

WaterSMART Grant: Small Scale Water Efficiency Project Category A

Bard Water District SCADA Installation for Check Gates on Cocopah Canal

A Collaborative Project between the



— BUREAU OF —
RECLAMATION

and the



**BARD WATER
DISTRICT**

NOFO: R22AS00195

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Technical Proposal and Evaluation Criteria

1.1 Executive Summary

This Category A

Application is being submitted on 04/28/22 by:
Bard Water District
1473 Ross Road
Winterhaven, Imperial County, California 92283

If NTP March 2023
Start May 2023
End March 2025

The Bard Water District (BWD), located in the towns of Bard and Winterhaven California, has operated for more than 100 years with little improvement or modernization to its 67-mile conveyance systems. Over 70% of the BWD conveyance systems are inefficient and prone to uncontrolled releases, spills, and overflows and require constant overwatch and maintenance. This is our **third and largest SCADA installation project** and part of our overall strategy to progressively modernize BWD's irrigation system. With this grant, BWD proposes to automate ten check gate structures on the Cocopah Canal with Solar powered SCADA units. These newly automated gates will enable us to significantly reduce operational losses during filling and delivery, minimize the risks of cross-contamination of irrigation water, and reduce the person-hours required for on-site monitoring during water delivery. Other ancillary water losses that occur with distribution such as seepage, evaporation, and overflow will also decrease. These new SCADA units are critically needed to better manage the Bard Water District delivery system.

BWD will accomplish the goals established for the WaterSMART program and President Biden's Executive Order by leveraging funds to conserve and better manage water resources and increase efficiency of the BWD by selecting main canal delivery systems to automate with Solar powered SCADA units to our small rural historically underserved and disadvantaged community.

BWD plans to complete the project in a **24-month** period with fabrication and installation beginning in late spring, between **March 2023 and March 2025** depending upon the NTP. We anticipate 1-2 months to complete all work at each of the 10 check gates. Since the primary use of the water is agricultural, we will select the optimal interval during reduced demand to minimize impact to producers/growers. We would schedule work to accommodate them and utilize dry-down times if required.

This **project is located on a Federal facility that is a BOR asset** operated and managed by the Bard Water District. It includes both the Fort Yuma Indian Reservation Indian Unit (7,600 Acre Irrigation System) and the non-Indian Bard Unit (7,100 Acre Irrigation System). We share Colorado River water resources with Yuma County Water Users (Cocopah Indian Reservation), Wellton-Mohawk, Palo Verde, and the Imperial Irrigation District.

1.2 Project Location

The Cocopah Canal SCADA project site is located within the historical boundaries of the towns of Bard and Winterhaven, California; inside the Fort Yuma (Quechan) Indian Reservation in Imperial County. It lies along the west side of the Colorado River and the Arizona state line. It is 2-3 miles North of the Mexican border.

Table 1 below lists and identifies the location of each check gate for the proposed SCADA project. Figure 1 includes a MAP identifying numbered gate locations. Photos of each check gate identified in Table 1 can be found in Appendix B.

Table 1
List and Location of Each Check Gate for SCADA Unit Installation

No.	Name/ID	Type	Canal/Lateral	Latitude	Longitude
1	RC Main	Head	Reservation/Main	32°49'04"N	114°30'52"W
2	Acoma	Check	Reservation/Main	32°48'04"N	114°31'03"W
3	3-5 Gates	Check	Cocopah/Mojave	32°48'25"N	114°31'42"W
4	4-4 Gate	Check	Cocopah	32°48'15"N	114°33'07"W
5	Colby	Check	Cocopah	32°47'46"N	114°33'55"W
6	Ross	Check	Cocopah	32°46'53"N	114°34'27"W
7	Beesley	Check	Cocopah	32°45'35"N	114°35'38"W
8	Baseline	Check	Cocopah	32°44'33"N	114°35'55"W
9	Ute	Check	Cocopah	32°44'25"N	114°36'26"W
10	Wasteway	Wasteway		32°44'17"N	114°37'02"W

