

## **Pressure Reducing Valve SCADA Upgrades**

South Tahoe Public Utility District  
1275 Meadow Crest Drive  
South Lake Tahoe, CA 96150

Lynn Nolan, Project Manager  
1275 Meadow Crest Drive  
South Lake Tahoe, CA 96150  
[lnolan@stpud.dst.ca.us](mailto:lnolan@stpud.dst.ca.us)  
530-543-6215 (office)  
530-541-4306 (fax)

# Pressure Reducing Valve SCADA Upgrades

South Tahoe Public Utility District  
1275 Meadow Crest Drive  
South Lake Tahoe, CA 96150

## Table of Contents

<u>Item</u>	<u>Page</u>
Title Page	1
Table of Contents	2
Technical Proposal	
Executive Summary	3
Background Data	4
Project Location	5
Project Area Map	6
Project Description	7
Evaluation Criteria	10
Project Budget	
Funding Plan	15
Budget Proposal	16
Budget Narrative	17
Resources Compliance	19
Required Permits/Approvals	21
Official Resolution	22
SAM Registration	24

## Executive Summary

South Tahoe Public Utility District  
Pressure Reducing Valve SCADA Upgrades

February 19, 2020

South Tahoe Public Utility District  
1275 Meadow Crest Drive  
South Lake Tahoe, CA 96150  
El Dorado County

The South Tahoe Public Utility District (District) desires to improve the operational efficiency of its water distribution system by monitoring flow and pressure data at pressure reducing valve (PRV) stations throughout its network. Recommendations for efficiency upgrades (through collection/use of flow and pressure data) at the Project Site – Susquehana Drive PRV - include the following improvements:

1. New PRVs (two) and piping (with new tee and zone isolation valve) in existing vault
2. Pressure transmitters upstream and downstream of the PRV
3. Valve controller (with position indicator) for flow monitoring
4. Hydroelectric generator and associated electronics as sole-means of power supply
5. Cellular modem
6. Above-grade control panel
7. Integration of data, status and alarm signals into the District's existing SCADA system

The proposed Project contributes to accomplishing the goals of the Funding Opportunity Announcement (FOA) by pursuing a Project which aims to conserve, better manage, and more efficiently use water supplies in the Lake Tahoe Basin.

The estimated length of time to complete this project is 18 months with a start date of January 1, 2021 and a completion date of June 30, 2022.

Total Project Cost is \$199,863:

\$75,000	Bureau of Reclamation Grant
\$124,863	South Tahoe Public Utility District Match

The project is not located on a Federal facility.

## **Background Data**

South Tahoe Public Utility District  
Pressure Reducing Valve SCADA Upgrades

The District serves over 14,000 residential water service connections and 660 commercial and government sites from approximately 13 active groundwater wells in the South Tahoe Groundwater Basin (total capacity of 15,171 gallons per minute). During 2019 these wells produced approximately 1,778.24 million gallons (MG) or 5,461 acre feet per year (AFY). Future water demands derived from the 2015 STPUD Urban Water Management Plan (utilizing information from the City of South Lake Tahoe General Plan for future development and Tahoe Regional Planning Agency's limits on growth) were estimated to reach 6,373 AFY by 2035. STPUD water rights under the Truckee River Operating Agreement far exceed this anticipated water demand with 23,000 AFY allocated to all water users within the California boundaries of Lake Tahoe, of which the District is the largest. To deliver this water, the District maintains the following facilities within its service area: over 360 miles of water main, 21 water storage tanks with a total storage capacity of 13,520,210 gallons, 16 booster pump stations and 20 pressure reducing valves (PRVs) housed within 17 remote PRV stations.

Within the District's geographically designated water zones are 31 water pressure zones. Many of these zones are fed by the remote PRV Stations mentioned above. The remote PRV Stations are generally located in buried vaults either in or adjacent to a roadway. Of the 17 remote PRV stations, the District has only one (Pine Valley PRV) with a power source and instrumentation allowing the PRV site to be monitored remotely. For the remaining 16 remote PRV stations the District is completely "blind"; there is no flow meter to monitor water delivery into the zone for distribution, there are no pressure gauges to monitor damaging pressure transients (which are common in pressure-regulated zones) or to monitor breaks in the system for emergency response.

