

**PROJECT PROPOSAL FOR BUREAU OF RECLAMATION  
FUNDING ANNOUNCEMENT NO. BOR-DO-18-F009**

**AGASSIZ WATER USERS DISTRICT  
2018 REMOTE READ WATER METER PROJECT**

**SUBMITTED BY:**  
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## **TECHNICAL PROPOSAL**

### **1.0 EXECUTIVE SUMMARY**

**Date:** 07/20/18

**Applicant Name:** Agassiz Water Users District (AWUD)

**City:** Gilby

**County:** Grand Forks

**State:** North Dakota

AWUD, located in Gilby, North Dakota, proposes to add new residential Automatic Meter Read (AMR) systems, which are composed of AMR compatible meters and SmartPoint heads, to all users within the AWUD system. The AMR system would be able to provide real time data to AWUD staff rather than having to manually read meters to decipher if the user is using water, leaking water, or stealing water. The current meter arrangement does not allow for proper leak detection throughout the system due to the fact the meters are older, manual read meters.

AWUD anticipates that the addition of the 437 meters in the first phase of the implementation of the new AMR system, would reduce current water loss from 249.01 acre-feet per year (AF/yr) to 168.53 AF/yr. AWUD will provide in-kind work and monetary contribution from their current reserves to fund their share of the project.

#### **1.1 Proposed Project Schedule**

Based on the anticipated project requirements, a proposed schedule for project implementation is presented in Table 1.1. A change in scope would most likely be related to funding approval or the ability to obtain the required number of meters from the supplier. It is unlikely that legal or financial troubles would delay progress schedule. It is anticipated that thirty-six (36) AMR systems will be installed per month.

<b>Date</b>	<b>Event</b>	<b>Anticipated Monthly Expenses</b>
<b>Jan-19</b>	Install Meters 0 - 36	\$12,356.28
<b>Feb-19</b>	Install Meters 37 - 72	\$12,356.28
<b>Mar-19</b>	Install Meters 73 - 108	\$12,356.28
<b>Apr-19</b>	Install Meters 109 - 144	\$12,356.28
<b>May-19</b>	Install Meters 145 - 180	\$12,356.28
<b>Jun-19</b>	Install Meters 181 - 216	\$12,356.28
<b>Jul-19</b>	Install Meters 217 - 252	\$12,356.28
<b>Aug-19</b>	Install Meters 253 - 288	\$12,356.28
<b>Sep-19</b>	Install Meters 289 - 324	\$12,356.28
<b>Oct-19</b>	Install Meters 325 - 360	\$12,356.28
<b>Nov-19</b>	Install Meters 361 - 396	\$12,356.28
<b>Dec-19</b>	Install Meters 397 - 437	\$14,072.43

**Table 1.1 - Proposed Progress Schedule**

The proposed project is not located on federal property; this is the first phase of a multi-phase project.

## 2.0 BACKGROUND

### 2.1 Project Location

AWUD currently serves rural users in the Northern half of Grand Forks County, and the Southern half of Walsh County. AWUD's office is in Gilby, North Dakota. AWUD currently receives finished water from their water treatment plant (WTP) located in the far northwest region of their system, west of Inkster, North Dakota. The area highlighted in yellow is the proposed project area, in which the initial 437 AMR systems will be installed under the proposed 2018 WaterSMART Grant Project. It should be noted that not all depictions in Figure 1.1 are to scale.

