

## **WaterSMART Grant**

Water & Energy Efficiency Grant for Fiscal Year 2020  
Funding Opportunity Announcement No. BOR-DO-20-F006

Tier I Application - \$75,000 Grant Request

March 4, 2020

## **Water Meter and Data Management Upgrade**

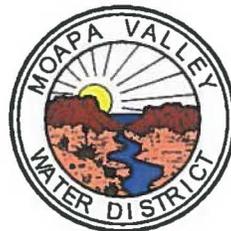
Overton, NV

### **Applicant**

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## EXECUTIVE SUMMARY

Date: March 4, 2020

Applicant: Moapa Valley Water District  
601 N. Moapa Valley Blvd.  
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### **PROJECT SUMMARY:**

For this project, Water Meter and Data Collection System Upgrade, 300 failing domestic water meters will be upgraded to new meters coupled with cellular endpoints for improved data management. The project will increase efficiency in Moapa Valley Water District's distribution system and help achieve the District's goal of providing quality drinking water to its users through efficient management and conservation. Proposed funding in the amount of \$75,000 acquired through the Bureau of Reclamation will be used to purchase the upgraded metering equipment while an equal or greater portion of funds will be provided as a matching contribution by Moapa Valley Water District to implement the project.

Approximate Project Length: 21 months

Estimated Completion Date: October 2021

Federal Facility: This project is not located on a Federal facility



## **BACKGROUND DATA**

*As applicable, describe the source of water supply, the total quantity of water supply managed and supplied, the water rights involved, current water uses (i.e., agricultural, municipal, domestic, or industrial), the number of water users served, and the current and projected water demand. Also, identify potential shortfalls in water supply.*

*For municipal systems, please include the total approximate length of distribution lines, number and sizes of storage tanks, number of pump stations and capacities, and the number of connections and/or number of water users served and any other relevant information describing the system.*

*Identify any past working relationships with Reclamation. This should include the date(s), description of the relationship(s) with Reclamation, and a brief description of the projects(s).*

Moapa Valley is located approximately 60 miles northeast of Las Vegas, NV at the northmost head of Lake Mead. The valley consists of the following towns or communities: Overton, NV; Logandale, NV; Glendale, NV; Moapa, NV; the Moapa River Indian Reservation, and the Warm Springs Natural Area. Moapa Valley has an estimated population of 9,000 residents. Figure 1 is an area map for Moapa Valley.

The Moapa Valley Water District (MVWD) was created as a political subdivision of the State of Nevada on July 23, 1983 to provide domestic water (irrigation water is provided by another company) to customers within Moapa Valley. MVWD's service area covers approximately 79 square miles and is bounded by Lake Mead to the southeast and the head of the Muddy River at Warm Springs Natural Area to the northwest. Within MVWD's service area is the reservation for the Moapa Band of Paiutes. Figure 2 shows a location map of the District's service area boundary. The dashed line on the left of Figure 2 is the Moapa River Indian Reservation boundary.



**Figure 1.** Area Map of Moapa Valley





*Figure 2. MVWD Service Area Boundary Map*

## WATER SYSTEM

MVWD operates a domestic water system that generally includes 4 wells, 2 spring groups, 6 tanks totaling 8.3 million gallons, 2 treatment facilities, 14 pressure reducing valves, 449 fire hydrants, 1,721 valves, and 184 miles of transmission and distribution pipe ranging in size from 2 inches to 24 inches. The system is operated in 15 pressure zones, serving connections at elevations from approximately 1,800 feet down to 1,225 feet above sea level.

## Water Source

The water sources available to MVWD originate from the regional carbonate aquifer flow system which collects from the Muddy River and Meadow Valley Wash hydrological basins. MVWD holds a series of ground water rights in the Lower White River

Flow System for municipal, domestic, and irrigation uses, utilizing 4 wells and 2 springs for domestic water which draw from the carbonate aquifer. A list of the available domestic water sources and their water right capacities is given in Table 1. Pending action in the Nevada State Engineer’s office related to the Lower White River Flow System in general threatens to curtail MVWD’s water rights associated with the MX-6 and Arrow Canyon wells. MVWD is actively working to mitigate the potential loss of source pursuant to that action.

The water sources listed in Table 1 are as provided in MVWD’s Water Conservation Plan and are water rights that currently produce domestic water for the District’s system.

*Table 1. Active Domestic Water Rights*

Permit #	Water Source	Diversion Rate (cfs)	Annual Duty (afy)
68524	Logandale Well	0.89	913.1
72263		2.71	
46932	MX-6 Well	2.00	6792.71
52520	Arrow Canyon Well #1	2.00	
55450		3.00	
58269		1.50	
66043	Arrow Canyon Well #2	3.50	2132.2
28791	Baldwin Spring	3.00	
22739	Jones Spring	1.00	
<b>Total Water Rights</b>		<b>19.6</b>	<b>10561.81</b>



Both Baldwin and Jones Springs (MVWD domestic water sources) are part of a larger spring group at Warm Springs Natural Area forming the Muddy River which flows to Lake Mead, southern Nevada's primary drinking water source. The Warm Springs Natural Area is owned and operated by Southern Nevada Water Authority (SNWA), a partner of the Bureau of Reclamation.

On August 7, 2002, SNWA and MVWD entered into a Memorandum of Understanding (MOU) to memorialize their mutual commitment to work cooperatively to resolve regional water supply issues.

Subsequently, on April 20, 2006, MVWD, SNWA, the Moapa Band of Paiute Indians, and the US Fish and Wildlife Service entered into a Memorandum of Agreement (MOA) to suspend MVWD's diversion of the Jones Spring water right in exchange for an equivalent 724 acre-feet per year from a well owned by SNWA. This agreement was made to retain water in the Warm Springs Natural Area, which is an oasis for 28 endangered, threatened, and sensitive species of plants and wildlife.