The proposed project would address these water delivery system deficiencies and improve the system reliability by improving the "real-time" monitoring capabilities at one of the 16 "blind" PRV stations: Susquehana Drive PRV Station. This project is part of a larger District project planned to bring the remaining 16 PRV stations on-line and tied to the District's Supervisory Control and Data Acquisition (SCADA) system. Each PRV brought on line allows more control within each of the water pressure zones, saving both water and energy through more efficient water system operations.

The District successfully completed a grant agreement with Bureau of Reclamation for a 2017 Small-Scale Water Efficiency grant program for a pilot PRV upgrade project (Pine Valley PRV-Agreement # R17AP00190). Prior to the implementation of this project, the District had 17 "blind" PRV locations. Currently, that number has dropped to 16, but with the additional 2018 and 2019 Small Scale Water Efficiency Grants awarded to the District for implementation of two more high priority PRV projects; Price Road and Rocky Point 2, that

number will drop to 14, providing the District with important water use information for better efficiency and water management.

**Project Location**

South Tahoe Public Utility District  
Pressure Reducing Valve SCADA Upgrades

The Project Area is located in South Lake Tahoe, CA. The Project latitude is 38.889101 and longitude is -119.981247. A map of the Project Area is included with this application and shows the entire STPUD water system, as well as the location of the pressure reducing valve station chosen for this application: Susquehana Drive PRV Station.

## **Technical Project Description**

South Tahoe Public Utility District  
Pressure Reducing Valve SCADA Upgrades

This project is the on-site improvements and SCADA communication equipment installation at one of the District's PRV Stations: Susquehana Drive PRV. This PRV is one of the 16 "blind" remote stations that need a power source and instrumentation in order to be monitored for water flow and use, providing the opportunity for more efficient water operations. This dual-PRV station consists of an 8" fire flow PRV with a 3" domestic PRV (direct action bypass) in a rectangular vault with a circular manhole cover. The station is located in the middle of an intersection of a low-traffic residential roadway. There is no apparent drainage issue at the Project site. The existing vault structure is large enough and in sufficient condition to be reused. The existing interior piping is corroded and the PRVs are at the end of their serviceable lives and will require replacement. The new PRV transmitters will be set for 90 psi upstream and 48 psi downstream. A valve controller for flow monitoring will be installed. Based on the hydraulic analysis, this site is expected to be suitable for hydro-electric generation. The right-of-way on the far side of the intersection, off the pavement is available for a cellular modem and control panel.

Major tasks and deliverables for this Project are described below:

### Task 1. Project/Grant Administration

- 1.1 Provide all technical and administrative services as needed for Agreement completion; review all work performed; and coordinate budgeting and scheduling to ensure that the Agreement is completed within budget, on schedule, and in accordance with approved procedures, applicable laws, and regulations.
- 1.2 Ensure that the Agreement requirements are met through timely completion of progress reports submitted to the Contract Manager and through regular communication with the Contract Manager. The progress reports shall describe activities undertaken and accomplishments of each task during the reporting period, milestones achieved, and any problems encountered in the performance of the work under this Agreement. The description of activities and accomplishments of each task during the reporting period shall be in sufficient detail to provide a basis for payment of invoices and will be translated into percent of task work completed for the purpose of calculating invoice amounts.
- 1.3 At the completion of this project and prior to final payment, the Project Manager shall fill out and provide a draft and a final report to the Contract Manager.

**Deliverables:** 1.1 Contract Agreement, 1.2 Progress Reports, 1.3, Draft and Final Report

### Task 2: Project Planning/Design

- 2.1 District staff will complete the planning and design of this Project and will develop a

bidding package for the construction. Currently, the District has 90% Plans and Specifications completed.

**Deliverables:** 2.1 Planning, design and construction specifications documentation; bid documents

### Task 3. Environmental Documentation/Compliance

3.1 Environmental Documentation: The Project has been determined to be CEQA exempt and an NOE will be filed for this project. In addition, a NEPA environmental checklist including a cultural and biological survey has been performed, although it is expected that this Project will have very little to no soil excavation.

**Deliverables:** 3.1 CEQA notice of determination filed with El Dorado County and the California State Clearinghouse; NEPA environmental checklist to include cultural and biological survey reports.

