

RECLAMATION

Managing Water in the West

Environmental Assessment

City of American Canyon Advanced Metering Infrastructure Project - Water and Energy Efficiency Grant

**Central California Area Office
Folsom, CA**



**U.S. Department of the Interior
Bureau of Reclamation**

March 2017

Mission Statements

The mission of the Department of the Interior is to protect and manage the Nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor 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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Acronyms and Abbreviations

AF	acre-feet
AFY	acre-feet per year
AMI	Advanced metering infrastructure
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
City	City of American Canyon
EA	Environmental Assessment
ITA	Indian Trust Assets
PM	Particulate matter
Project	Advanced Metering Infrastructure Project
Reclamation	Bureau of Reclamation
SWP	State Water Project
TGB	Tower gateway base
WEEG	Water Smart: Water and Energy Efficiency Grant

1.0 Introduction

This Environmental Assessment (EA) examines the potential direct, indirect, and cumulative impacts to the affected environment associated with the Bureau of Reclamation (Reclamation) providing WaterSMART: Water and Energy Efficiency Grant funding to the City of American Canyon (City) for part of its Advanced Metering Infrastructure (project). The Project would take place within the boundaries of the City, which is located north of Vallejo along State Route 29 at the southern tip of Napa County, California (Figure 1).

Advanced metering is a system where potable water connections are fitted with smart-meters. This allows water managers and users to monitor water usage in real-time. Other areas that have implemented these systems have reduced customer demand. Advanced metering has also proven useful in quickly detecting leaks.

Reclamation provides WaterSMART funding to entities with water or power delivery authority that propose projects seeking to conserve and use water more efficiently.

1.1 Need for the proposed action

Meter replacements would provide the City with real-time water usage information coming from its system of users. More advanced meters would also provide alerts to City staff in the event of water theft and notify users of potential leaks. These water savings benefits would allow the City to more efficiently manage its water resources and reduce consumption from the State Water Project.

2.0 Actions considered

2.1 No action

If Reclamation takes no action, the City of American Canyon would not receive grant funding through the WEEG program to implement their project. Reclamation assumes that without WEEG program funding that the project would not be implemented and the City's water consumption would remain as it is now.