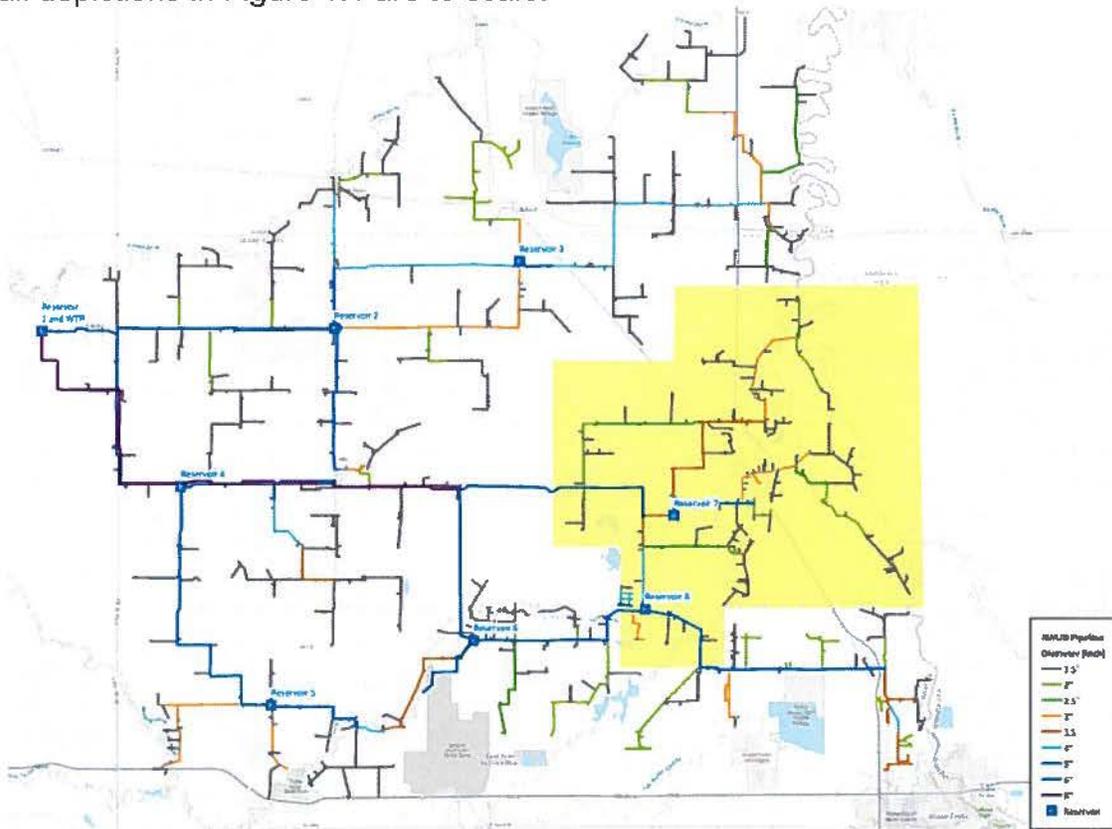


Figure 1.1: Agassiz Water Users District

## 2.2 Agassiz Water Users District

### 2.2.1 System Composition

AWUD is the successor in interest of Agassiz Water Users, Inc., a non-profit corporation of the State of North Dakota, which was incorporated in 1971. Agassiz Water Users, Inc. operated as a non-profit corporation until January 1, 2000, at which time it was dissolved and AWUD was formed. The initial system was fully operational in 1973, serving approximately 1,335 customers consisting of rural farmsteads, and the communities of Ardoch, Forest River, Gilby, Inkster, Manvel and Mekinock. The current total rural customer base has increased to approximately 1,352. The total population

served is an estimated 4,730. The system is composed of one (1) WTP located 1.5 miles west of the City of Inkster. One-hundred twenty-eight (128) miles of 4-inch to 8-inch PVC transmission pipeline. Three-hundred fifty-two (352) miles of 1.5-inch to 3.5-inch PVC distribution pipeline. One (1) well field consisting of 4 wells. Seven (7) water transfer stations/reservoirs.

AWUD’s role is to provide potable water to its users throughout the system. This is achieved through means of water treatment and distribution. AWUD has 4 wells from which they obtain water. The water from the wells is pumped less than one half (0.5) miles to the AWUD WTP, which is located near Inkster, ND. The water is treated through means of iron-manganese removal. Post-treatment the water is sold to the users and delivered to them via 4-inch to 8-inch PVC transmission pipelines and 1.5-inch to 3.5-inch PVC distribution pipelines. Table 2.1 below demonstrates the storage volume capacity of the system.

Reservoir ID	Storage Volume
	(gallons)
WTP Clearwell	130,000
Reservoir #2	40,000
Reservoir #3	40,000
Reservoir #4	120,000
Reservoir #5	40,000
Reservoir #6	40,000
Reservoir #7	40,000
Reservoir #8	40,000
<b>Total Storage</b>	<b>490,000</b>

Table 2.1 - Storage Capacity

**2.2.2 Water Source**

The AWUD system currently utilizes the Inkster Aquifer to obtain its water supply, which is a ground water supply located in northwest Grand Forks County. It is estimated that AWUD will require 366 AF of water per year from the Inkster Aquifer to meet the 30-year long term needs of the system. Currently, AWUD holds five perfected permits to divert water from Inkster Aquifer. Information about each permit, including the permit number and withdrawal rate limitations, is presented below in Table 2.2.

