaluation Report: NID Lower Cascade Canal-Banner/Cascade Pipeline Project, Nevada County, California; June 2003 [By: JRP Historical Consulting Services, Davis, CA][For: Stantec Consulting Inc., Sacramento, CA]*

The NID proposes to construct a new hydroelectric station (station) near the WTP, which is adjacent to the east side of the Nevada County Air Park. Water from the existing Banner Cascade Pipeline (BCP), located adjacent to the Lower Cascade Canal and east of the existing Loma Rica pipeline flow control facility (FCF), will be routed through the new station for a steady water supply. The project includes four main components:

- **Main building:** a new building will be a concrete structure, 36 by 36 feet. It is designed for one turbine with a 25-foot-by-25-foot expansion area for a second turbine, to be installed in the future. The turbine tailrace outlet will be connected to the Lorna Rica FCF stilling well by about a 130 foot long, 60-inch diameter pipeline to be placed in a 12-foot deep trench.
- **Pipeline:** Water will be diverted from the existing 48 inch BCP to the new station by about 120 feet of new pipeline, measuring 34 inches in diameter to be connected to the new building. The steel and concrete reinforced pipeline will be buried in a trench measuring, about 6 feet wide and up to 12 feet deep.
- **Ancillary Activities:** A new pad-mounted electrical transformer will be installed as close to the new station as possible. The new station will be surrounded by an 8-foot chain-link fence topped with three strands of barbed wire and connected to existing fencing.
- **Access and Staging:** The project area will be accessed from the existing WTP control facility complex where an existing box culvert provides vehicle access over the Lower Cascade Canal. The access road will be paved, along with a new parking area and new turnaround area. Pavement will be 3 inches of asphalt cement over 8 inches of aggregate.

The area of potential effects (APE) includes the entire construction work area around and east of the existing WTP control facility, measuring about 1.26 acres. Maximum vertical APE will be the depth of pipeline installation projected to be about 12 feet deep.

The new station is a part of the overall Banner-Cascade pipeline project, for which a cultural resources investigation was completed in 2003 (JRP 2003). Although this report is now 14 years old, the area has not changed significantly since then. A Reclamation archaeologist visited the APE on November 3, 2014 to identify any other cultural resources that might be present. The APE is entirely within the construction footprint for the existing WTP (completed in 1966) and Lorna Rica Reservoir (constructed in 1973). The WTP was completely modified and expanded in 1974, and was therefore not recorded. The Cascade Canal was initially built in the 1860s to 1880s but has been heavily altered in the ensuing years, most notably between the 1950s and the mid-1970s when it was gunited, had gates replaced and was substantively realigned and therefore no longer retains any integrity of features. All proposed undertaking activities will be conducted entirely within the limits of the built environment, which consists of pavement or engineered gravel/earth fill (canal/reservoir berms, roads). Therefore, there is very little to no potential for intact buried archaeological resources.

Reclamation's tribal consultation efforts included contacting all tribes and organizations listed on the Native American Heritage Commission's contact list. The Shingle Springs Band of Miwok Indians responded on May 18, 2017 expressing interest in the project, but did not identify any specific concerns. Reclamation responded to their email, but no follow-up response has been received to date. Should Native American concerns be subsequently raised, Reclamation will work to address them and make notifications as required.

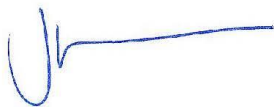
Based on the above discussion and enclosed documentation, Reclamation finds no historic properties affected for this undertaking pursuant to 36 CFR § 800.4(d)(1), and invites comments on delineation of the APE, efforts to identify historic properties and its finding.

After OHP staff review of the documentation, the following comments are offered:

- Pursuant to 36 CFR 800.4(a)(1), there are no objections to the APE as defined;
- Pursuant to 36 CFR 800.4(b), Reclamation has documented a reasonable and good faith effort to identify historic properties within the area of potential effects.
- Reclamation has determined that the proposed undertaking will result in no historic properties affected. Pursuant to 36 CFR 800.4(d)(1), **I do not object.**

Please be advised that under certain circumstances, such as unanticipated discovery or a change in project description, Reclamation may have additional future responsibilities for this undertaking under 36 CFR Part 800 (as amended). Should you require further information, please contact Jeanette Schulz at Jeanette.Schulz@parks.ca.gov or (916) 445-7031.

Sincerely,



Julianne Polanco
State Historic Preservation Officer

Appendix B Indian Trust Assets Compliance

10/22/2015

**Indian Trust Assets
Request Form (MP Region)**

Submit your request to your office's ITA designee or to MP-400, attention Kevin Clancy.

Date:

Requested by (office/program)	Doug Kleinsmith
Fund	16XRO680A1
WBS	RY3018006NIDCA4E
Fund Cost Center	2015200
Region # (if other than MP)	
Project Name	Nevada Irrigation District Loma Rica Hydroelectric Station Project
CEC or EA Number	
Project Description (attach additional sheets if needed and include photos if appropriate)	<p>Under the Proposed Action, Reclamation would award a CALFED Water Use Efficiency Grant to partially fund NID to construct and operate a hydroelectric generation station near the Loma Rica Water Treatment Plant (WTP) and energy dissipation structure at the terminus of the Banner-Cascade pipeline. The grant would provide \$300,000 and NID would provide \$4,299,000 for the Proposed Action.</p> <p>The hydroelectric generating facility would be constructed adjacent to Loma Rica Reservoir and WTP. Electricity generated by the proposed hydroelectric generating facility would be used to operate Loma Rica WTP. See attached map.</p>

10/22/2015

*Project Location (Township, Range, Section, e.g., T12 R5E S10, or Lat/Long cords, DD-MM-SS or decimal degrees). Include map(s)	-121.5 longitude and 39.3 latitude (See figure below).
--	--

/s/ Doug Kleinsmith
Signature

Doug Kleinsmith
Printed name of preparer

8/5/16
Date

ITA Determination:

The closest ITA to the proposed Loma Rica Hydroelectric Station Project is the Mooretown Rancheria of Maidu Indians about 11.32 miles to the north. (See attached image)

Based on the nature of the planned work it does not appear to be in an area that will impact Indian hunting or fishing resources or water rights nor is the proposed activity on actual Indian lands. It is reasonable to assume that the proposed action will not have any impacts on ITAs.

[Signature]
Signature

Karin Crancy
Printed name of approver

8/15/2016
Date