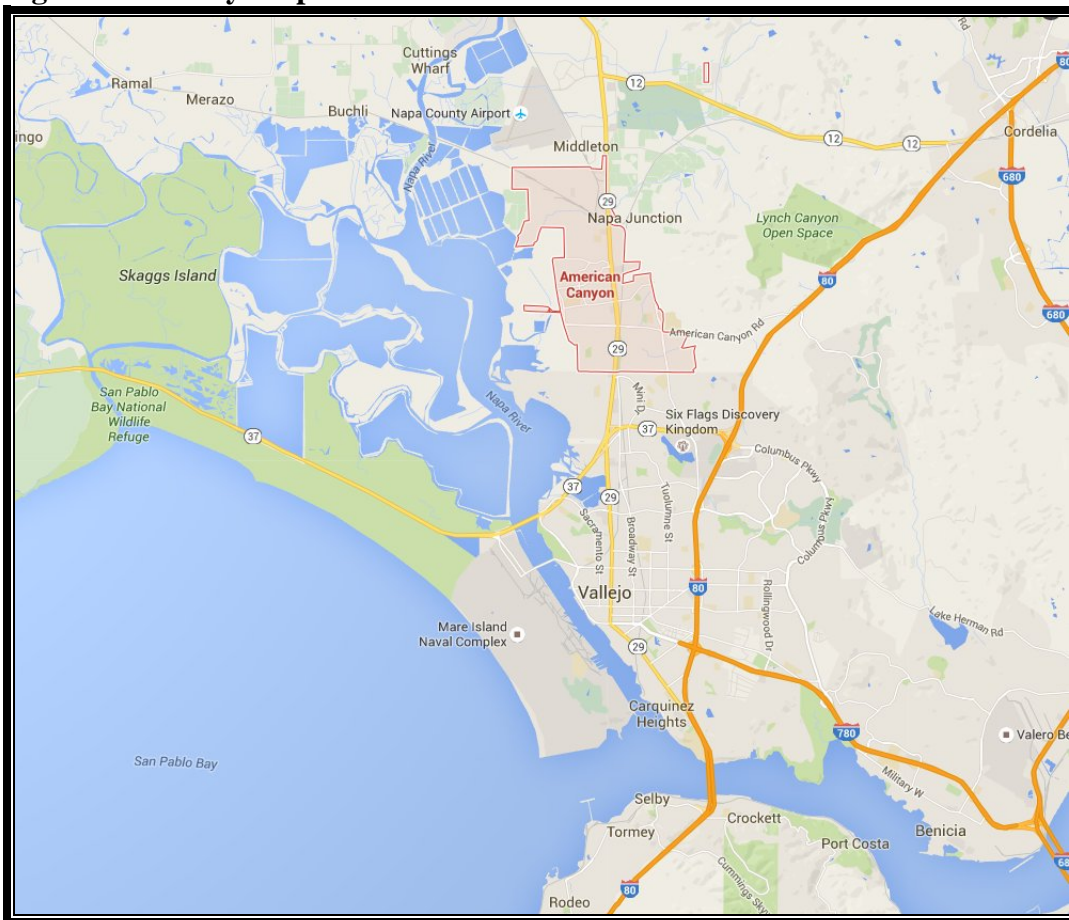
2.2 Proposed action

Reclamation's proposed action is to award the City of American Canyon with \$297,895, to complete their project. This funding will cover 45% of the project costs. As a result of funding the project, the City will construct a tower gateway base (TGB) station, or advanced metering infrastructure (AMI) tower, at the

American Canyon Advanced Metering Project
Water and Energy Efficiency Grant - 2016

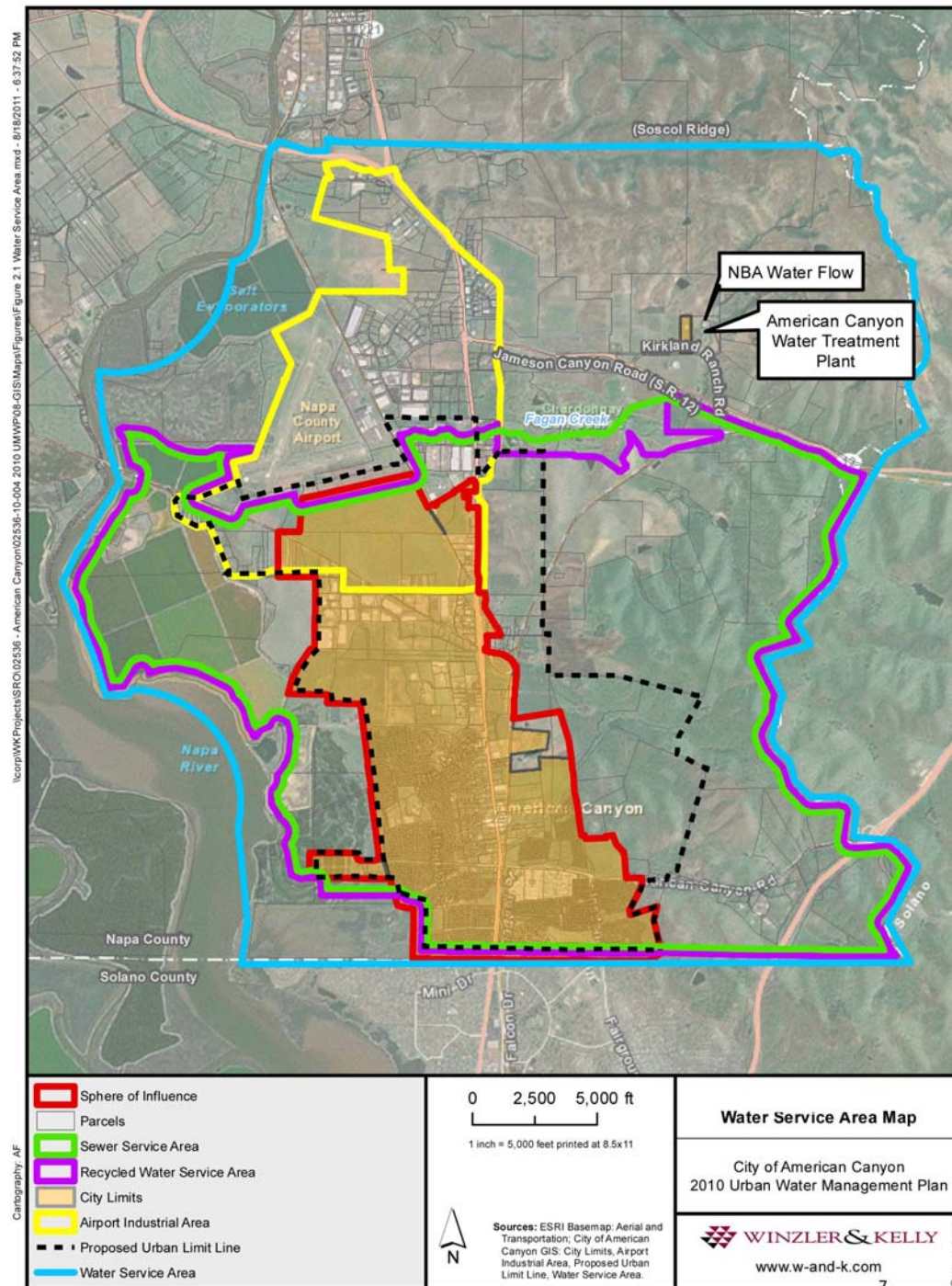
address 100 Napa Junction Road for meter data reception. The tower will read meter data from 5,500 meter locations, and transmit data to a new, central computer network. The central computer network include a regional network interface and LOGIC meter data management software to manage the TGB station and meter network. The City will design and launch a website that will allow mobile and desktop users (both City staff and water customers) to view water consumption and setup alerts. City staff will be alerted in real-time of changes in pipe pressure and water leaks, which will serve to curb water losses by approximately 254 acre-feet (AF) per year. The existing 2,000 meters in the City already equipped with 'smart' passive integrated transponders, would be integrated into the AMI system. With this grant funding, the City will also retrofit 3,500 meters with smart-meters. All new development will require the installation of smart-meters that can integrate into the AMI system.