SNWA and MVWD have entered into additional agreements to use MVWD's distribution system for discharging water from SNWA's Coyote Springs Well No. 5 into the Muddy River via Bowman Reservoir. The additional water in the Muddy River flows to Lake Mead for other beneficial uses such as hydropower and recreation and is part of SNWA's overall water resource management strategy in southern Nevada.

MVWD also partners frequently with the Muddy Valley Irrigation Company (MVIC) through shared water rights.

### **Distribution System**

MVWD's distribution system consists of 184 miles of water lines in 15 pressure zones, feeding approximately 3,200 total connections. Most existing connections to the water system are equipped with Master Meter Bottom-Load Multi-Jet (BLMJ) meters which are read monthly by drive-by 3G radio transmission. MVWD has begun upgrading failing meters to new Badger Meter Positive Displacement Disc meters with cellular endpoints for more advanced two-way data transmitting and management. Recognizing the efficiencies of these upgrades, MVWD intends to continue this meter upgrading effort through this and future projects.

### **CONSERVATION PLAN**

MVWD has a complete water conservation plan and actively supports conservation measures. The conservation plan details educational, financial, and regulatory incentives.

### **PROJECT LOCATION**

*Provide specific information on the proposed project location or project area including a map showing the geographic location. For example, {project name} is located in {state and county} approximately {distance} miles {direction, e.g., northeast} of {nearest town}. The project latitude is {###°##'N} and longitude is {###°##'W}.*



The MVWD office is located in Overton, Clark County, NV, approximately 60 miles northeast of Las Vegas, NV. The office is situated approximately 24 miles from the northwest boundary of the service area and three miles from the southeast boundary. The project will occur in 300 different locations within MVWD’s service area; MVWD has targeted 300 specific meters to be upgraded, including those meters currently in the worst operating condition. Refer to Map 4 on the next page for locations of the 300 meters to be upgraded by this project.

## **TECHNICAL PROJECT DESCRIPTION AND MILESTONES**

*The technical project description should describe the work in detail, including specific activities that will be accomplished. This description shall have sufficient detail to permit a comprehensive evaluation of the proposal. The technical project description must include milestones for the completion of the project, including, but not limited to, environmental compliance, permitting, final design, and construction. If non-Federal cost share is not yet secured, the milestones should identify when the applicant anticipates that the funds will be available. Note: If the work for which you are requesting funding is a phase of a larger project, please only describe the work that is reflected in the budget and exclude description of other activities or components of the overall project.*

- *Identify the problems and needs*
- *Describe how the project is intended to address the problems and needs*
- *Identify the expected outcomes*

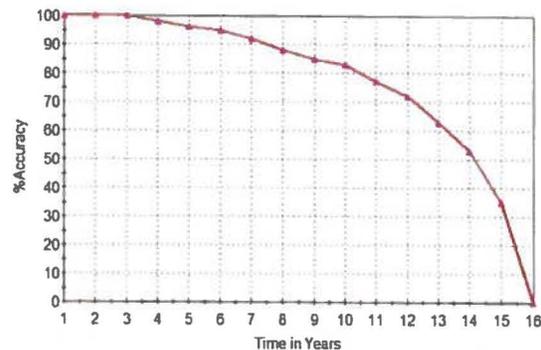
## **PROBLEMS AND NEEDS**

MVWD faces three main issues stemming from the current meters and data collection method. These issues include an aging infrastructure, strain on District resources, and the ability to conserve water in accordance with MVWD’s water conservation plan.

### **Aging Infrastructure**

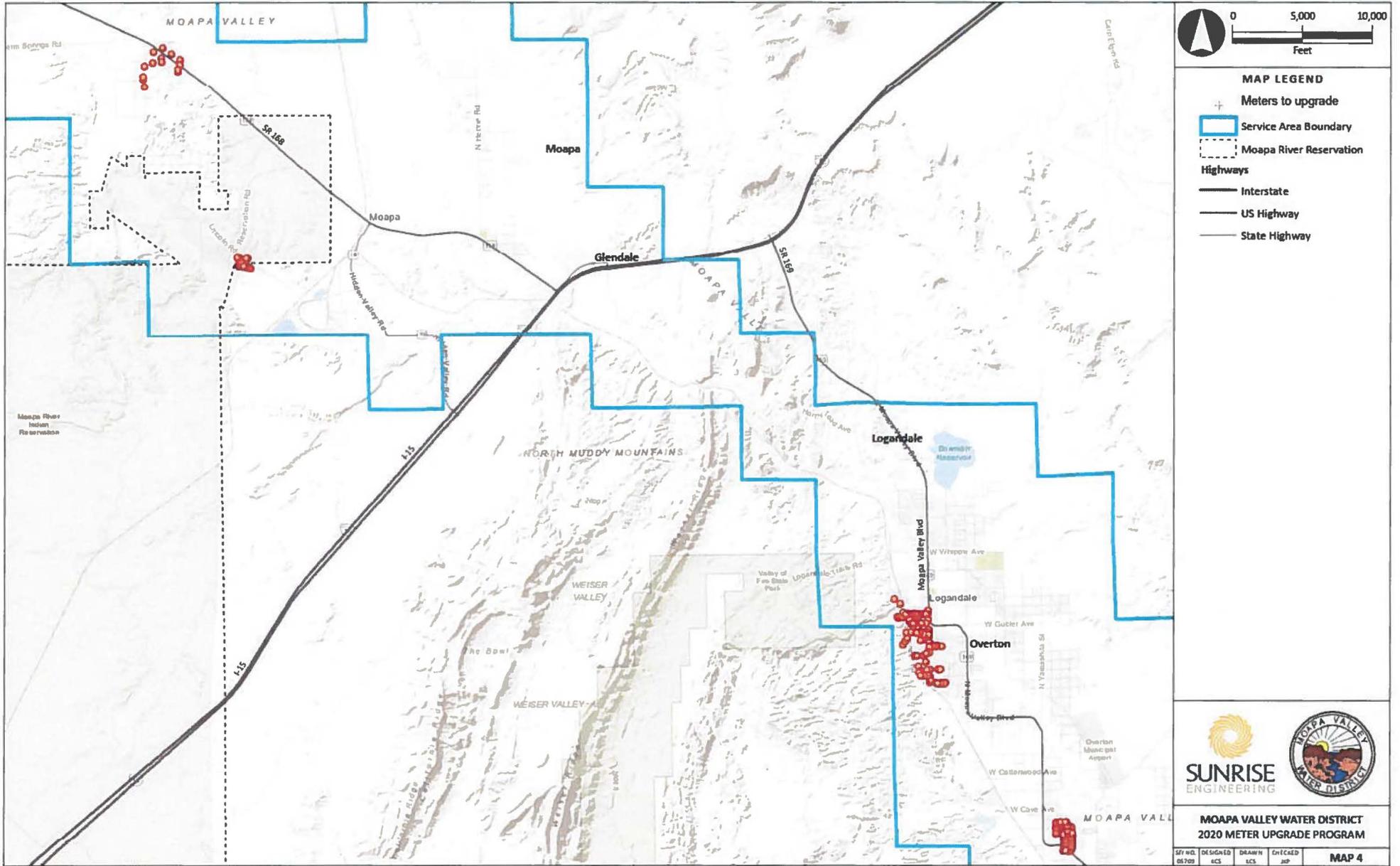
Typical mechanical water meters have a service life of 10 to 15 years before accuracy begins to decline to an unacceptable level. When these types of meters begin to fail, the accuracy declines at a slow and steady rate for a period of months to years before taking a significant and noticeable drop in accuracy (see Figure 3). MVWD’s method of meter data tracking is not sophisticated enough to detect faulty meters until after the significant drop in accuracy, resulting in prolonged, unnecessary losses in water supply and revenue.