Figure 1 MAP with gate locations numbered 1-10

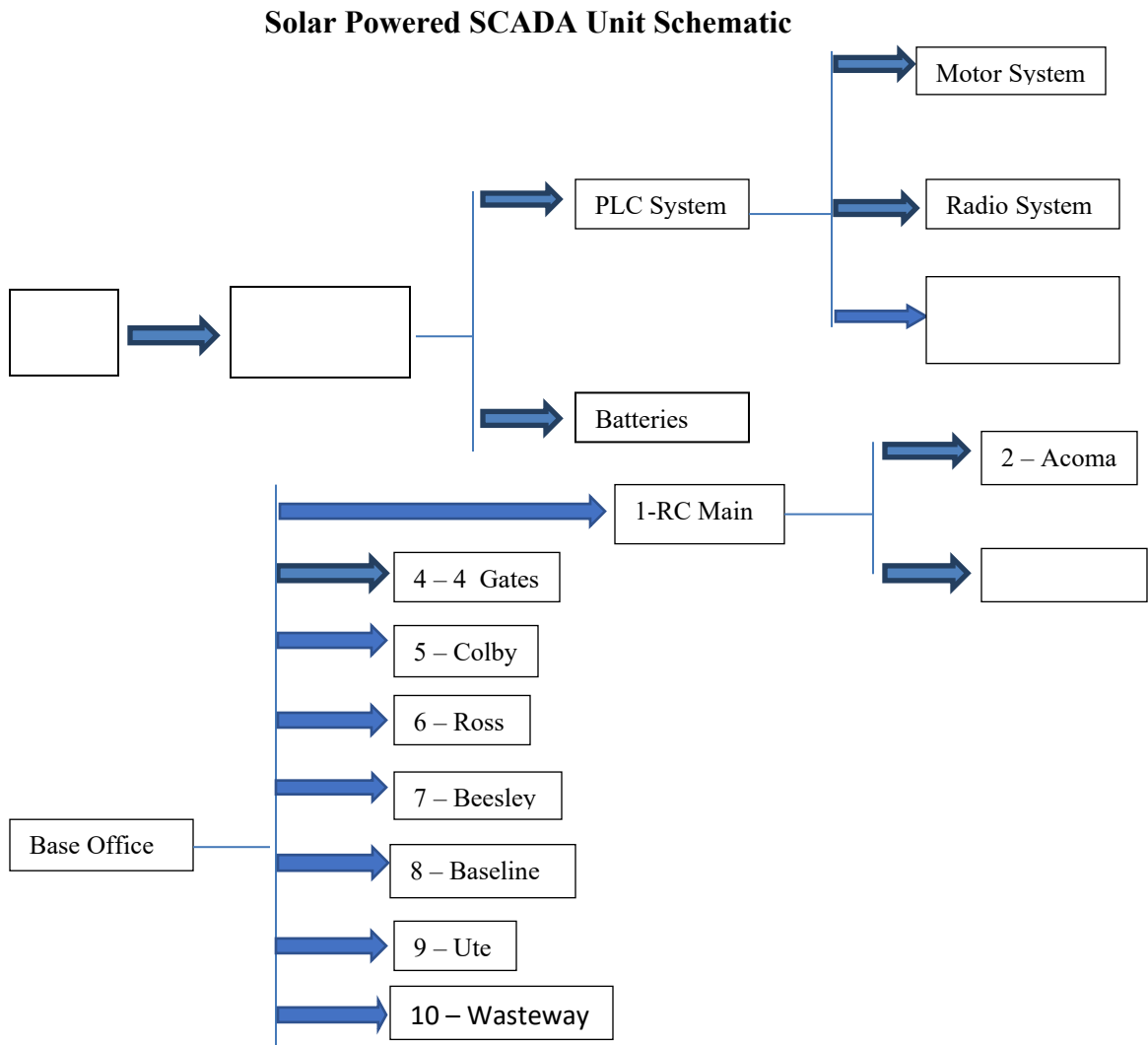


1.3 Technical Project Description

BWD proposes to automate ten check gate structures with SCADA on the Cocopah Canal. This new solar powered automated system will significantly reduce the quantity of water loss from leakage, minimize the risks of cross-contamination of the irrigation water, and reduce the amount of time required for on-site monitoring during water delivery. Over 70% of the BWD delivery system is inefficient and prone to uncontrolled releases, spills, overflows, and requires constant overwatch and maintenance. Other ancillary water losses that occur with distribution such as seepage, evaporation, and overflow will also decrease.