Figure 1. Vicinity Map



Source: Google Maps, 2016

Figure 2. Water Service Area Map for the City of American Canyon



3.0 Affected environment and consequences

The range of potential impacts assesses whether the decision by Reclamation to fund the Proposed Action might cause significant effects on the human environment. This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential impacts and cumulative effects to the following environmental resource:

- Water Resources

Impacts to the following resources were considered and found to be minor or absent. Brief explanations for their elimination from further consideration are provided below:

- Indian Trust Assets (ITA): There are no ITA in the vicinity of the City. Therefore the proposed action does not have the potential to affect Indian Trust Assets (see Appendix A).
- 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.
- Cultural resources: Reclamation determined that this is the type of action that does not have the potential to cause effects on historic properties, should such properties be present, pursuant to 36 CFR § 800.3(a)(1). The no effect determination is documented in Appendix B.
- Environmental Justice: Over half of the City's residents are non-white, constituting a minority community. The average annual incomes in the community exceed the national poverty guidelines (MTC-ABAG, 2016), indicating that this is not a low-income community. The actions being taken to retrofit meters by the City and install a tower are diffuse and disturbance from individual installations would have negligible effects on nearby places of work and residences. Meter retrofits will be completed in less than a day at each location. There will be no disproportionate adverse effect on this community from the proposed action.
- Federally-listed threatened and endangered species: A list of federally listed threatened and endangered species was obtained from the U.S. Fish and Wildlife Service on August 30, 2016 from iPaC, a USFWS website. Ground disturbance activities will occur only at the installation site of the TGB inside the City facility's existing fence adjacent to their existing parking lot. The City's facility is a paved and landscaped area on top of Oat Hill above the City, surrounded by open space grassland habitat. Meter retrofitting will

occur at various urbanized locations around the City. There is no suitable habitat for species that are likely to occur on City grounds where the TGB will be installed and in the developed areas where meter retrofits will occur. There is no designated critical habitat near the TGB installation site or developed portions of the City.