Most existing meters within MVWD’s system are more than 14 years old and are experiencing significant drops in accuracy. MVWD has reported 300 meters that are reading far below typical flows or have stopped transmitting data wirelessly. A Capital Facilities Plan completed by MVWD in 2016 recommended replacing and upgrading meters on a recurring schedule to avoid loss of natural and financial resources.



**Figure 3.** Accuracy of Water Meter Over Time





### **Strain on District Resources**

The size and nature of MVWD's service area is not conducive to the drive-by radio data collection required by the current meters. MVWD's office is situated in Overton – approximately 24 miles from the northern boundary of the service area and three miles from the southern boundary. This distance puts a strain on equipment and manpower, as well as consumes excess amounts of fuel, when regular trips are required to the extents of the service area. Each month, crews travel over 200 miles recording meter readings. These numbers are increased when meters fail to transmit data during drive-by meter reading activities.

### **Water Conservation**

A recent study estimates that lost & unaccounted for water from MVWD's failing meters ranges from 30% to 60% of actual flows. MVWD's conservation plan states that responsibilities on the part of the purveyor include leak detection and system maintenance. The current meters and data reporting method do not provide the ability to detect small leaks within the system. Any leaks from the system is additional water demanded from the sources supplying water to Warm Springs Natural Area and less water available to Lake Mead.

## **PROJECT DESCRIPTION**

To help correct the issues described above, MVWD intends to replace 300 old and malfunctioning meters with new Badger Meter 5/8" positive displacement disc meters and Orion Cellular LTE-M Endpoints. Additionally, crew members will replace approximately 60 existing meter boxes that are beyond their service life to help preserve the new meters. The proposed project will require 2 hours to remove and install each upgraded meter. MVWD plans to complete the project at a rate of 20 meters per month to finish the project within the two-year allotted timeframe.

The upgraded cellular endpoints collect data from the meters at 15-minute intervals and store the information for 45 days. Four times each day, the endpoints send stored data through a cellular network to a cloud-based data management system. Using this upgraded system, both MVWD and consumers will be able to access information regarding water usage to improve water management.

MVWD will additionally utilize GIS to manage upgraded assets. The new metering system will operate through Badger Meter's Fixed Network data collection system and integrate with MVWD's GIS data to support predictive rather than reactive management. Importantly, the upgrade will allow MVWD to conserve resources required to complete monthly meter reads and more accurately identify when meters begin to show signs of failure.

## **EVALUATION CRITERIA**

*The evaluation criteria portion of your application should thoroughly address each criterion and sub-criterion in the order presented to assist in the complete and accurate evaluation of your proposal.*

*It is suggested that applicants copy and paste the evaluation criteria and sub-criteria in Section E.1. Technical Proposal: Evaluation Criteria into their applications to ensure that all necessary information is adequately addressed.*



## EVALUATION CRITERION A: PROJECT BENEFITS (35 POINTS)

*Up to 35 points may be awarded based upon evaluation of the benefits that are expected to result from implementing the proposed project. This criterion considers a variety of project benefits, including the significance of the anticipated water management benefits and the public benefits of the project. This criterion prioritizes projects that modernize existing infrastructure in order to address water reliability concerns, including making water available for multiple beneficial uses and resolving water related conflict in the region.*

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

The proposed meter upgrade project to MVWD's water system is expected to benefit MVWD, the Moapa Band of Paiute Indians, Southern Nevada Water Authority, US Fish and Wildlife Service, Bureau of Reclamation, and other related organizations by improved water conservation techniques. Additional financial benefits will apply to MVWD in the form of increased revenue and savings. Increased savings for MVWD creates the ability to implement other and more advanced infrastructure and conservation practices in the future.