This is our **third SCADA project** and part of our overall strategy to progressively modernize our irrigation system (2020 – 5 gates, 2021 – 2 gates, 2022-2023 – 10 gates proposed with this grant). Figure 2 outlines the Solar powered SCADA Unit Schematic for this project. These new solar powered SCADA units are critically needed to better manage our water delivery system on the main Cocopah Canal.

Figure 2



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Table 2 outlines a description of major tasks and the tentative Milestone/Task Schedule for BWD’s SmartWater SCADA Project Implementation.

Table 2
Tentative Milestone/Task Schedule (*Twenty-four Months*)

Milestone/Task	Planned Start Date	Planned Completion Date
USBR Award and NTP	03/31/23	
Pre-Construction Vendor Procurement: Engineering/Design, Component Assembly	04/01/23	06/01/23
Construction/Installation Coordinate/schedule with affected water user(s) Site Preparation Concrete Structures/Foundations/Fencing Installation of 10 SCADA Units with Solar Cleanup and Debris removal	06/01/23	02/31/25
Completion Closeout/Final Report	12/30/24	03/31/25

Materials and Equipment to be Used for SCADA Fabrication and Installation

List of Materials:

SCADA: 10 Units

Other: Steel plates, Steel Pipe, Fill Dirt, Gravel, Paint, Padlocks, Fencing

Safety Supplies: Shade, Coolers, Water/Electrolytes, Gloves, Safety Glasses, Reflective Vests, Hard Hats, Steel-Toed Boots, Signage, Cones, Temporary Fencing/Barricades, Lighting for Night Work (Summer 100^o+))

List of Equipment:

Construction Equipment for this project includes: Welding and Cutting Torch, Backhoe, CAT 938G Front End Loader, Dump Truck Kenworth, CAT M318F Rubber Tired Excavator, Water Truck GMC, Service Truck 1 Ton 2000 Ford, Project Manager Truck (Hourly Rate/Usage has been provided in the budget).

This Small-Scale Water Efficiency project is a priority to BWD and is in the **final planning stage**. It has been discussed and approved by our Board of Directors and discussed with staff from the Yuma BOR Field office. We seek to leverage funding from the WaterSMART program to help us complete this project, meeting both BWD’s and BOR’s goals to conserve and better manage our water resources and increase efficiency of the system. To better understand the needs of our district, we have provided a summary of BWD’s background, history, and description in Appendix A.

1.4 Evaluation Criteria

A. Project Benefits

BWD's existing water delivery system faces many challenges primarily due to age. Most concrete structures' lifespan are only 50 years and construction first began between 1938-1941. Earthen canals, laterals and ditches require constant maintenance and overwatch. Many check gates and turnout gates are not efficient when operating manually. This improvement project will allow us to address these issues and *improve our Water Supply Delivery System*.

The project benefits to the **overall water management of our irrigation system include:**

1. Improving Efficiency through better control of flow to provide a reliable/constant flow.
2. Reducing water level fluctuations, so less operational losses.
3. Timely and responsive detection/prevention of leaks, spillage, or overflows to prevent waste and crop damage and loss.
4. Timely delivery (from initial request) and duration, so less water is required.
5. Significantly decreasing workforce operations allowing more time for O & M at other sites and new improvement projects.
6. Improving coordination/collaboration with water users, sharing scheduled water deliveries and duration to better manage delivery and require less water through multi-use canal.
7. Improving response time for orders (On and Off) - Preventing excess water delivery and reduce operational losses.
8. Lessening danger for crop damage and bacterial contaminated produce (enhanced by climate change) from overflows, spills, or uncontrolled releases (preventing potential for lawsuits).
9. Subsequent On-Farm Improvements to conserve water by growers off the Cocopah Canal.
10. Reducing costs from reduction in water quantity delivered and person-hours.

All BWD customers receive their **FULL WATER RIGHT**. There are currently no customer water restrictions. Our diverse water conservation efforts are **all voluntary**. We carefully balance our **voluntary seasonal fallowing** program (rotate fields/grower, number of acres and time interval – early spring) to reduce water use and prevent adverse economic impact to our workers and the District.