- **Wildlife (birds):** The current guidance from the U.S. Fish and Wildlife Service for reducing tower impacts to birds is to use towers that are unlit, unguyed, monopole or lattice, and less than 200 ft above ground level (USFWS, 2013). The TGB will ten feet in height and affixed to an existing water tower. It will be a monopole, unlit structure without guy wires. Therefore no the TGB would have no effect on flying birds.
- **Air quality:** Ground disturbance at the City's facility would be limited to a few square feet and the tower would have no operational emissions. Employee trips to retrofit meters would have occurred normally as a part of meter-reading and maintenance practices so those trips are not considered to generate emissions. The San Francisco Bay Area Air Basin is currently in non-attainment for ozone (federal and state) and particulate matter 2.5 microns or less (PM_{2.5})(federal). The air district has set their thresholds of significance under the California Environmental Quality Act (CEQA) as 10 tons per year for ozone precursors (which is the same as general conformity thresholds for extreme non-attainment areas) and 10 tons per year for PM_{2.5} (federal general conformity threshold for PM_{2.5} is 100 tons per year). In developing the CEQA screening criteria, local air districts calculate emissions from small actions using construction and operational characteristics of typical projects based on land use, fugitive dust, employee trips, operational, and equipment emissions calculations. The activity size is well below the activity levels for small actions screened by the air district for CEQA significance (BAAQMD, 2011) and would be expected to have emissions that fall below federal general conformity thresholds. As such, a general conformity analysis is not required for the proposed action.
- **Aesthetics:** The TGB would look similar to a cell phone tower but would be only ten feet tall. There are above-ground utilities on Oat Hill already including power lines, a cell phone tower, water towers, and utility buildings and boxes. The addition of the TGB would not change the overall aesthetic of Oat Hill.

3.1 Water resources

The City has approximately 5,500 water service connections, with an annual peak demand of close to 3,600 AF. In 2015, demand dropped to 2,900 AF due to the City's restrictions in response to the multi-year drought in California. Fifty-eight percent of the City's water supply is imported from the State Water Project (SWP). Residential use accounts for nearly half of the water consumed, followed by a quarter used by commercial and industrial, and 12 percent used for parks and recreational purposes. Approximately 17 percent of the water used (558 AF) is categorized as unbilled losses. Unbilled losses include losses due to leaks, street sweeping, flow testing, sewer main cleaning, hydrant flushing, emergency

response uses, and water main breaks. The annual losses due to residential service leaks is 200 to 300 AFY.

3.1.1 No action

Under the no action alternative, the City leaks would continue to go undetected for a full month or longer. Residential and commercial customers would continue to wait until the next billing cycle to see any abnormal increases in usage. The existing billing system offers customers a “Leak Adjustment Policy,” that forgives 60 percent of the estimated cost of a customer leak based on prior average use.

There is currently no method in place to correlate customer activities and events with water use so that customers in the City can manage their actions to reduce water use. This would continue under the no action alternative.

The demand for water from the SWP would rise over time due to growth of the City. The conservation effort that is a part of the proposed action, would not be implemented, resulting in greater projected demands on the SWP as the City continues to grow.

3.1.2 Proposed action

Under the proposed action, leaks will be detected immediately and customers notified through the billing app that there is an issue. Customers will also be able to look at their usage in real-time and correlate certain activities with water use spikes. This will help to target certain behaviors to reduce water use over time and when requested specifically to meet state or local mandated reductions.

Improving leak detection and fixing leaks earlier is a conservation measure. As a direct result of the proposed action, the City will save approximately 254 AFY of potable water, all of which is imported water from the SWP. This is nearly half of their annual unbilled losses. The smart water system will save the City money purchasing and treating water for distribution that would have gone to waste.

3.2 Cumulative effects

According to 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 effects can result from individually minor but collectively significant actions taking place over a period of time.

