



Advanced Metering Infrastructure (AMI) Implementation Project

**WaterSMART Water and Energy Efficiency Grants for FY2019
*BOR-DO-19-F004- Funding Group I***

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Prepared For:

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SECTION 1: TECHNICAL PROPOSAL

A. Executive Summary

Applicant Name: Mission Springs Water District (MSWD)

Date: March 19, 2019

City: Desert Hot Springs & other communities in the service area

County: Riverside

Project Length of Time: 18 months

State: California

Estimated Completion Date: December 2020

Located on a Federal Facility: No

The installation of the Automated Metering Infrastructure (AMI) System is a top priority project for the Mission Springs Water District (MSWD) that involves installation of 12,967 meters within its service area. Project funding will be used for full implementation of AMI system including leak detection, customer notification, use analysis and conservation. The resulting water savings are estimated to be a minimum of 631 acre-feet per year, with an associated energy savings of 11,717,928 kilowatt-hours (kWh) per year. MSWD has completed all the preliminary work and will be ready to implement the project upon notice of this grant funding.

B. Background Data

MSWD was established in 1953 and was formerly known as Desert Hot Springs County Water District. The District's water service area consists of 135 square miles including the City of Desert Hot Springs, 10 smaller communities in Riverside County, and communities in the City of Palm Springs. The District's water supply source is 100 percent groundwater produced from District-owned and operated wells. The District provides water service to approximately 37,600 people in their water service area.

The overall MSWD water supply and distribution system includes three separate and distinct water supply and distribution systems with the largest of the three systems serving the community of Desert Hot Springs; the surrounding communities of West Garnet (located south of Interstate 10 and West of Indian Avenue); and North Palm Springs. The two smaller systems, Palm Springs Crest System and West Palm Springs Village System, are located approximately five miles west of Desert Hot Springs. These two communities are located on the north side of Interstate 10 (I-10) abutting the Morongo Indian Reservation. The District's water service area and sphere of influence boundaries are shown on Figure 1.

MSWD currently receives 100% of its water supply from groundwater produced from sub basins within the Coachella Valley Groundwater Basin, which underlies the District's water service area. MSWD primarily produces groundwater from the Mission Creek Subbasin via 10 active wells. To a lesser extent, the District also produces groundwater from the San Geronio Pass Subbasin via four active wells; and from the Garnet Hill Subbasin via one active well. The existing MSWD distribution system consists of three independent water distribution systems: 1) Desert Hot Springs and surrounding area system – encompasses the City of Desert Hot Springs, a portion of the City of Palm Springs and surrounding unincorporated areas of Riverside County including Desert Edge community, 2) Palm Springs Crest System, and 3) West Palm Springs Village System.

MSWD along with Coachella Water Authority (CWA), Coachella Valley Water District (CVWD), Desert Water Agency (DWA), and Indio Water Authority (IWA) are partners in the Coachella Valley Regional Water Management Group (CVRWMG) that leads the Coachella Valley Integrated Regional Water Management (IRWM) program. An emergency source of water for MSWD is the Coachella Valley Water District (CVWD). MSWD currently has two interconnections with the CVWD that can be used to provide emergency water to the Main System on a temporary and very limited basis. A third source of water is obtained through an agreement between the Desert Water Agency (DWA) and the Metropolitan Water District of Southern California (MWD) to exchange Colorado River water for State Project Water (SWP) water. DWA obtains this water through a turnout from the Colorado River Aqueduct and manages a recharge facility near the turnout that enables the water (when it is available) to replenish the aquifer used by MSWD.

The MSWD system, inclusive of all three distribution systems, has approximately 1.26 million linear feet of pipeline. Of the 12,334 residential connections, 11,625 are single family (94.3%) and 709 are multi-family (5.7%). Single-family residential accounts for 89.7% of total water

service connections. The District provides water service to approximately 37,600 people in their water service area. Historical water service connections by customer sector are shown below in Table 1. The designation for “Other” refers to institutional and industrial billings.