We plan and implement 2-3 infrastructure improvements/modernization projects per year based on our 10 Year Capital Improvement, Water Conservation and Drought Plans and recommendations from the USBR Technical Service Center's Evaluation of our irrigation system. Without these improvements to the water delivery system, BWD will be delayed in its effort to implement improvements we have identified to **better manage and improve** water delivery efficiency. As described above consequences could include catastrophic crop damage, serious illness or death, economic loss, lawsuits, increased costs to growers in our district, as well as a lack of water during severe drought conditions.

The Bard Water District is located at the end of the Lower Colorado River Basin along the Mexican Border. Thus, we are one of the smallest and last districts to receive water before the required quantity and quality (salinity) of water enters Mexico. This project will allow BWD to

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save water through better management (automation) and protect against state or federal mandated water quantity reduction because of drought or climate change.

Broader Benefits:

This project demonstrates collaboration between our water district and other districts, BOR, the Quechan Indian Tribe, Mexico, and our agricultural users. It can be used as an example to other water managers reflecting how assessment, planning, usage, need, coupled with automation and innovative technology can be used to benefit a district, especially districts relying on multiple sources of water under various conditions (distance from source, seasonal fluctuations in supply, drought, and climate change).

The BWD SCADA Project will positively impact/benefit within the service area by reducing significant water loss ranging from 120 to 200-acre ft./yr. based on type of crop and growth cycle, irrigation distribution method, and frequency and length of water delivery. Water conservation efforts contribute to the overall health of the surrounding fragile desert ecosystem. Water conservation measures that support the lower Colorado River basin and other small tributaries/lakes in this network system (Gila River, Mitry Lake, Martinez Lake) also help sustain wetland and riparian ecosystems as well as the Quechan and Cocopah Indian Tribes traditional native plant sites. Other benefits to specific sectors and areas include:

- **Environmental Health** – Lessen mosquito habitat, noxious and invasive weeds, and erosion.
- **Recreational/Tourism** – Lower Colorado River and Gila River/Watershed, desert washes – Improved off-roading/camping/hiking/fishing/photography/birdwatching/tubing and canoeing.
- **Cultural** – Protection and preservation of culture-bearers gathering sites (plants and clay) and ancient trails, villages, homesteads, milling, and ceremonial sites.
- **Public Safety** – Less residual flooding from overflow and spillage resulting in unsafe driving conditions and erosion of road and ditch banks. Cocopah Canal is located very close to main roads, Tribal homes, the San Pasqual School system (Elementary, Middle and High School) as well as the Tribal Cemetery and Big House (Funeral Ceremonies).

BWD continues to partner and work closely with NRCS, producers, and was recently awarded a BOR Agricultural Partnership grant from BOR, Mid-Pacific Region which requires subsequent NRCS EQIP projects. With strategic stepwise modernization of our irrigation systems, growers can then proceed with their own **On-farm improvements** funded by the USDA/EQIP. These partnerships between BWD, NRCS, Federal Ag Agencies, BOR and producers are critical to our future. NRCS helps us plan and develop projects that complement each other, improving the overall system from diversions to the farm, especially in the Western states where drought, climate change and aging infrastructure greatly affect our daily operations.

BWD's SCADA Project will help address drought conditions at the basin scale by:

- 1) Creating resiliency and preventing possible water-related crisis (shortfalls or flooding).
- 2) Leveraging funding to conserve and better manage our water resources and increase efficiency of our system, thus reducing quantities delivered during drought.
- 3) Improving water conservation, efficiency, and effectiveness of water delivery system to reduce water quantities.
- 4) Reducing water quantities allowing water to be used by lower priority users that have shortfalls and mandatory water reductions during drought conditions.

B. Planning Efforts Supporting the Project, Plan Development

This Small-Scale Water Efficiency SCADA project has been a priority to BWD for the last 10 years and is in the final planning stage. **Although this project has been a major priority**, most BWD funding has been for used O & M and for critical repairs/rebuilds or large expensive concrete lining or pipeline projects. This is our **third automation project** and part of our overall strategy to progressively automate the irrigation system **as we improve the associated infrastructure**. We have just completed two concrete lining projects and have another two planned and funded. We also have eight new gate replacement projects completed. We have one pipeline project planned and funded.