- ***What are the benefits to the applicant's water supply delivery system?***

Upgrading MVWD's water meters will improve the overall efficiency of the water delivery system. The new metering and data collection project will provide greater accuracy, earlier detection of leaks, and improve usage understanding by all parties to help reduce and manage water consumption in MVWD's service area.

- ***Extent to which the proposed project improves overall water supply reliability***

Upgrading MVWD's water meters and data collection method will reduce the consumption of precious water supplies, thereby improving the reliability and longevity of those water sources. Importantly, in light of current proceedings in the Nevada State Engineer's office and probable curtailments of water rights in the Lower White River Flow System, which are anticipated to affect MVWD's water rights portfolio, conservation of water in MVWD's system will reduce the demand on water rights, strengthening MVWD's ability to supply water reliability.

- ***The expected geographic scope benefits from the proposed project (e.g., local, sub-basin, basin)***

The proposed meter upgrade will provide benefits to multiple hydrographic groundwater basins including the Muddy River springs Area basin, and the Lower Moapa Valley basin. MVWD is situated between Warm Springs Natural Area (WSNA) and Lake Mead. WSNA has over two dozen springs which create the Muddy River that flows to Lake Mead. Since MVWD receives a portion of water rights from two spring groups at WSNA (Jones Spring and Baldwin Spring), the proposed project will help retain those rights for benefit to Warm Springs Natural Area, including the environmental initiatives it supports and subsequent uses in Lake Mead. Additionally, an improvement to the MVWD system benefits other geographically interested parties, including SNWA, MVIC, and the Moapa Band of Paiute Indians.



- *Extent to which the proposed project will increase collaboration and information sharing among water managers in the region*

As noted previously, MVWD has partnered through legal agreements with several water managing institutions in a commitment to resolve regional water supply issues. Advanced data management and accessibility made possible through the upgraded metering system will provide beneficial data and information to help collectively manage southern Nevada’s water.

- *Any anticipated positive impacts/benefits to local sectors and economies (e.g., agriculture, environment, recreation, tourism)*

Conservation of water and water management resources is expected to benefit the local economy by enabling application of saved resources to other endeavors, water uses, infrastructure improvements, and opportunities both locally and regionally. Additional water to the Warm Springs Natural Area and Lake Mead will provide impacts to recreation and tourism while simultaneously supporting Federal and regional environmental initiatives. Additional water to Lake Mead may also contribute to the potential of greater hydropower generation through Hoover Dam as a renewable resource.

- *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.*

No NRCS projects have been done in the proposed project area to MVWD’s knowledge.

## **EVALUATION CRITERION B: PLANNING EFFORTS SUPPORTING THE PROJECT (35 POINTS)**

*Up to 35 points may be awarded based on the extent to which the proposed on-the-ground project is supported by an applicant’s existing water management plan, water conservation plan, System Optimization Review, or identified as part of another planning effort led by the applicant. This criterion prioritizes projects that are identified through local planning efforts and meet local needs.*

*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?*

MVWD’s Water Conservation Plan states “MVWD’s primary goal is to deliver quality water to its customers. To achieve that goal, the existing water distribution system must be kept in good repair...” The plan also states MVWD’s existing water supplies must be properly managed through conservation. The proposed project is in accordance with MVWD’s conservation plan to maintain the distribution system and manage water through conservation. In addition, MVWD’s current Capital Improvements Plan recommends a regular program for replacing and upgrading meters to enable accurate billings, to maintain a quality history of use, to support the sizing and demands of future infrastructure, and to promote water conservation. In summary, the project implements goals from both the Water Conservation Plan and the Capital Improvements Plan.



- *Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.*

MVWD’s Board of Directors recognizes meter replacement and upgrading efforts as an annual priority because of the high return on investment for making the improvements. MVWD recognizes the important role of meter accuracy in revenue generation which translates directly to the ability to fund other needed improvements. MVWD also recognizes the value on the conservation side, especially where lighter demands translate to reduced pressure on source improvements and water right needs. Reduced demands for manpower and equipment, with their related costs, saved in meter reading efficiencies through higher-technology meter upgrades also represents a savings on the demand side of the equation.

**EVALUATION CRITERION C: PROJECT IMPLEMENTATION (10 POINTS)**

*Up to 10 points may be awarded based upon the extent to which the applicant is capable of proceeding with the proposed project upon entering into a financial assistance agreement. Applicants that describe a detailed plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most points under this criterion.*

- *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.*

The project will be implemented by local District employees as typical daily duties. Meter installation would begin in May 2020 and proceed at a rate of 20 meters per month. The total project length is estimated to be 21 months for a completion date of October 2021. Table 2 shows the proposed schedule of implementation.

*Table 2. Proposed Project Schedule*

Project Tasks and Milestones	Year 1				Year 2			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Secure Reclamation Funding								
Order Meters & Supplies								
Install 300 Upgraded Meters								
Submit Final Performance Report								

- *Describe any permits that will be required, along with the process for obtaining such permits.*  
No permits are required for this project. It will be completed as a maintenance project under Nevada Division of Environmental Protection (NDEP) Bureau of Safe Drinking Water (BSDW) rules.

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

No engineering or design work is required for this project.



- *Describe any new policies or administrative actions required to implement the project.*

No new policies or administrative actions are required to implement the project. However, MVWD accounting and GIS staff will be advised of the upgraded technology and receive training and direction on how to utilize the improved technology to archive and represent the data for use by MVWD managers in administering the system. The trainings will be focused on how efficiencies gained through the upgraded meter system can be recognized and capitalized.

- *Describe how the environmental compliance estimate was developed. Have the compliance costs been discussed with the local Reclamation office?*

Whereas the proposed project (meter system upgrade) represents improvements to local meter assemblies at specific sites that have already been disturbed (there are existing meters in place at each of the sites), environmental impacts are expected to be negligible and NEPA compliance is expected to be tenable through a Categorical Exclusion. Compliance efforts and anticipated costs have been discussed with the local Reclamation office. It is anticipated that Reclamation will perform the work necessary to document NEPA compliance. For budgeting purposes, 3% of the direct costs have been included in the budget proposal to account for this expense, though costs are expected to be minimal.