No individual adverse effect was identified when evaluating the proposed action that would incrementally contribute to any cumulative effect on resources comprising the human environment.

4.0 Consultation and coordination

4.1 Agencies and groups consulted

Reclamation consulted with the City of American Canyon in the preparation of this EA.

4.2 Endangered Species Act (16 USC § 1531 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. Reclamation determined that there would be no effect on federally-listed as endangered or threatened species; therefore, the USFWS was not consulted.

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

Title 54 U.S.C. § 306108 (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 SHPO, Indian tribes and other consulting parties.

Reclamation determined that this is the type of action that does not have the potential to cause effects on historic properties, should such properties be present, pursuant to 36 CFR § 800.3(a)(1). As such, Reclamation has no further obligations under Title 54 U.S.C. § 306108, commonly known as Section 106 of the National Historic Preservation Act.

5.0 References

- Metropolitan Transportation Commission – Association of Bay Area Governments. (2012). *Bay Area Census*. Retrieved September 2, 2016, from <http://www.bayareacensus.ca.gov/cities/AmericanCanyon.htm>
- Bay Area Air Quality Management District. (2011). *California Environmental Quality Act Air Quality Guidelines*. Retrieved September 2, 2016, from http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_May%202011_5_3_11.ashx
- U.S. Fish and Wildlife Service. (2013). *Revised Voluntary Guidelines for Communication Tower Design, Siting, Construction, Operation, Retrofitting, and Decommissioning*. Retrieved September 2, 2016, from <https://www.fws.gov/migratorybirds/pdf/management/usfwscommunicationtowerguidance.pdf>

Indian Trust Assets Request Form

**Please send your request to: Kevin Clancy kclancy@usbr.gov

Date:

Requested by	Andrea Meier, x5041
Fund	16XR0680A1
WBS	RY30180006CACCA0E
Cost Center	2015200
Region # (if other than MP)	(NA)
Project Name	City of American Canyon Advanced Metering Project
CEC or EA Number	16-18-MP
Project Description	<p>Reclamation's proposed action is to award the City of American Canyon with \$297,895, to complete their advanced metering project project. The City will construct a Tower Gateway Base (TGB) station, or advanced metering infrastructure (AMI) tower, at the address 100 Napa Valley Junction, American Canyon, CA, for meter data reception. The tower will read meter data from 5,500 meter locations, and transmit data to a new, central computer network. The central computer network include a regional network interface (RNI) and LOGIC meter data management (MDM) software to manage the TGB station and meter network. The existing 2,000 meters in the City already equipped with 'smart' Passive Integrated Transponders (PIT)s, would be integrated into the AMI system. The remaining 3,500 meters will be retrofitted with smart-meters and all new development will require the installation of smart-meters that can integrate into the AMI system.</p>

*Project Location (Township, Range, Section, e.g., T12 R5E S10, or XY cords)	Street address: 100 Napa Valley Junction, American Canyon, California Coordinates: Lat 38°11'10.68"N Long -122°15'53.15"
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*Please include map with request, if available.

ITA Determination:

The closest ITA to the proposed City of American Canyon Advanced Metering Project is Wilton Rancheria which is approximately 16 miles north of the project area. (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.