Permit No.	Acre-Ft. (AF)	Rate (gpm)	Status
1840	150	300	Perfected
3009	50	200	Perfected
3695	250	300	Perfected
3695A	150	250	Perfected
4038	600	1300	Perfected
<b>Total =</b>	<b>1,200</b>	<b>2,350</b>	

Table 2.2: AWUD Inkster Aquifer Water Permit Data

**2.2.3 Water Use**

AWUD currently sells 135.71 AF/yr to 1,352 individual user accounts, which equates to 0.10 AF per user per year. In 2017, AWUD pumped 366.20 AF from their WTP, but

only sold a total quantity of 135.71 AF or .01 AF per user per year. This equates to a net loss of 230.49 AF or 62.94% of the total system volume pumped. Currently, AWUD has adequate water permit capacity to serve all existing users, however, accounting for every drop of water lost, will help AWUD have a sustainable future.

### **2.3 Bureau of Reclamation Involvement**

AWUD has yet to work on any projects with Reclamation, but is looking forward to this possible opportunity.

## **3.0 TECHNICAL PROJECT DESCRIPTION**

### **3.1 Problem and Needs**

#### **3.1.1 Distribution System Losses**

In 2017, 62.94% or 230.49 AF of water that was pumped into the distribution system from the AWUD WTP was lost. It is anticipated the addition of the new AMR meters acquired by this grant will help AWUD reduce water loss from 230.49 AF to  $(230.49 - (437 \text{ users} / 1,352 \text{ users}) * 230.49) \text{ AF} = 155.99 \text{ AF/yr}$ .

Therefore, under the proposed WaterSMART project, an estimated 74.50 AF of water loss will be eliminated from the distribution system alone, due to the addition of 437 AMR meters and SmartPoint heads.

#### **3.1.2 Residential Losses**

Currently, a study conducted by the Environmental Protection Agency (EPA) states that average water loss through a residential home, i.e. leaky appliances or plumbing, is 13.7% of total water use.

Therefore, it is estimated that each AWUD resident loses  $13.7\% \times 0.10 \text{ AF} = 0.0137 \text{ AF/yr}$  through residential plumbing leaks.

The total water loss that can be attributed to AWUD residential plumbing leaks in 2017 is  $(1,352 \text{ users} \times 0.0137 \text{ AF/yr}) 18.52 \text{ AF/yr}$ . Therefore, the distribution system losses coupled with the residential losses through leaky appliances and plumbing is  $230.49 \text{ AF/yr} + 18.52 \text{ AF/yr} = 249.01 \text{ AF/yr}$ .

### **3.2 Problem and Needs Addressed**

#### **3.2.1 Implementation**

The intent of the proposed project is to begin the first phase of AMR system installation. In 2017, the water loss throughout the distribution and in-house plumbing was 249.01 AF/Yr.

Under this first phase of the WaterSMART project, AWUD expects that they will reduce water loss by 80.49 AF/yr., which would bring remaining loss from 249.01 AF/yr to 168.53 AF/yr.

With assistance from the Bureau of Reclamation (BOR) in implementing the proposed project over the course of the next year, and continuing after the first phase with implementation of additional AMR meters and SmartPoint heads; it is estimated that AWUD could save up to 249.01 AF/yr in water loss by the time all users in the system have transitioned to AMR systems, ultimately conserving water and promoting energy efficiency.

### **3.3 Expected Outcomes**

#### **3.3.1 Residential Losses**

AWUD would find residential losses by looking at the water usage at low or no flow periods, often this occurs at night. They would determine if a user is using water during those periods. If they were, AWUD would evaluate if water usage was irregular or constant. If it was constant, it's very likely it would be leaky appliances. AWUD would notify the user of the usage, and determine if it was accidental or intentional usage. As stated in section 3.2.1, AWUD anticipates the addition of 437 meters would reduce residential water loss by  $437 \times .0137 \text{ AF/yr} = 5.99 \text{ AF/yr}$ .