### Task 4: Project Implementation

After completion of project planning documents, permitting, project bidding and contract award, the following activities will occur on site:

- 4.1 Installation of new PRVs and piping in existing vault
- 4.2 Installation of pressure transmitters upstream and downstream of the PRV
- 4.3 Installation of a valve controller (with position indicator) for flow monitoring
- 4.4 Installation of hydroelectric generator and associated electronics as sole-means of power supply
- 4.5 Installation of a cellular modem
- 4.6 Installation of an above-grade control panel
- 4.7 Integration of data, status and alarm signals into the existing SCADA system

**Deliverables:** 4.7 Annual reporting data from the SCADA water management reports (reports can be calculated for quarterly data if requested).

### Task 5: Project Management/Monitoring

- 5.1 Inspection services will be performed by STPUD engineering staff.
- 5.2 STPUD Engineering staff will provide project management services to include oversight of the construction contractor; review of all bidding documents to ensure compliance with federal regulations; payroll evaluation and consistency with appropriate U.S. Department of Labor (DOL) requirements; processing of pay estimates, process final project certification, etc.

**Deliverables:** 5.1 Daily inspection logs; 5.2 pay estimates; engineer final project certification

**Project Timeline**

South Tahoe Public Utility District  
Pressure Reducing Valve SCADA Upgrades

The estimated length of time to complete this project is 18 months with a start date of January 1, 2021 and a completion date of June 30, 2022. The schedule includes time for the development of a final report on the project. A full schedule with tasks and deliverable dates is included in the Evaluation Criteria section of this application.

## Evaluation Criteria

South Tahoe Public Utility District  
Pressure Reducing Valve SCADA Upgrades

### Evaluation Criterion A—Project Benefits

- Expected benefits of the Project include: improving the reliability of the water supply delivery system by providing “real-time” alarms to notify the District of excessive water hammer and pressure loss in the system, improving notification and response times as well as increasing water savings by helping to regulate water flow.
- The proposed Project will improve overall water supply reliability by helping the District to collect zone pressure and flow data that is then used to calibrate the STPUD water model, which is the primary tool used by the District to identify and prioritize capital projects to improve system reliability. By allowing the District to track water production into system zones on a “real-time” basis, the District will be better able to identify and correct sources of unaccounted water.
- The proposed project will have a positive impact on a water zone within the District’s system and will provide additional information helpful for the planning and implementation of similar projects in the District’s remaining “blind” pressure zones. Additionally, each PRV brought on line allows more control within each of the District’s water pressure zones, saving both water and energy through more efficient water system operations.
- This project is part of a District-wide plan to upgrade the remaining 16 PRV sites that are critical to monitoring the entire water delivery system. STPUD is already engaged in collaboration and information sharing among water managers in the region and acts as the lead agency for three vital workgroups: Tahoe Valley South Groundwater Sustainability Partnership (STPUD is the Groundwater Sustainability Agency as identified by the California Department of Water Resources); the Tahoe Sierra Integrated Regional Water Management Planning partnership, and the Tahoe Water for Fire Suppression Partnership. Through these three partnerships, STPUD engages with other water agencies, regulatory agencies, non-profit agencies, community stakeholders, and tribal representatives within the region. As described above, this project is part of a water delivery system communication update program to provide more accurate water delivery loss data that can be brought to the stakeholders when evaluating projects for implementation within the region.
- All water delivery system increases in efficiency result in a water and energy savings for the water consumer. This project is a part of a system-wide water delivery system communication upgrade that is expected to result in increased efficiency, less water use, and less energy use. All local sectors and economies would benefit.
- As there is no farmland mapped within or surrounding the Project Site, the proposed Project will not include on-farm efficiency work in collaboration with the NRCS through the EQIP or any other programs.