K. Clancy

Signature

Kevin Clancy

Printed name of approver

8/30/2016

Date

Figure 1. Proposed tower location

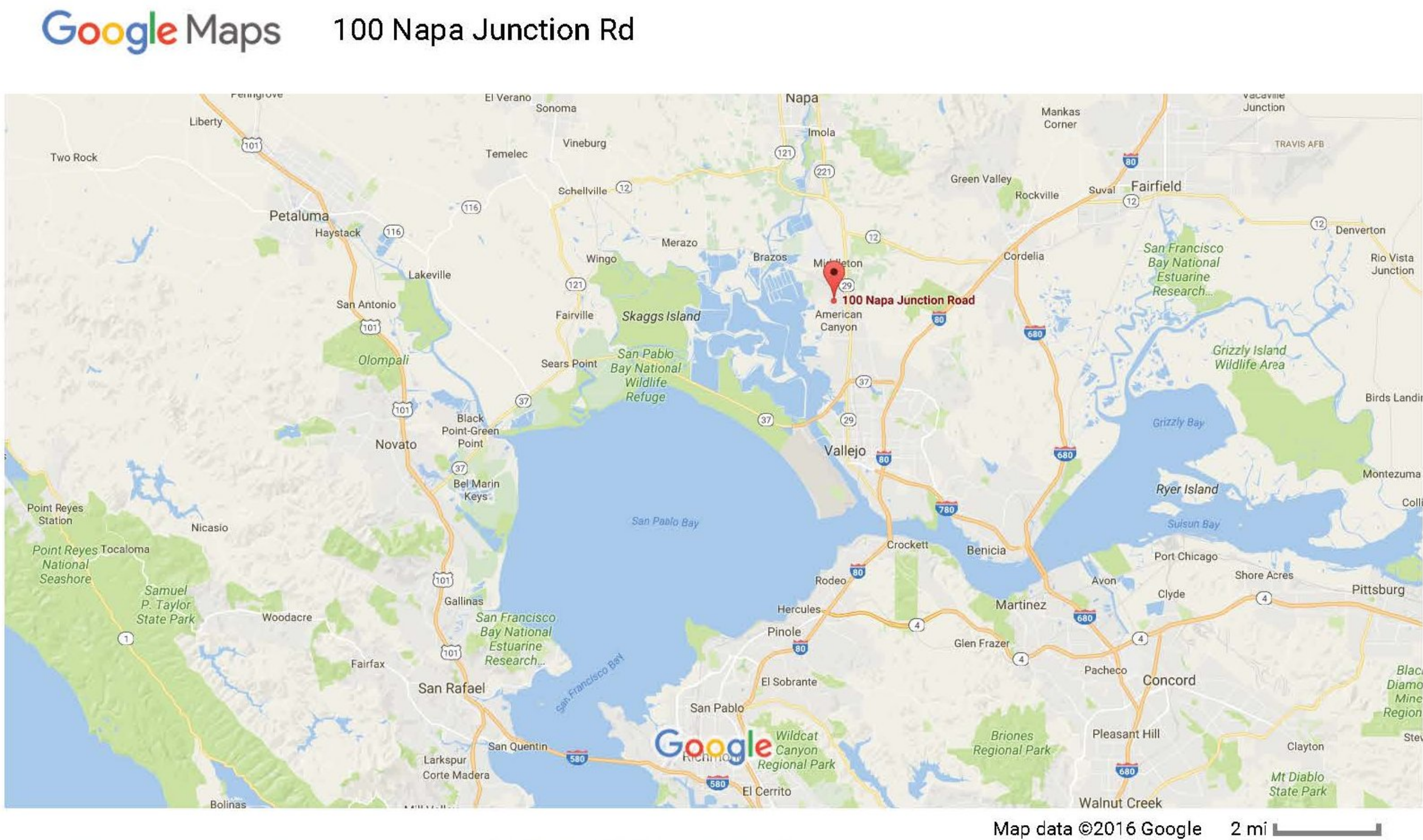
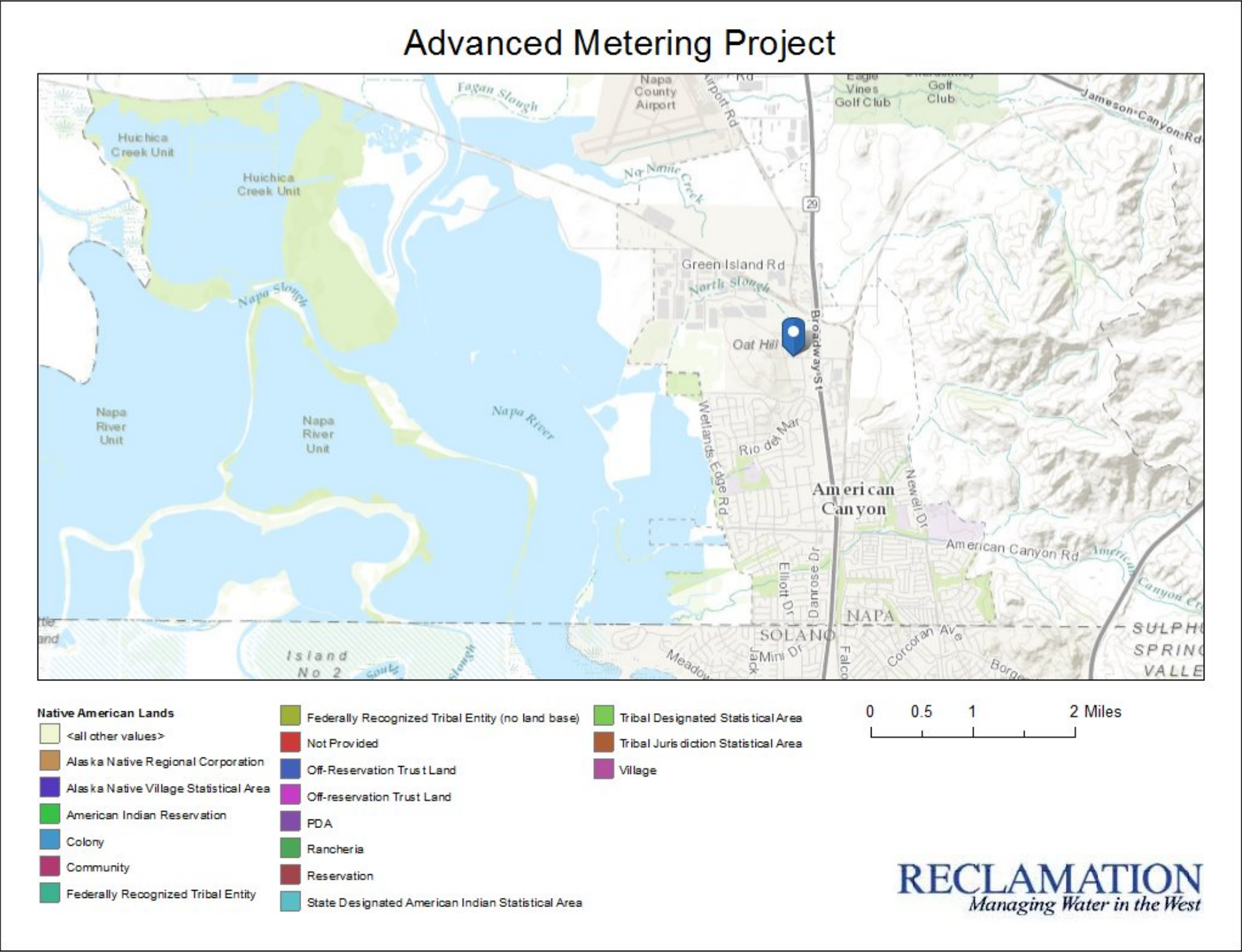
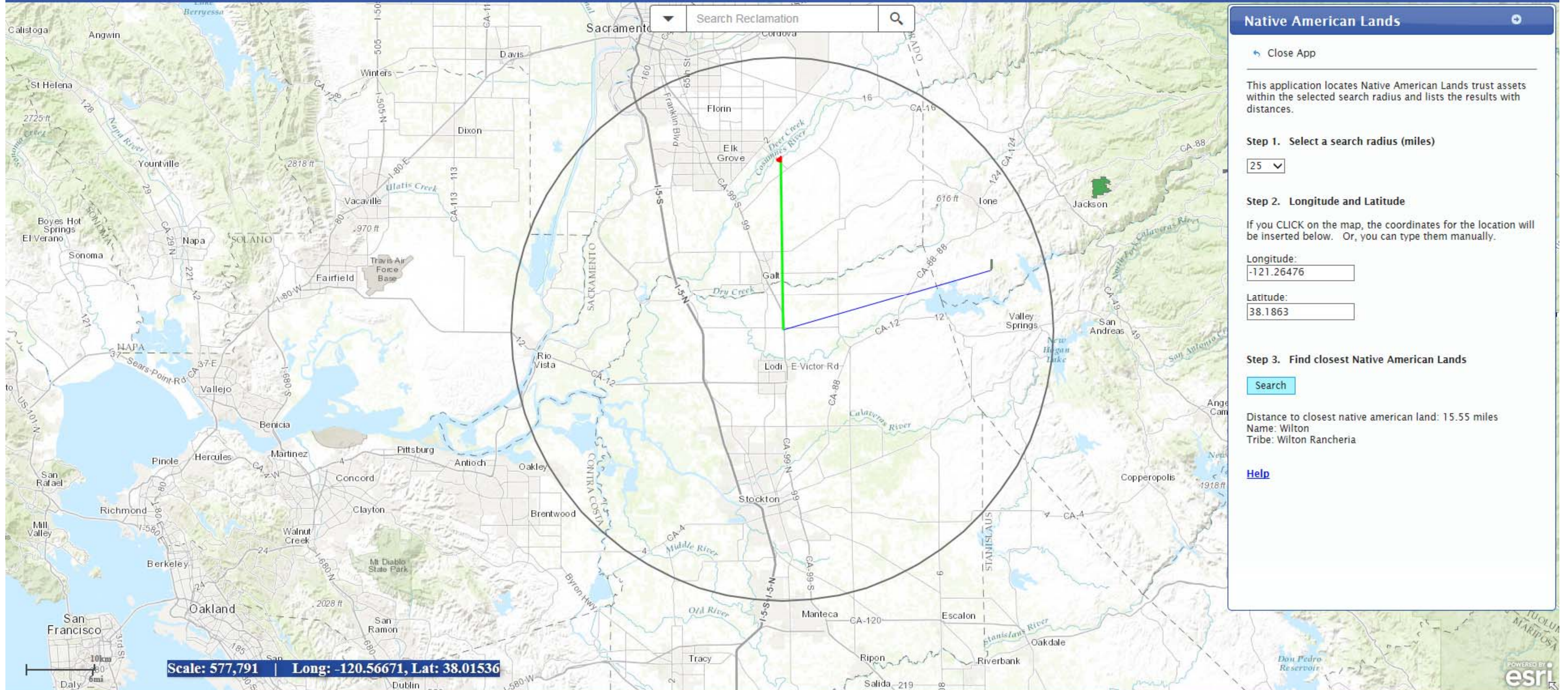