By leverage funding from the WaterSMART program to complete this project, we can meet BWD's goals in our **Water Conservation, Drought and Capital Improvement Plans** and recommendations from BOR's TSC System Evaluation as well as the new Executive Orders for historically underserved and disadvantaged communities. We also recently applied for loans with the new Biden B-Partisan Program. Each year, our water users' pledge \$25/acre for O & M and provide a percent of their fallowing money for Capital Improvements.

Our **Water Conservation Plan** mandates that we periodically access our water delivery system and identify needs as we continue to mature and adapt to address changing conditions while identifying innovative technologies and strategies. Each year, we identify and prioritize our system issues and projects utilizing the following criteria: 1. The project is listed as a priority on our Capital Improvement, Water Conservation, Drought Contingency Plan, and/or USBR TSC recommendations; 2. The problem or need can be remedied with a **BOR Match** and existing resources and funds; 3. Benefits will occur from the corrective action taken (water/monetary savings, efficiency, sustainability, annual maintenance, acre foot savings); 4. No additional resources and funds are available if the existing funds are expended; and 5. Recommendations from new SOR.

Support for Project

This Small-Scale Water Efficiency project has been approved by the Board and discussed with the Yuma BOR Field Office. We recently hired a System Engineer to assist us, especially with SCADA projects. Our new GM and the board actively support new infrastructure projects and **are 100% supportive of this project** to progressively improve our irrigation system.

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In 2004, we received a North American Development Bank loan with 25% Tribal and 25% Bard Water District matching funds for concrete lining or concrete piping projects and replacing/rebuilding check structures for 12 miles of canals and ditches. Bard water users obtained this loan and pay \$18.50 per acre per year until 2023 to cover the costs. In recent years, we have developed a strategy to divide large costly project into 3-5 phases, allowing us to provide the required matching funds. We recently applied for loans with the new Biden B-Partisan Program. Each year, our water users' pledge \$25/acre for O & M and provide a percent of their fallowing money for capital improvements. They are very supportive.

C. Project Implementation and Results

Once the Categorical Exclusion is completed and we receive the NTP, we will begin initial planning. An Action Plan will be developed that lists each task, scheduled interval, responsible party, comments/notes and when the activity or task is completed and by whom. A work plan will also be completed.

The BWD SCADA Project will not require permits. Engineering, design and assembly of Components, Controls, Solar Panels and Framework for Each SCADA Unit as well as communication and testing will be performed by our in-house Engineer. This project does not require any new policies or administrative actions. BWD always secures approval from its board and coordinates improvement projects with the water users to minimize impact to their agricultural operations.

The timeline for completion was discussed with the local Reclamation Office. All work will comply with Federal environmental and cultural resource laws and other required regulations. However, since all work will take place within the canal itself which was constructed above grade on **elevated "borrow" material**, we anticipate that only a Categorical Exclusion will be required at no costs.

D. Nexus to Reclamation

This project will be performed on a **BOR asset** (Bard Irrigation District - Cocopah Canal) that is operated and managed by the Bard Water District under contract number **19-XX-30-N0965**. It includes both the Fort Yuma Indian Reservation Indian Unit and Bard Water District (7,600 and 7,100 Acres, respectively). BWD maintains a continuous working relationship with the Bureau of Reclamation's office in Yuma as well as USBR's Technical Service Center and receives Reclamation project water via the All-American Canal. The BWD manages Colorado River water and the irrigation systems for the **BOR asset** (Bard Irrigation Unit and Indian Irrigation Unit). See Appendix for BWD Description, Background, and History. The water conserved through this project will go to lower priority users who are more affected by water shortages. USBR can use this water to aid other growers, municipalities, or other nearby entities. This will be especially important during times of shortages and drought.

E. Presidential and Department of Interior Priorities

BWD uses a “Best Practices” model by **conserving, protecting, and restoring** our natural resources (water and subsequent watersheds and habitats) by a variety of voluntary water conservation activities including identifying system components that can utilize solar energy. We are partnering with U of AZ and AWC to introduce students to the challenges faced by Climate change in the agricultural community for our future. Our partnership with farmers/producers enables us to work together to develop strategies to address the climate crisis through new and innovative agricultural conservation activities. Through the collaboration with NCRS and USDA, we are identifying On-Farm projects to reduce carbon emissions and promote biodiversity, especially in the riparian and watersheds that border our district to contribute positively to the 30 by 30 Initiative. This project will reduce climate pollution by reducing carbon emissions through use of solar powered SCADA units and reduced O & M time requiring on-site vehicles.