#### **3.3.2 Distribution Losses**

AMR meters automatically collect consumption from the water meter and then transfer the data to a central database for billing. In order for the data to be transferred, a SmartPoint head needs to be installed with each AMR meter. The SmartPoint head is a radio transceiver that gives the operator radio frequency inbound and outbound access to water measurements and ancillary device diagnostics. These SmartPoint heads collect data from the AMR meter, register the data, and then proceed by transmitting this data to a collection device, in this instance a tablet. AWUD will use the walk-by/drive-by method; the SmartPoint will continuously collect data and wait for an activation signal from the tablet when it is within the required distance. Once the signal is received by the SmartPoint, meter readings are transmitted to the tablet.

The installation of new remote read meters would not replace faulty meters with the same type meter, but rather replace existing manual read meters with new technologies to better assist with water conservation by being able to utilize AMR technologies. AMR meter technology is far superior to the original manual read meters that exist in the system. Currently, AWUD's users read and report their meter readings each month and are billed according to the reported reading. The manual read meter system allows for discrepancies between the actual water used versus the reported water use. These discrepancies could be accidental recording errors or even intentional reporting errors by the water user. Water theft by AWUD customers has been an ongoing problem within the system; AMR systems will alleviate the issue. With new AMR systems in place, AWUD users will no longer have to read and report their monthly meter readings. Data will be transmitted via the SmartPoint heads, which are installed with the AMR meter, and automatically transmit to the tablet that the AWUD employee's use.

The new AMR meter system is anticipated to reduce system water loss by allowing AWUD operators the ability to find water that is lost through leaks in the distribution

system or stolen by AWUD users. AWUD is divided into 11 different metered zones, having a master meter showing how much water is being pumped to each zone, paired with residential meters recording the amount of water being consumed at any given time; AWUD will be able to locate problem areas and remedy the potential water loss problems.

AWUD intends to implement this project in the yellow outlined area as previously seen in Figure 1.1. This area has been selected because it is composed of the oldest infrastructure of the system and has a master meter at Reservoir 7 and Reservoir 8, by which water pumped can be properly tracked. By having the ability to monitor the water pumped from Reservoirs 7 and 8, and water consumed at each individual meter within the defined area, AWUD will be able to successfully track progress and determine the overall effectiveness of the new meters.

Total water loss throughout the AWUD distribution system was 230.49 AF in 2017. It is anticipated that the first phase of the project (2018 REMOTE READ WATER METER PROJECT) will reduce water loss by  $(.17 \times 437) 74.29 \text{ AF/yr} + 5.99 \text{ AF/yr}$ , for a total of 80.28 AF/yr reduction in water loss throughout the distribution system. AWUD expects that the addition of the new AMR system will help them achieve their goals of bringing their annual water loss closer to a value near zero, realizing that incorporating AMR systems at every residence over the course of several years would attain this.

## **4.0 EVALUATION CRITERIA**

### **Application Evaluation Scoring Criteria (Answers seen in blue)**

#### **E.1.1. Evaluation Criterion A—Project Benefit (35 points)**

Describe the expected benefits and outcomes of implementing the proposed project.

- What are the benefits to the applicant's water supply and delivery system.

AWUD will strive to reduce water loss within their system to close to 0%. Currently, the 1,352 residential meters are manual read meters. The meters are supposed to be read each month by the residents, with the monthly usage sent to AWUD for calculation of payment. However, many users do not read their meters or do not read them correctly. When a meter is misread or not read, AWUD staff are not aware of how much water they are losing month to month. The AMR systems will allow AWUD to trend the amount of water lost daily. Also, it will provide AWUD the opportunity to track the amount of water that passes through the residential meters on a real-time basis. This will not only help AWUD to track leaks throughout their distribution system, but also AWUD will be able to find leaks throughout users' current plumbing/appliances.

The 62.94% (230.49 AF) water loss throughout the delivery system coupled with the EPA's average of 13.7% (18.52 AF) lost through home owner's appliances amounts to 249.01 AF of water lost per year. The new meter technology will not only help AWUD operators track down leaky system branches, but it will help customers conserve water by being notified by AWUD when water use seems erratic or out of the ordinary.

After the project is complete, AWUD will monitor water usage and water pumped daily. They will determine the most likely areas water is being lost or stolen. They will concentrate their efforts to these areas to fix the problems. Each month they will compare water loss to previous year. The idea would be to trend water loss from 249.01 AF to approximately 0 AF throughout the system over the course of the this project and future projects that continue this effort. AWUD intends to remedy these problem areas by fixing leaks that are found in the distribution system, and by closely monitoring water usage. AWUD will be able to more easily locate areas of unauthorized connection and ensure all current users are metered properly.