Figure 2. Indian lands in Tessel





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

MP-153 Tracking Number: 16-CCAO-180

Project Name: City of American Canyon Advanced Metering Infrastructure Project - Water and Energy Efficiency Grant

NEPA Document: 16-18-MP

MP 153 Cultural Resources Reviewer: Amy J. Barnes

Date: January 31, 2017

This proposed undertaking by Reclamation is to award WaterSMART grant funds to the City of American Canyon to help complete its Advanced Metering Infrastructure project. The project is located within the boundaries of the City, which is located north of Vallejo along State Route 29 at the southern tip of Napa County, California.

The City of American Canyon proposes to install a new Tower Gateway Base (TGB) station (AMI tower) to read meter data from approximately 2,000 existing smart-meter locations. The TGB antenna will be mounted on an existing municipal water tank located west of the City of American Canyon Department of Public Works office (4381 Broadway Street, American Canyon, CA 94503). The TGB unit will be set on a 4-foot-square concrete slab on top of the existing asphalt base that supports the water tank. Approximately 3,500 existing meters will be retrofitted with smart-meters and integrated into the system. Data will be transmitted to a central computer network that will include a regional network interface and LOGIC meter data management software to manage the TGB station and meter network. A new website will be designed and launched to allow mobile and desktop users (both City staff and water customers) to view water consumption and configure alert settings; and integrate the system into the City's website and online bill-paying services.

This is the type of action that does not have the potential to cause effects on historic properties, should such properties be present, pursuant to 36 CFR § 800.3(a)(1). As such, Reclamation has no further obligations under 54 U.S.C. § 306108, commonly known as Section 106 of the National Historic Preservation Act (NHPA).

After reviewing 16-18-MP, dated January 2017, I concur that this action would not have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places.

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.