## Evaluation Criterion B—Planning Efforts Supporting the Project

- This project implements a solution to a problem identified by several different planning efforts. The first is the SCADA Steering Committee and the SCADA Executive Committee, established in 2014. The committees were tasked with developing an integrated plan for standardizing and prioritizing upgrades to system instrumentation, remote control and data collection capabilities across the District’s service areas. The committees have to date prepared (1) a technical memorandum identifying the District’s priorities for SCADA system improvements, and (2) a catalog of existing functionality available at each ancillary water and sewer station. In the Technical Memorandum, communication has been identified as a critical path item for implementing SCADA operational and data collection improvements. Second priority functions of the STPUD SCADA system, as identified by the Committee, are: (1) to provide remote control of equipment and (2) to collect data for system optimization, asset management and design (page 2 of the October 2014 technical memorandum). In the same Memorandum, the committee identifies the following project: “5. Pressure and Flow Measurement for Water System Subzones: The District operates 16 subzones within the water system that are blind to SCADA because they are fed solely by un-instrumented pressure reducing valves (PRVs). The committee recommends that the District add pressure and flow instruments (with related alarms and data acquisition) at these PRVs to improve reliability of water delivery, to inform the maintenance of the PRVs and to provide data for tracking water usage within these zones.”
- Another planning document addressing the need for better water data is the Water System Optimization Plan completed by West Yost and Associates and Kennedy Jenks Consultants in July 2016. In the Executive Summary for this document, on page ES-22, PRV Replacements and Reliability Improvements are listed as a High Priority Project. (This document is available for review at [www.stpud.us](http://www.stpud.us))
- The proposed Project has been determined a priority in existing planning efforts as part of an overall system-wide upgrade in water delivery communications. The first component of the system-wide upgrade involved the installation of advanced metering infrastructure (AMI), which the District completed in 2018. The AMI allows real-time access to water use data being supplied through a water meter installation project, of which the District has completed four of five phases (phase five will be broken down into two phases, a and b, and completed by 2021). Together, the AMI and the water meters will provide a complete synopsis of the consumption side of the water use equation. The proposed Project will provide the District with data on the production side of the water use equation, which will be combined with its customer data to build a complete outline of how much water is being produced by the District, used by its customers, and ultimately forfeited to leaks in the system.

## Evaluation Criterion C—Project Implementation

- Project Timeline:

TASK	SUB- TASK	TASK/DELIVERABLE	Start Date	End Date
1.0		PROJECT ADMINISTRATION		
	1.1	*Contract/Grant agreement	1/01/2021	6/30/2022
	1.2	*Progress Reports/Invoices	Ongoing	
	1.3	*Draft/Final Reports	1/01/2022	6/30/2022
2.0		PROJECT DESIGN		
	2.1	Complete *Design plans; *contractor bid	3/1/2021	4/15/2021
3.0		ENVIRONMENTAL COMPLIANCE		
	3.1	Complete and File CEQA; NEPA Compliance *Deliverables: CEQA NOE and environmental documents	10/1/2020	12/31/2020
4.0		PROJECT IMPLEMENTATION		
	4.1	Installation of new PRVs and piping	5/1/2021	7/1/2021
	4.2	Installation of pressure transmitters	5/1/2021	8/30/2021
	4.3	Installation of valve controller	7/1/2021	8/30/2021
	4.4	Installation of hydroelectric generator	7/1/2021	8/30/2021
	4.5	Installation of cellular modem	7/1/2021	8/30/2021
	4.6	Installation of above-grade control panel	9/1/2021	10/15/2021
	4.7	*Integration into SCADA system *Deliverables: Annual reporting data (reports can be calculated for quarterly data if requested)	9/1/2021	10/15/2021
5.0		PROJECT MANAGEMENT/MONITORING		
	5.1	Inspection Services *Deliverable: Daily inspection logs	5/1/2021	10/30/2021
	5.2	Project Management/STPUD Staff *Deliverables: Pay estimates and final project engineering certification	1/1/2021	6/30/2022

(\*Deliverables)

- Permits: Because the proposed project will not affect the capacity of the District system, the District will seek a CEQA Categorical Exclusion /Categorical Exemption for this Project. Because the proposed Project involves minimal to no ground disturbance under existing pavement or compacted road shoulder, it will be performed as an Exempt Activity under the District’s Memorandum of Understanding with the Tahoe Regional Planning Agency (TRPA). TRPA will be notified of the exempt activity in writing in advance of mobilization.
- The District has a PRV Detail Package containing the design plans at 90% complete.

- There are no new policies or administrative actions required to implement this Project. The STPUD Board of Directors has approved not only the opportunity to apply for funding for the Project, but the implementation of the Project as well, by adopting a resolution included with this funding application.
- The District did not use the Reclamation recommended 2% for the environmental compliance estimate as environmental compliance for this Project, as well as 16 other PRV sites within the District service area, have already received environmental clearance through the Bureau of Reclamation. These costs have been discussed with the local Reclamation office.