In 2017, 230.49 AF of water was lost throughout the distribution system, this amounts to 76,533,963 gallons. AWUD predicts that due to the low average of gallons used or reported per month by their membership as compared to other districts, which a substantial amount of their water loss is due to faulty meters or theft. Neighboring water districts of very similar size average 5,400 gallons per month per user. AWUD's billing records show the average to be 2,726 gallons per month per user.

It costs AWUD \$1.00 to make and pump a 1000 gallons of water, which means if all water lost in 2017 occurred prior to the residential meter, AWUD lost \$76,533.96 in water in 2017. However, the statements in the paragraph above show that this is likely not the case. AWUD's prediction is that their membership also uses 5,400 gallons per month per user, where the cost to the user is \$5.50 per 1000 gallons used. Therefore AWUD's members are not reporting a total of 43,382,976 gallons per year. This equates to a potential revenue loss of \$238,606.37 plus a cost of \$33,150.99 in water lost before the residential meter for a total loss of \$271,757.36 to AWUD in 2017.

With the addition of the 437 new AMR meters systems AWUD could reduce the annual expense by \$116,010.56 and approximately 28,317,600 gallons per year.

- If other benefits are expected explain those as well. Consider the following:
  - Extent to which the proposed project improves overall water supply reliability: See above.
  - The expected geographic scope benefits from the proposed project (e.g., local, sub-basin, basin): Does Not Apply.
  - Extent to which the proposed project will increase collaboration and information sharing among water managers in the region: AWUD expects the AMR systems to drastically reduce system water loss, AWUD has already seen positive trends of water loss reduction in several nearby water districts that can be contributed to AMR Systems. The managers of these districts, which utilize AMR systems, have been giving presentations to other managers and board members of districts which have the older style meters and demonstrating the effectiveness of the AMR systems. Once, these presentations are heard, system owners can incorporate/budget for the appropriate AMR systems that will suit them best, increasing water conservation throughout the region.
  - Any anticipated positive impacts/benefits to local sectors and economies (e.g., agriculture, environment, recreation, tourism)

Utilizing new AMR systems will reduce the amount of water that will be lost throughout AWUD. With a more efficient water district more capacity will be created that can be used to benefit the agricultural sector. During spray season, the system is generally stretched to its water capacity limits, by eliminating water loss more capacity will be generated, providing more flow for farmers to use for spraying. When water loss is reduced, there would also be a benefit to the environment. Benefits can be attributed to less chemicals used during water production and less power used for the pumping of the lost water. The utilization of new AMR technologies will also help to keep water rates low, since AWUD will not have to account for water loss in its future pricing.

- Extent to which the project will complement work done in coordination with NRCS in the area (e.g., with a direct connection to the district's water supply). Describe any on-farm efficiency work that is currently being completed or is anticipated to be completed in the future using NRCS assistance through EQIP or other programs.

By implementing AMR systems on-farms, efficiencies will be recognized, by allowing the district to tell the farmer if any water is being lost through these meters, and provide the farmer with a snapshot of water used over a period of time.

### **E.1.2. Evaluation Criterion B—Planning Efforts Supporting the Project (35 points)**

Describe how your project is supported by an existing planning effort.

- Does the proposed project implement a goal or address a need or problem identified in the existing planning effort? This project is the first phase of a multi-phase project that is removing the old manual read meters, and installing new AMR systems. It is anticipated that by installation of 1,352 AMR systems, will help reduce water loss to a value near zero.
- Explain how the proposed project has been determined as a priority in the existing planning efforts as opposed to other potential project/measures.

Currently, AWUD loses 230.49 AF/yr of water throughout their distribution system. This water is either stolen, leaked into the ground or ran through a meter that is not working properly. It is anticipated that every 1 AF of water lost, cost them between \$332.05 and \$1,179.04 to make and distribute. Therefore, AWUD has between a minimum of \$76,533.96 and \$271,757.36 in expenses attributed to water loss. In order for AWUD to continue to provide affordable water to its customers, eliminating/reducing water loss over the next several years by the addition of new AMR system is AWUD's highest priority.

### **E.1.3. Evaluation Criterion C—Project Implementation (10 points)**

- Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.

See Section 3.3.

- Describe any permits that will be required, along with the process for obtaining such permits.