#### **EVALUATION CRITERION D: NEXUS TO RECLAMATION (10 POINTS)**

*Up to 10 points may be awarded based on the extent that the proposal demonstrates a nexus between the proposed project and a Reclamation project or activity. Describe the nexus between the proposed project and a Reclamation project or activity, including:*

- *Is the proposed project connected to a Reclamation project or activity? If so, how? Please consider the following:*

Yes. The meter upgrade project is expected to conserve water resources and introduce efficiencies into MVWD's culinary water system. MVWD and SNWA have entered into legal agreements and are working as partners on several initiatives, including the conveyance of SNWA water from the Coyote Springs valley into Lake Mead through MVWD's transmission and distribution system and utilizing MVWD's Jones Spring water right as a source to support SNWA's Warm Springs Natural Area as part of SNWA's regional water management strategy. In addition, both SNWA and MVWD hold water rights in the Lower White River Flow System and are parties to the ongoing discussion on sustainable yield current in the Nevada State Engineer's office. Thus, conservation activities undertaken by MVWD have a direct connection to a Reclamation project (Lake Mead) and a Reclamation partner (SNWA) via the working relationships between MVWD and SNWA.

- *Does the applicant receive Reclamation project water?*

No. However, MVWD is a contributor to Reclamation project water, being located on the Muddy River at the upstream head of Lake Mead and through its partnerships with SNWA.

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

No.

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

Yes. The project is in the Muddy River basin which drains immediately into Lake Mead.



- *Will the proposed work contribute water to a basin where a Reclamation project is located?*

Yes. The project is in the Muddy River basin which flows directly into Lake Mead. The proposed work (meter upgrade project) is expected to have immediate direct and indirect effects on water conservation. Any conserved water resource will enter Lake Mead.

- *Will the project benefit any tribe(s)?*

Yes. MVWD's service area includes the inhabited area of the Moapa River Indian Reservation, and MVWD provides domestic water service to the Moapa Band of Paiute Indians. A portion of the meter upgrades proposed as part of this application will improve service on the Reservation.

## **EVALUATION CRITERION E: DEPARTMENT OF THE INTERIOR AND BOR PRIORITIES (10 POINTS)**

*Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports Department and Reclamation priorities. Please address those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed. Points will be allocated based on the degree to which the project supports one or more of the Priorities listed, and whether the connection to the priority(ies) is well supported in the proposal.*

This project supports Department of the Interior's Priority 5 – Modernizing our Infrastructure. MVWD's meter upgrade project will continue modernization of its infrastructure and support advanced cyclic maintenance. The upgraded technology proposed in this project will reduce slippage, more accurately reading low flow usage that is currently unaccounted for, resulting in increased revenue that would be applied to other infrastructure modernization and water conservation technologies. Furthermore, the technology will reduce the demand for manpower and equipment currently absorbed in meter reading efforts, thus allowing those manpower and equipment assets to be utilized to implement other priorities.

## **PROJECT BUDGET**

*The project budget includes:*

- (1) Funding plan and letters of commitment*
- (2) Budget proposal*
- (3) Budget narrative*

*Project costs for environmental and cultural compliance and engineering/design that were incurred or are anticipated to be incurred prior to award should be included in the proposed project budget.*

## **FUNDING PLAN AND LETTERS OF COMMITMENT**

*Describe how the non-Federal share of project costs will be obtained. Reclamation will use this information in making a determination of financial capability.*



This WaterSMART Grant application for small-scale water efficiency projects is requesting \$75,000 in federal funding from the Bureau of Reclamation. MVWD will fund the remaining \$107,109 for the project using in-kind services and cash reserves. No other federal funding has been requested for this project and there are no other pending funding requests. This project will not incur any costs prior to the estimated start date. Table 3 summarizes the proposed financing sources for this project.

*Table 3. Project funding sources*

<b>FUNDING SOURCES</b>	<b>AMOUNT</b>
<b>Non-Federal Entities</b>	
Moapa Valley Water District: In-Kind Labor/Wages	\$ 77,709
Moapa Valley Water District: Cash	\$ 25,000
<b>Non-Federal Subtotal</b>	<b>\$ 102,709</b>
<b>Federal Entities</b>	
Bureau of Reclamation	\$ 75,000
<b>Federal Subtotal</b>	<b>\$ 75,000</b>
<b>Total Project Cost</b>	<b>\$ 177,709</b>

Since this project is not requesting funding from other third parties, no letters of commitment from partnering funding agencies are required. MVWD has already designated matching funds and resources in its budget for this fiscal year.

**BUDGET PROPOSAL**

*The total project cost (Total Project Cost), is the sum of all allowable items of costs, including all required cost sharing and voluntary committed cost sharing, including third-party contributions, that are necessary to complete the project. Note: The budget proposal must include the cost of all equipment, materials and supplies, and labor or contractual costs to complete the project. Applicants must include the costs of all equipment, materials and supplies, and labor required to complete the project in the budget proposal.*

A summary of the proposed project budget is provided in Table 4. The budget narrative explains the proposed budget in more detail.