**Evaluation Criterion D—Nexus to Reclamation**

- The applicant does not receive Reclamation Project water nor is the Project on Reclamation lands or utilize any facilities; however the Project is in the same basin as a Reclamation activity (Newlands Project) and has a direct bearing on lake levels via water pulled from the South Tahoe aquifer/watershed.
- The Truckee Basin Study – funded jointly by the Bureau of Reclamation and several local agencies within the Lake Tahoe Area – assesses the current and future water supply and demand in the Truckee River Basin, of which South Lake Tahoe is a part. The Basin Study also includes a range of potential strategies for Truckee Basin communities to improve their understanding of water use vulnerabilities. The proposed Project aligns with the step of groundwater model development in that the District will be able to continuously monitor, record, and make water saving adjustments to its water production equipment at the Susquehana PRV Station. (Truckee Basin Study Basin Study Report, page 295).

**Evaluation Criterion E—Department of the Interior Priorities (this project meets the following priorities):**

1a. The District is working towards water efficiency improvements at six of its existing drinking water production and distribution facilities. To most effectively complete these objectives the District has employed Carollo Engineers, Inc. to conduct studies and produce strategy and design recommendations for the Project. The “Communications Study Report” provides recommendations for system infrastructure improvements that are needed to support future supervisory control and data acquisition (SCADA) operational and data collection improvements aimed at meeting these goals. This report relied on current “best management practices” to design water efficiency improvements that would help the District to manage water resources with the ultimate goal of preserving the groundwater resources to adapt to future changes in the environment, especially drought events.

1b. Land use and planning within the Tahoe Region is unique because a large part of the District’s service area is made up of publically-owned vacant lands. These parcels are considered unavailable for future development. The future land use for the

District's service area is limited by Tahoe Regional Planning Agency (TRPA), and much of the development will be infill and re-development.

2a. Energy savings will be realized through the implementation of this Project. By giving the District an opportunity to manage and regulate water production at optimum levels, energy savings will be realized. As water and sewer providers have among the highest energy usages in the country, a project that helps to minimize energy usage helps to ensure the grid is not overburdened and remains stable to meet community needs.

3a. The District has been instrumental in implementing Integrated Regional Water Management (IRWM) in the Lake Tahoe area and will continue to address the following issues with stakeholders (comprised of public agencies, water purveyors, non-profit environmental groups, and other interested stakeholders from Alpine, El Dorado, Placer, Nevada and Sierra County): Water supply reliability, water conservation, water quality improvement, stormwater management, flood management, invasive species abatement, contamination cleanup, wetlands enhancements and protections, environmental and habitat improvements and protections.

3b. The District has long been a leader in providing opportunities for communication among governmental agencies, water authorities, tribes and local communities. Currently, there are three partnerships in which the District serves as lead that foster expanding communication among these groups: Groundwater Sustainability Agency for the Tahoe South groundwater basin, Tahoe Sierra Integrated Regional Water Management partnership, and the Tahoe Water for Fire Suppression Partnership (bi-state fire prevention). These three partnerships have extensive memberships that allow for interaction, integration and communication outreach for water resources.



# South Tahoe Public Utility District

Directors  
Chris Cefalu  
James R. Jones  
Randy Vogelgesang  
Kelly Sheehan  
Nick Exline

1275 Meadow Crest Drive • South Lake Tahoe • CA 96150-7401  
Phone 530 544-6474 • Fax 530 541-0614 • www.stpud.us

## **Funding Plan and Letter of Commitment**

**South Tahoe Public Utility District**

**2020 Pressure Reducing Valve SCADA Improvements Project**

February 14, 2020

**Bureau of Reclamation**

**Financial Assistance Support Section**

**Attn: Mr. Matthew Reichert**

**P.O. Box 25007 MS 84-27814**

**Denver, CO 80225**

Dear Mr. Reichert,

Please accept this funding plan and letter of commitment on behalf of South Tahoe Public Utility District for the proposed Project: 2020 Pressure Reducing Valve SCADA Improvements Project.

1. STPUD will contribute the match of \$124,863 towards the Bureau of Reclamation funding request of \$75,000. The District will be contributing \$124,863 from the Capital Reserve Funds in the form of reimbursements to the contractor approved for the implementation of this project. There are no other federal funds being requested for this project.
2. The funding proposed will be available January 2021.
3. There are no time constraints on the availability of these funds.
4. The request for funding is less than \$300,000.
5. The budget proposal does not include any Project costs that have been and/or will be incurred prior to grant award.

This letter of commitment is for \$124,863 and there are no other contingencies associated with the funding commitment.