No permits will be required.

- Identify and describe any engineering or design work performed specifically in support of the proposed project.

**Assistance with 2018 WaterSMART application.**

- Describe any new policies or administrative actions required to implement the project. To implement this project, the AWUD Board of Directors had to approve the spending of the total project costs.
- Describe how the environmental compliance estimate was developed. Have the compliance costs been discussed with the local Reclamation office? This would be the first phase of the AMR project. All AMR systems will be installed within existing homes and this project mimics projects completed by neighboring water districts, which have not spent any money on environmental compliance. Therefore, there will be issues meeting environmental compliance.

**E.1.4. Evaluation Criterion D – Nexus to Reclamation (10 points)**

- Is the proposed project connected to a reclamation project or activity? If so how?

Please consider the following:

- Does the applicant receive Reclamation project water.

The applicant does not receive project water.

- Is the project or Reclamation project lands or involving Reclamation facilities?

The first phase of the project would be funded with reclamation dollars.

- Is the project in the same basin as Reclamation project or activity?

The first phase of the project would be funded with reclamation dollars.

- Will the proposed work contribute water to a basin where a Reclamation project is located? The first phase of the project would be funded with reclamation dollars.

- Will the project benefit any tribe(s)? No tribes are located within AWUD territory.

**E.1.5. Evaluation Criterion E—Department of the Interior Priorities (35 points)**

1. Creating a conservation stewardship legacy second only to Teddy Roosevelt

- Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment; AWUD will utilize new technology (AMR meter read system) which will allow them to see an instantaneous snapshot of water that is being lost or stolen verses trying to compare to monthly water meter readings, using out dated technology.
- Examine land use planning processes and land use designations that govern public use and access; N/A
- Revise and streamline the environmental and regulatory review process while maintaining environmental standards. N/A
- Review DOI water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity; By installing an AMR system, AWUD will better be able to conserve water. The ability to conserve water will free up water capacity for others, which will result in expanded water capacity.
- Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands; N/A
- Identify and implement initiatives to expand access to DOI lands for hunting and fishing; N/A
- Shift the balance towards providing greater public access to public lands over restrictions to access. N/A

2. Utilizing our natural resources

- Ensure American Energy is available to meet our security and economic needs; The reduction or elimination of water loss would conserve energy in many functions. It would reduce pumping from the wells to the WTP, reduce power needed to treat the water, and reduce power needed to pump the water into the distribution. All lost water is wasting energy by excessive pumping.
- Ensure access to mineral resources, especially the critical and rare earth minerals needed for scientific, technological, or military applications; N/A
- Refocus timber programs to embrace the entire 'healthy forests' lifecycle; N/A
- Manage competition for grazing resources. N/A

3. Restoring trust with local communities

Be a better neighbor with those closest to our resources by improving dialogue and relationships with persons and entities bordering our lands; N/A

Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities. AWUD will work with other water authorities and local water users, emphasizing the conservation of water and the importance of all water to be metered.

4. Striking a regulatory balance

- Reduce the administrative and regulatory burden imposed on U.S. industry and the public; N/A
- Ensure that Endangered Species Act decisions are based on strong science and thorough analysis. N/A

5. Modernizing our infrastructure

- a. Support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure; The addition of the new AMR system will modernize existing infrastructure eliminating the use of outdated meters that are from the 1970's.
- b. Remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs; N/A
- c. Prioritize DOI infrastructure needs to highlight:
  1. Construction of infrastructure;
  2. Cyclical maintenance;
  3. Deferred maintenance.

## **5.0 PROJECT BUDGET**

### **5.1 Letters of Commitment**

AWUD will utilize their reserve funds for their cost share portion of the project.

### **5.2 Funding Plan**

**5.2.1 Question Breakdown**

1. How will you make your contribution to the cost share requirement, such as monetary and/or in-kind contributions and source funds contributed by the applicant (e.g., reserve account, tax revenue, and/or assessments)

AWUD will both use monetary and in-kind work contributions to pay for the project. The monetary contributions will use reserve funds to pay for all project expenses incurred during the project to meet grant cost share percentages. The in-kind work will include the installation of all AMR systems in user's homes.

2. Describe any donations of in-kind costs incurred before the anticipated Project start date that you seek to include as project costs:

Not applicable.

3. Describe any funding requested or received from other Federal partners.

No other federal funds will be used during the WaterSMART project.