Table 4. Summary of proposed budget

BUDGET ITEM DESCRIPTION	COMPUTATION		UNIT TYPE	TOTAL COST
	\$/Unit	Quantity		
<b>Salaries and Wages</b>				
Lon Dalley - Project Manager	\$ 45.67	150	HR	\$ 6,851
Maintenance Serviceman	\$ 30.43	400	HR	\$ 12,172
Maintenance Worker	\$ 16.48	1000	HR	\$ 16,480
<b>Fringe Benefits</b>				
Lon Dalley - Project Manager	\$ 19.04	150	HR	\$ 2,857
Maintenance Serviceman	\$ 13.91	400	HR	\$ 5,563
Maintenance Worker	\$ 6.99	1000	HR	\$ 6,988
<b>Equipment</b>				
3/4-Ton Truck	\$ 17.00	400	HR	\$ 6,800
Backhoe/Loader	\$ 25.00	800	HR	\$ 20,000
<b>Supplies and Materials</b>				
5/8-inch Meter	\$ 67.00	300	EA	\$ 20,100
HRE 8 Encoder	\$ 69.00	300	EA	\$ 20,700
Cellular Endpoint	\$ 127.00	300	EA	\$ 38,100
DFW Meter Box	\$ 118.68	48	EA	\$ 5,696
DFW Meter Box Lid	\$ 60.99	64	EA	\$ 3,903
Miscellaneous Fittings	\$ 20.00	300	EA	\$ 6,000
<b>Contractual / Construction</b>				
N/A	N/A	N/A	N/A	
<b>Environmental</b>				
Environmental and Regulatory Compliance	\$ 1,000.00	1	LS	\$ 1,000
<b>TOTAL DIRECT COSTS</b>				<b>\$ 173,209</b>
<b>Indirect Costs</b>				
WaterSMART Grant Consulting Service	\$ 4,500.00	1	LS	\$ 4,500
<b>TOTAL ESTIMATED PROJECT COSTS</b>				<b>\$ 177,709</b>

## BUDGET NARRATIVE

Submission of a budget narrative is mandatory. An award will not be made to any applicant who fails to fully disclose this information. The budget narrative provides a discussion of, or explanation for, items included in the budget proposal. The types of information to describe in the narrative include, but are not limited to, those listed in the following subsections. Costs, including the valuation of third-party in-kind contributions, must comply with the applicable cost principles contained in 2 CFR Part §200, available at the Electronic Code of Federal Regulations ([www.ecfr.gov](http://www.ecfr.gov)).



### **Salaries and Wages**

The proposed budget includes estimated time for MVWD employees administering and overseeing the project including meetings and consultations with the design engineers, project visits, all required paperwork, reporting, and other duties involved with the project. Salaries and wages are based on 2019 figures and represent an in-kind or cash matching contribution to the project by MVWD. MVWD will prepare the following reports and submit them to Reclamation: SF-425 Federal Finance Report, an interim performance report, and a final report.

### **Fringe Benefits**

The provisional fringe benefits rates for MVWD personnel are based on 2019 benefits expenses and averages 43% of the base wage for the listed employees. Fringe benefits include Social Security, Medicare, retirement, life and disability insurance, workers' compensation, sick leave, health insurance premiums, cell phone costs, and vehicle allowances. Fringe benefits anticipated for the project represent an in-kind or cash matching contribution to the project by MVWD.

### **Travel**

Travel related expenses are not eligible for reimbursement under this FOA and as such are not included in the project budget. Local travel costs are included in vehicle usage rates as part of the Equipment section.

### **Equipment**

Equipment costs incurred are for use of MVWD owned equipment. Local vehicle travel costs and loader operating costs are included as part of the proposed budget. All equipment rates have been determined using the Army Corps of Engineers recommended rates and represent an in-kind or cash matching contribution to the project by MVWD.

### **Materials and Supplies**

MVWD will purchase all 300 meters and cellular endpoints required for upgrade as well as additional supplies such as meter boxes and miscellaneous fittings. Requested funding from Reclamation is proposed to be applied towards materials and supplies costs.

### **Contractual**

Whereas MVWD will install the upgraded meters with in-house crews, a contractor will not be retained to complete the work. MVWD anticipates using Sunrise Engineering, Inc. under the existing on-call services agreement between the parties where necessary to support MVWD's efforts in reporting/coordinating with Reclamation. The potential cost is listed as an indirect expense, labeled WaterSMART grant consulting services.

### **Environmental and Regulatory Compliance Costs**

Environmental Compliance costs have been discussed with the local Bureau of Reclamation office and are estimated to be a total of \$1,000. Compliance costs will include the cost incurred by BOR to determine the level of environmental compliance required for the project, BOR and MVWD personnel to prepare any necessary environmental compliance documents or reports, BOR review of any environmental compliance documents prepared by MVWD, MVWD acquiring approvals or permits, and/or implementing any required mitigation measures.



### **Indirect Cost**

MVWD anticipates using Sunrise Engineering, Inc. under the existing on-call services agreement between the parties where necessary to support MVWD's efforts in reporting/coordinating with Reclamation. The potential cost is listed as an indirect expense, labeled grant consulting services.

### **Total Costs**

The estimated total project cost for the Water Meter and Data Management Upgrade project is \$177,709. The requested federal share is \$75,000 and the remaining balance of \$102,709 will be provided by the applicant.

## **ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE**

*To allow Reclamation to assess the probable environmental and cultural resources impacts and costs associated with each application, all applicants should consider the following list of questions focusing on the NEPA, ESA, and NHPA requirements. Please answer the following questions to the best of your knowledge. If any question is not applicable to the project, please explain why.*

*The application should include the answers to:*

- *Will the proposed 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 proposed project will occur at 300 specific locations within MVWD's service area. Whereas the project contemplates replacing existing meters with improved technology, the sites have already been disturbed and no new disturbance is expected. Excavation activities will be minimal for some sites and non-existent at most sites. Minimal dust may occur but is not expected to affect air, water, or animal habitat. Activities are not expected to result in a significant impact to the local environment.

- *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?*

Several endangered, threatened, or sensitive species, such as the Moapa Dace, are located within MVWD's service area boundaries; the majority of these species are found at Warm Springs Natural Area. None of the species will be directly affected by activity at the proposed meter upgrade locations since the work is local to the meters only. By contrast, many of the species will be benefited by the water conservation results of this project.