Sincerely,

Paul Hughes  
Chief Financial Officer

**Budget Proposal/South Tahoe PUD  
Pressure Reducing Valve SCADA Upgrades**

BUDGET ITEM DESCRIPTION	COMPUTATION			Recipient Funding	Reclamation Funding	Total Cost
	\$/Unit	Unit	Quantity			
<b>ADMINISTRATIVE TOTAL:</b>				\$ -	\$ -	\$ -
<b>ARCHITECTURAL &amp; ENGINEERING FEES TOTAL:</b>				\$ -	\$ -	\$ -
<b>CONTRACTUAL FEES TOTAL:</b>				\$ -	\$ -	\$ -
<b>PROJECT INSPECTION FEES TOTAL:</b>				\$ -	\$ -	\$ -
<b>ADMIN, CONTRACTUAL, and INSPECTION FEES TOTAL:</b>				\$ -	\$ -	\$ -
<b>CONSTRUCTION (Project will be bid to lowest responsive bidder)</b>	Contractual					
Mobilization and Demobilization	\$ 17,500.00	each	1	\$ 17,500		\$ 17,500
Erosion Control	\$ 700.00	each	1	\$ 700		\$ 700
Groundwater Dewatering	\$ 1,100.00	each	1	\$ 1,100		\$ 1,100
Traffic Control	\$ 1,100.00	each	1	\$ 1,100		\$ 1,100
Site Survey	\$ 2,400.00	each	1	\$ 2,400		\$ 2,400
Vault/Enclosure Purchase and Installation	\$ -	each	1	\$ -		\$ -
8" PRV	\$ 48,500	each	1	\$ 48,500		\$ 48,500
3" PRV	\$ 32,800	each	1	\$ -	\$ 32,800	\$ 32,800
8" Isolation Valve	\$ 3,320.00	each	2	\$ 6,640		\$ 6,640
3" Isolation Valve	\$ 2,130.00	each	2	\$ 4,260		\$ 4,260
Internal PRV Piping	\$ 4,500	each	1	\$ 4,500		\$ 4,500
Pipe Stands	\$ 1,200	each	1	\$ 1,200		\$ 1,200
Electrical and Instrumentation Trenches	\$ 155	LF	50	\$ 7,725		\$ 7,725
4" Patch Paving over Electrical Trench	\$ 14.25	SF	150	\$ 2,138		\$ 2,138
Control Panel	\$ 37,000	each	1	\$ -	\$ 37,000	\$ 37,000
Valve Controller	\$ 4,700	each	1	\$ -	\$ 4,700	\$ 4,700
Pressure Transmitters	\$ 400	each	2	\$ 800		\$ 800
Communication Installation	\$ 20,900	each	1	\$ 20,900		\$ 20,900
Hydrogeneration Unit	\$ 4,400	each	1	\$ 4,400		\$ 4,400
<b>CONSTRUCTION TOTAL:</b>				\$123,863	\$74,500	\$198,363
<b>ENVIRONMENTAL AND REGULATORY COMPLIANCE</b>	Approximately 2% of Total Grant Funded Project Cost			\$ 1,000	\$ 500	\$ 1,500
<b>TOTAL PROJECT COSTS</b>				\$ 124,863	\$ 75,000	\$199,863

**Table 2. Summary of non-Federal and Federal Funding Sources**

Funding Sources	Funding Amount
<b>1. Non-Federal Entities</b>	
STPUD Capital Improvement Funds/General Revenue	\$ 124,863
Non-Federal Subtotal:	\$ 124,863
<b>2. Other Federal Entities</b>	\$0
No other federal entities	\$0
Other Federal Subtotal:	\$0
<b>3. Requested Reclamation Funding:</b>	\$75,000
<b>Total Project Funding:</b>	\$199,863