According to the CDC effects from Climate Change include increased incidence of respiratory and cardiovascular disease, injury, and death due to extreme weather events, heat wave, droughts and floods causing losses to property and crops and change in food distribution, water-borne illnesses, and mental health (CDC). This is especially true in rural, underserved, low-income populations such as ours. This project would improve air quality by reducing carbon emissions through use of solar powered SCADA units, reducing O & M time requiring on-site vehicles and dust generated from dirt roads, and reducing risk of biological contamination by automated controls to reduce incidence of spills, overflows, and flooding.

By conserving water, we promote biodiversity for endangered species in this desert habitat that rely on the Lower Colorado River and its backwaters, riparian areas and natural lakes, and the marshy habitat it supports for nesting, spawning, and daily life. It is also part of the migration pathway for many bird species. Their habitat was greatly affected by the dams constructed along the Colorado River and then by the increased demand for water by towns and farming. During drought conditions this is intensified, and their critical habitat threatened, especially during the summer when water demands are increased. See Appendix C for a list of Endangered and Threatened species in our area.

Numerous riparian and marshy areas form a perimeter between the agricultural fields and the All-American Canal, the Colorado River (East) and desert (West) as well as the Mesas (North) that divert runoff from rainfall into overshoots maintaining natural riparian areas. Bard Water District is a participant in the Multi-Species Conservation Plan/Program that was developed for the Lower Colorado River area. We work closely with AZ Fish and Game and the Audubon Society. We alert and assist Fish and Game with mammal rescues from the large canals and participate in Bird Species Counts and Surveys.

The BWD SmartWATER SCADA Project will strengthen water supply sustainability and contribute to the overall resiliency of communities that share these limited resources to survive and thrive by contributing to the overall well-being of their ecosystem.

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West Imperial County is an underserved, rural, low-income, disadvantaged community (Bard, Winterhaven, and Fort Yuma Indian Reservation). Please note that town of Bard only has a population of 45 and no census data is available, so we will use the data from nearby Winterhaven. Table 3 describes in detail how the community served by BWD is highly disadvantaged. The project will promote the health and safety of its communities by reducing mosquito habitat, noxious and invasive weeds, erosion of roads and ditch banks and support a healthier ecosystem for native plants and species, migratory birds, and healthy food crop.

Table 3

Bard Water District Disadvantaged Community Variables		
Variable	Winterhaven	Quechan Indian Tribe
Population	192	1,277
Low income, high and/or persistent poverty	MHI ¹ \$10,736 64.8% Live in Poverty	MHI ¹ \$27,793 36.4% Live in Poverty
High unemployment and underemployment	53.8%	15.7%
Racial and ethnic residential segregation, particularly where the segregation stems from discrimination by government entities	17% Native American 35.9% Hispanic Median Age 72.6	100% Native American or Family Members
Linguistic isolation	Spanish Speaking	Spanish Speaking
High housing cost burden and substandard housing	90% Substandard	70% Substandard
High transportation cost burden and/or low transportation access	Limited Public Transportation	Limited Public/Tribal Transportation
Disproportionate environmental stressor burden and high cumulative impacts	Poverty Level Magnify	Poverty Level Magnify
Limited water and sanitation access and affordability	Archaic System	Archaic System
Disproportionate impacts from climate change	Poverty Level Magnify	Poverty Level Magnify
High energy cost burden and low energy access	Utility Rates High	Utility Rates High
Access to healthcare	Limited, small clinic	IHS for BIA registered

¹MHI = Median Household Income

As evident in Table 3 above, the population includes a majority of Hispanics and Native Americans in the BWD. This underserved and underrepresented community reside in a sparsely populated rural area, with little or no tax base to support their infrastructure. They are isolated by historically being considered less than equal as Native Americans and as agricultural workers. Although age is not a variable, the median age for those living in Winterhaven is 72.6, seniors also being an underserved population.