- *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 proposed project may have.*



Whereas the improvements will occur at specific meter sites within MVWD's service area boundaries, no impact to wetlands or other surface waters will occur.

- *When was the water delivery system constructed?*

MVWD was created in 1983 as a political subdivision of the State of Nevada which replaced two prior water companies in Moapa Valley. Portions of the current water delivery system were in place prior to the creation of MVWD while most of the system has been constructed incrementally over time as population growth demands have required. The domestic water meters to be upgraded are of varying ages but represent those that are in most need of replacement now.

- *Will the proposed 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.*

This project has no effect on an irrigation system, other than to promote conservation of resources for use in other areas, including the MVIC system.

- *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.*

This project has no effect on an irrigation system or any buildings, structures, or features listed or eligible for listing on the National Register of Historic Places. The improvements are limited to the meter assemblies only.

- *Are there any known archeological sites in the proposed project area?*

No sites are known. The improvements will be made at specific meter sites which have already been disturbed. No new disturbances are anticipated.

- *Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?*

No. The proposed project will improve service to low income and minority populations. Upgraded meters will promote early leak detection and provide more accurate and fair billing for water use at all improved connections.

- *Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?*

The proposed project will benefit members of the Moapa Band of Paiute Indians on the Moapa River Indian Reservation.

- *Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?*

No.



## **REQUIRED PERMITS OR APPROVALS**

*Applicants must state in the application whether any permits or approvals are required and explain the plan for obtaining such permits or approvals.*

No permits are required for this project. It will be completed as a maintenance project under Nevada Division of Environmental Protection (NDEP) Bureau of Safe Drinking Water (BSDW) rules.

## **OFFICIAL RESOLUTION**

*An official resolution meeting the requirements set forth above is mandatory. If the applicant is unable to submit the official resolution by the application deadline because of the timing of board meetings or other justifiable reasons, the official resolution may be submitted up to 30 days after the application deadline.*

An official resolution has been drafted and is pending approval from MVWD's Board of Directors. The next board meeting is March 12, 2020, and the signed resolution will be mailed to Reclamation immediately following. A copy of the drafted resolution is included for reference.



**APPENDIX A**  
**OFFICIAL RESOLUTION**

**OFFICIAL RESOLUTION**  
**OF THE**  
**Moapa Valley Water District**  
**Resolution No. 2020-01**

The Chairman of the Moapa Valley Water District, Ken Staton, and the Board of Directors, have reviewed and support the application for a contribution grant for an upgraded culinary water metering project focused on conserving water in Southern Nevada. The grant request in the amount of \$75,000, with an in-kind labor and cash match for an approximate \$200,000 project, would greatly benefit the local residents and the Moapa Valley Water District in efforts to reduce error and water usage cost, while increasing water efficiency.

**WHEREAS**, the Department of the Interior, Bureau of Reclamation, has made grant funding available under the Small-Scale Water Efficiency Projects for FY20, the Moapa Valley Water District in Overton, Nevada is submitting a grant application requesting grant funds in the amount of \$75,000 for the upgraded metering materials.

**WHEREAS**, the Moapa Valley Water District supports the proposed FY20 WaterSMART Small-Scale Water Efficiency Program grant request and is committed to provide the required funding support for the application budget necessary for a successful project.

**NOW THEREFORE, BE IT RESOLVED**, the Moapa Valley Water District commits the remaining budget balance of up to \$125,000, if necessary, through in-kind labor and cash reserves to comply with the FY20 WaterSMART Small-Scale Water Efficiency Program grant budget.

**NOW THEREFORE, BE IT RESOLVED**, the Moapa Valley Water District will work with Reclamation to meet environmental compliance and established deadlines for the entering into a grant or cooperative agreement.

**PASSED AND APPROVED** by the Board of Directors of the Moapa Valley Water District this February \_\_, 2020.

\_\_\_\_\_  
*Ken Staton, Chairman*

Date: \_\_\_\_\_

ATTEST:

\_\_\_\_\_

**APPENDIX B**  
**LETTERS OF SUPPORT**

February 25, 2020

Bureau of Reclamation  
Financial Assistance Support Section  
Attn: Matthew D Reichert  
P.O. Box 25007  
Denver, CO 80225

Re: FY20 WaterSMART Grant: Small-Scale Water Efficiency Project for Moapa Valley Water District

Dear Mr. Reichert,

The Southern Nevada Water Authority (SNWA) is happy to support the Moapa Valley Water District's (MVWD) application to the WaterSMART grants program for Small-Scale Water Efficiency Projects to upgrade the water system's metering infrastructure.

All communities within Southern Nevada understand the importance of protecting and conserving water, which is the desert's most precious resource. MVWD's mandate is to operate a domestic water system that provides water to system users while operating efficiently. Installing technologically advanced infrastructure for the efficient use of water is a vital component to accomplishing MVWD's mandate and is a conservation strategy shared by the SNWA.

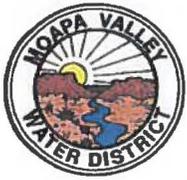
In previous years, the Bureau of Reclamation funded two other advanced meter infrastructure projects for small systems within Southern Nevada. One project was funded for the community of Blue Diamond and the other for the town of Searchlight. Based on the successful results of these projects, the SNWA recognizes that the MVWD's proposed project will provide a much-needed water conservation savings and benefit the overall health of Southern Nevada's local communities.

The SNWA appreciates the opportunity to support MVWD in its endeavor to improve water infrastructure and water efficiency. If you need anything further, please do not hesitate to my office at (702) 822-3378.