4. Describe any pending funding requests that have not yet been approved, and explain how the project will be affected if such funding is denied.

At this time, there is no pending funding.

Table 5.1 below breaks down a summary of the non-federal and other federal funding sources. Please note that in-kind contributions are denoted with an asterisk (\*)

Funding Sources	Funding Amount
<b>Non-Federal Entities</b>	
Agassiz Water Users District*	\$ 46,422.51
Agassiz Water Users District	\$ 28,677.00
<b>Non-Federal subtotal:</b>	<b>\$ 75,099.51</b>
<b>Other Federal entities</b>	
Other Federal Subtotal:	\$ 0
<b>Requested Reclamation Funding:</b>	<b>\$ 74,892.00</b>
<b>Total Project Funding:</b>	<b>\$ 149,991.51</b>

**Table 5.1: Summary of non-Federal and Federal funding sources**

**5.3 Budget Proposal**

Table 5.2 provides a budget breakdown for the proposed project.

Budget Item Description	Computation			Total Cost	Recipient Funding	Reclamation Funding
	Unit	\$/Unit	Quantity			
<b>SALARIES AND WAGES</b>						
Manager *	hrs	\$37.73	437	\$16,488.01	\$16,488.01	\$0.00
Operator 1 *	hrs	\$24.13	437	\$10,544.81	\$10,544.81	\$0.00
Administrative Assistant *	hrs	\$20.60	437	\$9,002.20	\$9,002.20	\$0.00
<b>FRINGE BENEFITS</b>						
Manager *	hrs	\$10.84	437	\$4,737.08	\$4,737.08	\$0.00
Operator 1 *	hrs	\$6.95	437	\$3,037.15	\$3,037.15	\$0.00
Administrative Assistant *	hrs	\$5.98	437	\$2,613.26	\$2,613.26	\$0.00
<b>MATERIALS AND SUPPLIES</b>						
Meters with Encoded Register	ea.	\$112.00	437	\$48,944.00	\$13,552.00	\$35,392.00
Smart Point Heads	ea.	\$125.00	437	\$54,625.00	\$15,125.00	\$39,500.00
<b>ENVIRONMENTAL AND REGULATORY COMPLIANCE QUOTES</b>						
Environmental Compliance	L.S.	\$0.00	0	\$0.00	\$0.00	\$0.00
<b>TOTAL ACTIVITY COSTS</b>				<b>\$149,991.51</b>	<b>\$75,099.51</b>	<b>\$74,892.00</b>

Table 5.2: Summary of Budget Proposal

Table 5.3 provides a funding breakdown by funding source.

Funding Source	Percent of total project cost	Total cost by source
Recipient Funding	50.07%	\$75,099.51
Reclamation Funding	49.93%	\$74,892.00
Other Federal Funding	0	\$0
<b>Totals</b>	<b>100.00%</b>	<b>\$149,991.51</b>

Table 5.3: Funding Sources

**5.4 Budget Narrative**

**5.4.1 Salaries and Wages**

Table 5.2 provides a breakdown of the wages for AWUD staff. The existing AWUD staff will install all AMR systems during the project. It is estimated that it will take two hours to install each system.

It is estimated that it will take one hour per AMR system installed for the administrative assistant to contact each residence, issue new meter numbers in accounting software and correspondence between home owner and operator. Key staff includes Manager Gus Cronquist, who will be splitting the installation work with Robert Hobbs (Operator 1)

and Administrative Assistant, Michael Bethel, whom will provide support to the staff and homeowners.

#### 5.4.2 Fringe Benefits

Currently, the manager, the operators, and the administrative assistant receive fringe benefits. Fringe Benefits are approximately \$5.98 to \$10.84 an hour depending on employees.

#### 5.4.3 Travel

Travel is not eligible and will not be requested for reimbursement.

#### 5.4.4 Equipment

All equipment used under the project is under \$5,000 in value and are comprised of small hand tools.

#### 5.4.5 Materials and Supplies

The primary materials will be the AMR Meters and SmartPoint heads. AWUD worked with Dakota Supply Group to obtain the costs for the AMR Meters and SmartPoint heads.

#### 5.4.6 Contractual

AWUD hired AE2S to compile a report for the WaterSMART grant and to better quantify their needs. The report is a pre project cost and is anticipated to be paid for by AWUD.