## Budget Narrative

South Tahoe Public Utility District  
Pressure Reducing Valve SCADA Upgrades

1. **SALARIES and WAGES:** There are no personnel costs utilized in this budget.
2. **FRINGE BENEFITS:** There are no fringe benefit costs utilized in this budget.
3. **TRAVEL:** There is no travel budget for this project.
4. **EQUIPMENT:** Equipment will be purchased for this project under the construction contract.
5. **MATERIALS and SUPPLIES:** Supplies will be purchased for this project under the construction contract.
6. **CONTRACTUAL:** There are no contractual costs utilized in this budget.
7. **CONSTRUCTION:** This project will be bid out to a contractor and includes the installation of the following: (All costs have been deemed reasonable and justified by performing evaluations and comparisons of like programs at other water agencies throughout California, as well as suppliers' quotes and previous purchases for similar projects)
  - Mobilization and demobilization for the project, \$17,500: includes all activities and associated costs for transportation of Contractor's personnel, equipment, and operating supplies to and from the project site including disassembly, removal and site clean up
  - Erosion control measures, \$700: all activities associated with protecting the soil surface within the Project site and controlling runoff before it develops into an erosive force
  - Groundwater dewatering at the project site, \$1,100: removal and subsequent disposal of water from solid substrate at the Project site as it is encountered during construction activities
  - Traffic control, \$1,100: altering traffic patterns and signage to accommodate construction activities in the project area
  - Site survey, \$2,400: visual inspection of the Project area which will enable the Contractor to gather information to begin construction activities
  - 8" pressure reducing valve, \$48,500: purchase and installation of a valve used to reduce inlet pressure to a lower constant downstream pressure
  - 3" pressure reducing valve, \$32,800: purchase and installation of a valve used to reduce inlet pressure to a lower constant downstream pressure
  - 8" isolation valve, \$3,320: purchase and installation of this valve which functions to stop the flow of water into the pipe it is connected to

- 3" isolation valve, \$2,130: purchase and installation of this valve which functions to stop the flow of water into the pipe it is connected to
- Internal PRV piping, \$4,500: purchase and installation of piping materials for the PRV
- Pipe stands, \$1,200: purchase of the stand used to support the main pipe during installation
- Electrical and instrumentation trenches, \$155/LF: excavation of the trench which will be used to house the vault's electrical and instrumentation equipment
- 4" patch paving, \$14.25/SF: complete process of asphalt installation over water main and vault structure
- Control panel, \$37,000: purchase and installation of the mechanism required to operate the PRVs
- Valve controller, \$4,700: purchase and installation of the valve which controls the amount of water flowing into the PRV
- Pressure transmitters, \$400/each: purchase and installation of the pressure transmitters for each PRV installed during the Project
- Communication installation, \$20,900: integration of data, status, and alarm signals into the SCADA system
- Hydrogeneration unit, \$4,400: purchase and installation of off-the-grid power supply and storage

**8. ENVIRONMENTAL and REGULATORY COMPLIANCE:** Although the recommendation of the Bureau of Reclamation is 2% of the total grant funded project costs to cover Environmental and Regulatory Compliance, the project budget is only \$1,500. In 2017, the Bureau of Reclamation funded a similar PRV project, which is part of the larger effort to upgrade 17 PRV sites and all of these 17 sites were evaluated for environmental compliance, including this requested PRV site. The budget amount included here is for the review of the environmental compliance completed by BOR on these 17 sites and the current project CEQA documentation review.

**9. OTHER EXPENSES:** There are no other budget items for this project.

**10. INDIRECT COSTS:** There are no indirect costs for this project.

## **Environmental and Cultural Resources Compliance**

South Tahoe Public Utility District

Pressure Reducing Valve SCADA Upgrades

South Tahoe Public Utility District (District) will file a CEQA Notice of Exemption for the proposed Project. The Project involves reconstruction of an existing water facility and involves minimal to no land alteration. The improved structure will have the same purpose and capacity as the original structure.

1) *Will the project impact the surrounding environment?* No, the proposed Project will not impact the surrounding environment. Project implementation activities will occur on District owned property, utilizing the public-right-of-way for access. All Project construction will be confined to previously disturbed areas and surfaces including existing pavement, road shoulder or compacted soil, and a previously constructed – and currently operational – PRV vault structure. No Project work will adversely impact the air, water, or animal habitat in the Project area. The District adheres to strict construction mandates imposed by the Tahoe Regional Planning Agency (TRPA) designed to minimize environmental impacts. Additionally, the Project is classified as a Qualified Exempt activity in the Memorandum of Understanding (MOU) the District shares with the TRPA.

2) *Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?* No threatened or endangered species or designated critical habitat will be affected by any activities associated with the proposed Project. To ensure this, the Project will be evaluated for compliance with the National Environmental Protection Act (NEPA) and the California Environmental Quality Act (CEQA). The work requires no ground disturbance and will be performed under a Categorical Exclusion/Categorical Exemption. The District has performed a biological and cultural resources assessment and completed an environmental checklist in support of the finding that the Project is exempt. The NEPA/CEQA filing will occur in advance of project bidding in March 2021. No other Project permits are required.