BWD’s Project SCADA will help Reclamation meet their trust responsibilities to the Quechan Indian Tribe. This project is located on the Indian Unit (managed by Bard Water District) and

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will support Tribal resilience to climate change and drought by providing improved water quality, innovative automation, and economic growth opportunities. The consequences of delaying SCADA improvements to the BWD delivery system could have the following adverse effects on Tribal members: loss of land leases due to catastrophic crop damage, bacterial contamination of produce, increase costs to growers in the district, shortfalls during severe drought conditions and loss of riparian or watershed areas for traditional gathering and as habitat for native species, or flooding of San Pasqual School, Cemetery or Big House (Funerals) and roads.

2. Project Budget

2.1 Funding Plan and Funding Letters of Commitment

The Federal share of this project is 44% The Non-Federal Share is 54% BWD. *Please note: although total costs are over \$200,000 (It is only by 12% and mostly In-Kind and Indirect Costs - \$124,025). We prefer using this Small-Scale program for funding this project and utilize the larger grants for the more costly projects (concrete lining canals, concrete pipe, and other major infrastructure improvements).*

BWD In-kind Contributions: Salaries/Fringe, Equipment, Indirect Costs

We will utilize our staff and heavy equipment for all project activities, including specific Tasks and Milestones. This will include Project Management, engineering, on-site excavation, demolition, and installation. Costs will be greatly reduced using BWD staff and equipment.

Bard Cash Contribution: Remaining cost of Materials (SCADA Units or Concrete).

Costs incurred before start date - None

Other Federal – None

2.2 Budget Proposal

Total Project Costs

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal Funding	\$100,000.00
Costs to be paid by the Applicant	\$127,115.00
Value of third-party contributions	\$0.00
TOTAL PROJECT COSTS	\$227,225.00

Federal Funding

BUDGET ITEM DESCRIPTION	AMOUNT
SCADA Units	\$100,000.00
TOTAL FEDERAL FUNDING	\$100,000.00

Bard Water District Funding – Cash and In Kind

BUDGET ITEM DESCRIPTION	AMOUNT
Salaries and Wages – In Kind	\$52,576.00
Fringe – In Kind	\$25,338.00
Materials:	\$3,200.00

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Equipment – In Kind	\$28,000.00
Direct Costs	\$109,114.00
In Direct Costs – De Minimus – In Kind	\$18,111.00
TOTAL NON-FEDERAL FUNDING	\$127,225.00

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Limit	Quantity		
Salaries and Wages				
Project Manager	\$45.51	160	Hrs	\$7,281.60
Water Master	\$31.04	160	Hrs	\$4,966.40
Equipment Operators (2 x 120 Each)	\$23.72	240	Hrs	\$5,692.80
Laborers (2 x 80 Hrs Each)	\$19.69	160	Hrs	\$3,150.40
Laborer Helpers (2 x 80 Hrs Each)	\$14.73	160	Hrs	\$2,356.80
Concrete Fabricator	\$31.50	160	Hrs	\$5,040.00
Contracts & Grants Specialist	\$38.22	80	Hrs	\$3,057.60
Adm. Assistant	\$25.77	40	Hrs	\$1,030.80
System Engineer	\$25.00	800	Hrs	\$20,000.00
Total		940	Hrs	\$52,576.40
Fringe Benefits				
Project Manager	\$7,281.60	45.36%	%	\$3,302.93
Water Master	\$4,966.40	41.30%	%	\$2,051.12
Equipment Operator	\$5,692.80	57.93%	%	\$3,297.84
Laborer	\$3,150.40	56.40%	%	\$1,776.83
Laborer Helper	\$2,356.80	53.09%	%	\$1,251.23
Concrete Fabricator	\$5,040.00	40.60%	%	\$2,046.24
Contracts & Grants Specialist	\$3,057.60	69.70%	%	\$2,131.15
Adm. Assistant	\$1,030.80	46.57%	%	\$ 480.04
System Engineer	\$20,000.00	45%	%	\$9,000.00
Total		940	Hrs	\$25,337.38
Equipment (Bard Water District)				
Backhoe	\$100.00	160	Hrs	\$16,000.00
Dump Truck – Kenworth	\$100.00	40	Hrs	\$4,000.00
Water Truck – GMC	\$50.00	40	Hrs	\$2,000.00
Service Truck 1 Ton 2000 Ford	\$50.00	80	Hrs	\$4,000.00
Project Manager Truck	\$25.00	80	Hrs	\$2,000.00
Total		380	Hrs	\$28,000.00
Supplies and Materials				
Concrete	\$135.00	10	CY	\$1,350.00
SCADA Unit with Fencing/Solar	10,185	10	EA	\$101,850.00
Total				\$103,200.00
Environmental and Regulatory Compliance – Categorical Exclusion				\$0.00
TOTAL DIRECT COSTS				\$209,113.78
Indirect Costs – De-Minimus Fixed	10%	\$181,113.78		\$18,111.38