#### 5.4.7 Environmental and Regulatory Compliance Costs

It is anticipated that there will be no environmental and regulatory costs because all of the AMR systems will be installed in residences. Therefore, no percentage of the project cost was budgeted for Environmental and Regulatory Compliance because this is a non-construction project with no ground disturbance anticipated.

#### 5.4.8 In-Direct Costs

No in-direct costs are anticipated.

#### 5.4.9 Total Costs

Total project cost can be found in Table 5.2.

### 5.5 Budget Form

See Appendix B for Budget Forms SF-424, SF-424A, and SF-424B.

## 6.0 ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

### 6.1 Environmental Compliance Questions

Below are the questions from the FOA Section IV.D.6 Environmental Cultural Resources and Compliance, answers can be seen in [blue](#).

(1) Will the project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please

also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

The impact to the surrounding environment will be negligible during the installation of the AMR systems. AWUD will take all steps necessary to minimize any disturbance to air, water or animal habitat during installation of the remote read meters.

(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?

Within the project area there are four listed species that are threatened or endangered. These species are the Northern Long-Eared Bat, the Whooping Crane, the Gray Wolf, and the Sprague's Pipit. Although there are listed endangered species in the project area, none will be affected with the implementation of the proposed project since AMR system installations will take place within residences, in which none of these endangered species will reside.

(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.

Yes, but the project will have no impact upon the waters of the United States because all meters will be installed within residential homes.

(4) When was the water delivery system constructed?

The water system was constructed in the early 1970's.

(5) Will the project result in any modification of or effects to, individual features of an irrigation system (e.g., head gates, 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 will be made to irrigation systems.

(6) Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

No buildings or structures from the National Register of Historic Places will be affected.

(7) Are there any known archeological sites in the proposed project area?

There are no known archaeological sites in the proposed project area which would be affected.

(8) Will the project have a disproportionately high and adverse effect on low income or minority populations?

The project will have a positive impact on low income and minority populations by potentially saving them money. The new meters will help to find water leaks within the residences plumbing which will decrease their overall water use bill each month. New AMR systems will also help to cut system losses. A decrease in system losses means lower monthly billing prices.

(9) Will the project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

The project will not limit access to ceremonial sacred sites and will not have impacts upon any tribal lands.

(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 or non-native invasive species known to occur in the area.

## **7.0 REQUIRED PERMITS OR APPROVALS**

No permits are required.

## **8.0 OFFICIAL RESOLUTION**

See Appendix A

**APPENDIX A – OFFICIAL RESOLUTION**

**OFFICIAL RESOLUTION OF THE AGASSIZ WATER USERS DISTRICT  
DISTRICT REGARDING PARTICIPATION IN FUNDING FOR A  
BUREAU OF RECLAMATION WaterSMART GRANT PROJECT.**

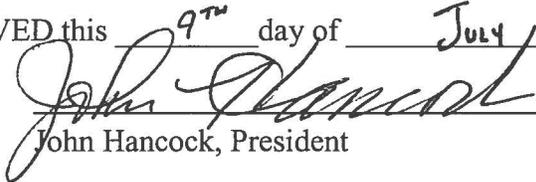
A. WHEREAS, the United States Department of the Interior, Bureau of Reclamation, under its WaterSMART Grant Program, has made available to qualifying applicants grant funding on a matching fund or challenge grant basis funds for water conservation and management projects; and

B. WHEREAS, Agassiz Water Users District has identified a project that exemplifies the objectives of the WaterSMART grant program in its Advanced Metering Structure Program;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of Agassiz Water Users District:

1. The Board of Directors verifies that (John Hancock) has legal authority to enter into an agreement with Reclamation.
2. The Board of Directors has reviewed and supports the application submitted.
3. The Board of Directors is capable of providing the amount of funding and/or in-kind contributions specified in the funding plan.
4. That if selected for a WaterSMART Grant under the Fiscal Year 2018, the board will negotiate and execute a Cooperative Agreement with Reclamation on/or prior to the established deadline, to fund at least 50% of the project costs and provide documentation showing the sources of non-Reclamation funding that totals 50% of project costs for the Project.

ADOPTED AND APPROVED this 9<sup>th</sup> day of July 2018.

  
\_\_\_\_\_  
John Hancock, President

Attest:

  
\_\_\_\_\_  
Gus Cronquist, Manager

**APPENDIX B – BUDGET FORMS**