3) *Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “waters of the United States?” If so, please describe and estimate any impacts the project may have.* There are no wetlands or surface waters inside the project boundaries that fall under the CWA jurisdiction as “waters of the United States”, as this Project will be implemented on previously disturbed STPUD infrastructure sites.

4) *When was the water delivery system constructed?* The original water delivery system was constructed in 1950.

5) *Will the project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those*

*features completed previously.* No modifications to an irrigation system will be made during the course of the proposed Project.

6) *Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?* No buildings, structures, or features within the District's service area are listed or eligible for listing on the National Register of Historic Places.

7) *Are there any known archeological sites in the proposed project area?* There are no known archaeological sites within the proposed Project area. As part of the environmental assessment, a cultural resource inventory was completed.

8) *Will the project have a disproportionately high and adverse effect on low income or minority populations?* The Project will have only beneficial effects on the disadvantaged population and population at large. Water production and its energy costs are expected to decrease as a result of this Project.

9) *Will the project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?* The Project is situated on District owned property and accessed through the public right-of-way. No access to or ceremonial use of Indian sacred sites will be restricted. Nor will other impacts on tribal lands result.

(10) *Will the project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?* The Project will not contribute to the introduction, continued existence or spread of noxious weeds or non-native invasive species known to occur in the area. Minimal to no ground disturbance will occur during this Project.

**Required Permits or Approvals**

South Tahoe Public Utility District  
Pressure Reducing Valve SCADA Upgrades

The Project will require compliance with the National Environmental Protection Act (NEPA) and the California Environmental Quality Act (CEQA). The work requires minimal to no ground disturbance, and will be performed under a Categorical Exclusion / Categorical Exemption. The District has performed a biological and cultural resources assessment and completed an environmental checklist in support of the finding that the project is exempt. The NEPA/CEQA filing will occur in advance of project bidding in March 2021. Construction will occur under Tahoe Regional Planning Agency environmental mandates and no other project permits are required.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30

**RESOLUTION NO. 3136-20**

**A RESOLUTION BY THE BOARD OF DIRECTORS  
OF THE SOUTH TAHOE PUBLIC UTILITY DISTRICT**

**BUREAU OF RECLAMATION WaterSMART:  
SMALL-SCALE WATER EFFICIENCY GRANT FISCAL YEAR 2020**

**BE IT RESOLVED** by the South Tahoe Public Utility District (STPUD) Board of Directors that the General Manager, Assistant General Manager and/or the Chief Financial Officer is hereby authorized and directed to sign and file, for and on behalf of the STPUD, a Financial Assistance Application for a Financing Agreement from the Bureau of Reclamation for the planning, design, and construction of the following project:

Pressure Reducing Valve SCADA Upgrades

And;

**BE IT FURTHER RESOLVED** that the STPUD hereby agrees and further does authorize the aforementioned representative or his/her designee to certify that the Agency has and will comply with all applicable state and federal statutory and regulatory requirements related to any financing or financial assistance received from the Bureau of Reclamation; and

**BE IT FURTHER RESOLVED** that the STPUD Board of Directors supports the submission of an application under the Bureau of Reclamation WaterSMART Grant Program and certifies that STPUD is capable of the providing the amount of funding and in-kind contributions specified in the funding application; and

**BE IT FURTHER RESOLVED** that STPUD will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement;

**NOW, THEREFORE,** THE AGENCY DOES HEREBY RESOLVE, ORDER AND DETERMINE AS FOLLOWS:

AYES: CEFALU, JONES, VOGELGESANG, SHEEHAN

NOES: NONE

ABSENT: EXLINE

  
\_\_\_\_\_  
Randy Vogelgesang, Board President  
South Tahoe Public Utility District

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30

**CERTIFICATION**

I do hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the South Tahoe Public Utility District Board of Directors held on February 6, 2020.

ATTEST:

  
\_\_\_\_\_  
Melonie Guttry, Clerk of the Board  
South Tahoe Public Utility District

Resolution No. 3136-20  
February 6, 2020  
Page 2

**Unique Entity Identifier/SAM Registration**

South Tahoe Public Utility District

Pressure Reducing Valve SCADA Upgrades

South Tahoe Public Utility District is registered in the System for Award Management and has the following unique identity number: 047122171