TOTAL ESTIMATED PROJECT COSTS

\$227,225.16

2.3 Budget Narrative

Salaries and Wages:

Project Manager – Nick Bahr, General Manager, 160 Hours

Manage Overall Project: Bid Procurement Process (Vendors – SCADA components, solar panels, and concrete); Installation of SCADA Systems; Scheduling of Staff and Equipment.

Water Master – Shawn Weddle, 160 Hours

Assist Project Manager – Help supervise BWD employees and Alert/Coordinate with Water Users

System Engineer – Tim, 800 Hours

Assist PM with Bid Procurement Process (Vendors – SCADA components, solar panels, and concrete); Assemble, install, and test SCADA units

EQ Operators – 2 x 120 Hours

Initial site preparation – some excavation and demolition activity, provide support for all construction activities including logistics

Laborers – 2 x 80 Hours and **Helpers** – 2 x 80 Hours

Assist with all construction activities

Concrete Fabricator – 1 x 80 Hours

Assist with pipe installation and fitting gaskets/connections

Contracts & Grant Specialist – Lydia Mendoza, 80 Hours

Contract Administration, Tracking, Quarterly and Final Reports

Administrative Assistant – Maria Alonso, 40 Hours

Purchasing, Payroll, Tracking, Equipment/Staff Hours for Tracking

Fringe: Fixed

The Bard Water District certifies that the labor and fringe rates included in the budget proposal represent the actual labor rates of the identified personnel.

Travel: No Travel Required

Equipment: Will use Bard equipment (Bard Schedule)

Backhoe – Site preparation and final cleanup, installation

Dump Truck – Haul away construction debris and material

Water Truck – Dust Control

Service Truck – Used in support of Bard Crew on-site

Project Manager Truck – project management at site

Materials and Supplies:

SCADA Unit:

10 Units

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Other:

Steel plates, Steel Pipe, Fill Dirt, Gravel, Paint, Padlocks, Fencing

Safety: Barriers/Temporary Fencing, Level D Personal Vests, glasses, hard hats, gloves;
Drinking Water; Shade Provided by BWD at **no** costs.

Contractual: None

Environmental Regulatory Compliance Costs:

All work will comply with Federal environmental and cultural resource laws and other required regulations. However, since no earth disturbing activities will occur outside the existing lateral/pipeline, all work will take place within the lateral itself which was constructed above grade on **elevated “borrow” material**. We anticipate that only a Categorical Exclusion will be required at no cost. See responses to Environmental Compliance Questions in Section 3, page 20 for additional information.

3. Environmental and Cultural Resources Compliance

BWD’s SCADA Installation Project will have no significant impact to the surrounding environment. All earth-disturbing work will occur with existing canal and sidewalls. As this area is greatly disturbed and in constant agricultural use, there are no threatened or endangered species or critical habitat present. There are also no wetlands within the project boundary.

The existing Sioux black corrugated pipeline will be replaced as it was installed in the 1990’s. This project will reduce noxious weeds and non-native invasive species, including aquatic vegetation.

The features in the Bard Water District Listed or Eligible for Listed on the National Register of Historic Places include: The All- American Canal, USBR Dams, Head Gates, and Retention Areas, Old Southern Pacific Rail Line and Bridges, Fort Yuma, Potholes, and Petroglyphs. None of these will be impacted by this project, and there are no archaeological sites in the project area.

This project will not have disproportionately high or adverse effects on low income or minority populations, and the project will not limit access to and ceremonial use of sacred sites or impact Tribal lands.

4. Required Permits or Approvals

There are no permits or approval required for this project.

5. Official Resolution

Approved by Board, no third-party financial support. Resolution will be provided within 30 days from submission.