Sincerely,



Colby N. Pellegrino  
Director of Water Resources



601 N. Moapa Valley Boulevard \* Post Office Box 257  
Logandale, Nevada \* 89021  
Telephone (702) 397-6893 \* Facsimile (702) 397-6894

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February 19, 2020

Bureau of Reclamation  
Financial Assistance Support Section  
Attn: Matthew D Reichert  
P.O. Box 25007  
Denver, CO 80225

Re: FY20 WaterSMART Grant: Small-Scale Water Efficiency Project for Moapa Valley Water District

Dear Mr. Reichert,

The Board of Directors of the Moapa Valley Water District whole-heartedly support the District's application for the Small-Scale Water Efficiency Project WaterSMART Grant to upgrade the system's metering infrastructure. We believe this effort to be a vital component in the overall strategy for conserving water resources in Moapa Valley for the benefit of all interested parties.

As with all communities in southern Nevada, the District understands the importance of protecting and conserving the desert's most precious resource – water. Moapa Valley Water District's mandate is to operate a domestic water system that provides water to system users while operating efficiently. Installing technologically advanced infrastructure is an important strategy the District employs to ensure effective management of the water.

The District has considerable water interests in Moapa Valley, and we rely heavily on the infrastructure to beneficially use local water resources and deliver them to the local users. We hope to see the community grow and prosper as a fundamental part of the economy in Southern Nevada, but this can only be achieved if we act as responsible stewards of our natural resources. We believe this water efficiency project will provide much-needed water conservation and boost the overall health of the local communities.

The Board of Directors appreciates the assistance of the Bureau of Reclamation in its efforts to improve water infrastructure and water efficiency in our valley. If you need anything further, please do not hesitate to contact Ken Staton at 702-533-4964 or at [chairman@moapawater.com](mailto:chairman@moapawater.com)

Sincerely,

Ken Staton, Chairman  
Board of Directors  
Moapa Valley Water District

# Muddy Valley Irrigation Company

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P.O. Box 665, Overton, NV 89040  
2625 N. Moapa Valley Blvd., Logandale, NV 89021  
Phone: (702) 398-7310 Fax: (702) 398-7307

February 26, 2020

Financial Assistance Support Section  
Attn: Matthew D Reichert  
P.O. Box 25007  
Denver, CO 80225

Re: FY20 WaterSMART Grant: Small-Scale Water Efficiency Project for Moapa Valley Water District

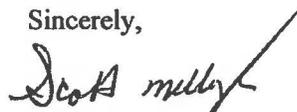
Dear Mr. Reichert,

Muddy Valley Irrigation has a longstanding interest in our natural resources. Our priority has always been conservation of water. We fully support and work with other agencies to improve these efforts where we can. This letter is to show our support for Moapa Valley Water Districts' application for the Small-Scale Water Efficiency Project WaterSMART Grant to upgrade the water system's metering infrastructure. Moapa Valley Water District's mandate is to operate a domestic water system that provides water to system users while operating efficiently.

Moapa Valley is continually growing and with growth comes the need for upgrading of infrastructures. Water is our most vital resource to protect. As stewards of our natural resources, we must look for new ways to maintain and conserve water. We believe that this water efficiency project presented by Moapa Valley Water District will provide such conservation efforts as well as boost the overall health of the local communities. Installing technologically advanced infrastructure is an important strategy the District employs to ensure effective management of water resources.

Muddy Valley Irrigation Company has water interest in Moapa Valley as a company but also as persons that reside here. Water is our most precious resource and we must provide any effort to preserve this with proper management of resources. We appreciate the opportunity to support this effort. If you would like to discuss this further, please do not hesitate to contact me.

Sincerely,



Scott Millington

General Manager  
Muddy Valley Irrigation Company  
[Muddyvalley@mvdsl.com](mailto:Muddyvalley@mvdsl.com)  
702-398-7310

# MOAPA BAND OF PAIUTES

MOAPA RIVER INDIAN RESERVATION

BOX 340

MOAPA, NEVADA 89025

TELEPHONE (702) 865-2787

FAX (702) 865-2875

**Bureau of Reclamation  
Financial Assistance Support Section  
Attn: Matthew D. Reichert  
P.O. Box 25007  
Denver, CO 80225**

**Re: FY20 WaterSMART Grant: Small-Scale Water Efficiency Project for Moapa Valley Water District**

Dear Mr. Reichert,

The Moapa Band of Paiutes of the Moapa River Indian Reservation have a long-standing, excellent relationship with the Moapa Valley Water District. The Water District provides drinking water and municipal water to The Tribe, and ensures that our water is safe, reliable, and protected from outside vulnerabilities. We are always supportive of the technology advances they bring to Our People, so we whole-heartedly support Moapa Valley Water District's application for the **Small-Scale Water Efficiency Project WaterSMART Grant** to upgrade the water system's metering infrastructure. We believe this effort to be a vital component in the overall strategy for conserving water resources in Moapa Valley for the benefit of all interested parties.

As with all communities in southern Nevada, The Moapa Band of Paiutes understands the importance of protecting and conserving the desert's most precious resource – water. Moapa Valley Water District's mandate is to operate a domestic water system that provides water to system users while operating efficiently. Installing technologically advanced infrastructure is an important strategy the District employs to ensure effective management of the water.

The Moapa Band of Paiutes has considerable water interests in Moapa Valley, and we rely heavily on the infrastructure to beneficially use local water resources. We hope to see the community grow and prosper as a fundamental part of the economy in Southern Nevada, but this can only be achieved if we act as responsible stewards of our natural resources. We believe this water efficiency project put forth by Moapa Valley Water District will provide much-needed water conservation and boost the overall health of the local communities.

ORGANIZATION appreciates the opportunity to support Moapa Valley Water District in its endeavors to improve water infrastructure and water efficiency. If you need anything further, please do not hesitate to contact me as indicated below.

Sincerely,



**Michael Mohar, Tribal Administrator**  
Moapa Band of Paiutes  
Moapa River Indian Reservation  
702-865-2787  
admin.mbop@moapabandofpaiutes.org