Table 1: Historical District Water Service Connections

Customer Sector	2005	2010	2015
Single Family	10,053	11,463	11,625
Multi Family	670	705	709
Commercial	403	325	356
Other ^(a)	168	254	277
Total	11,294	12,747	12,967

Table 2 (below) from the MSWD Urban Water Management Plan (UWMP) shows historical metered and billed water use by customer billing sector. Total water use including unaccounted-for (lost) water decreased from 10,801 AFY in 2005 to 8,665 AFY in 2010 (19.8%); to 7,252 AFY in 2015 (32.9% decrease relative to 2005). Likewise, water loss decreased from 1,839 AFY in 2005 to 746 AFY in 2015.

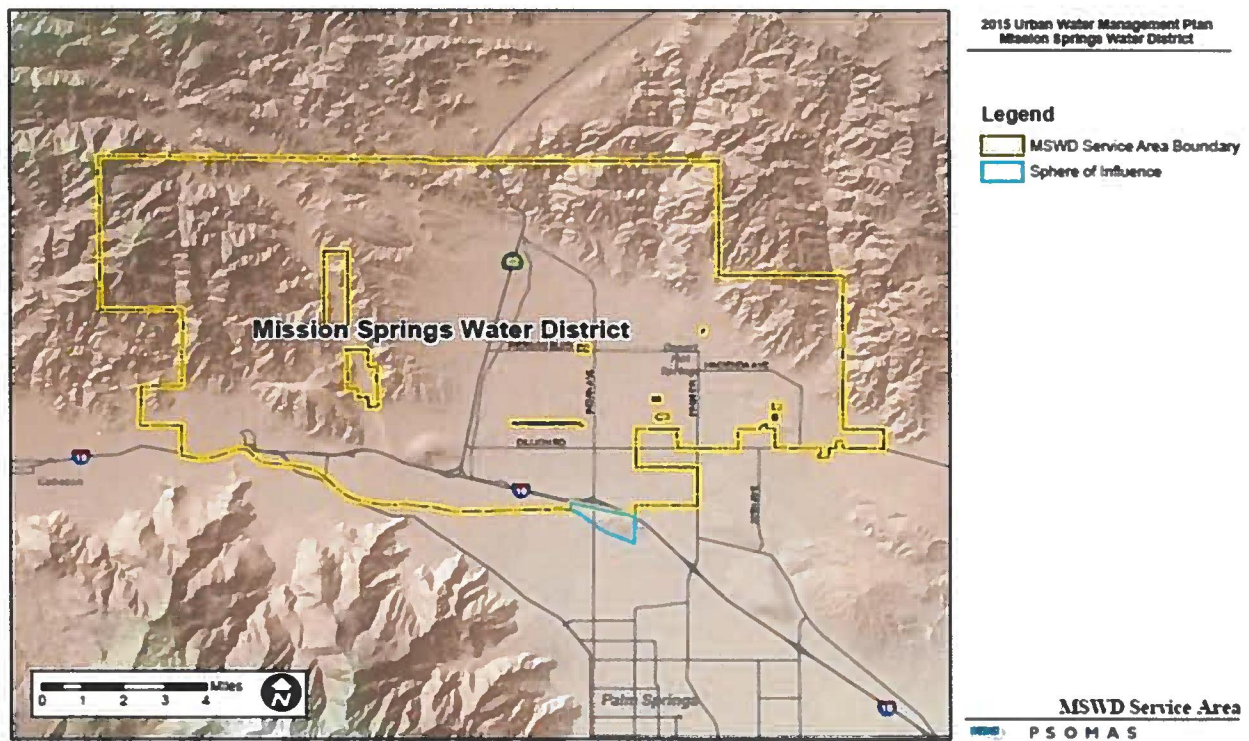
Table 2: Historical Water Use and Water Loss

	2005 Water Use/ Supply	2010 Water Use/ Supply	% Change (2005- 2010)	2015 Water Use/ Supply	% Change (2010- 2015)	% Change (2005- 2015)
Single-Family Residential	5,102	5,058	-0.9%	3,881	-23.3%	-23.9%
Multi-Family Residential	1,553	1,375	-11.5%	1,224	-11.0%	-21.2%
Total Residential	6,655	6,433	-3.3%	5,105	-20.6%	-23.3%
Population	31,291	35,800	14.4%	37,614	5.1%	20.2%
Residential Per-Capita (gpcd)	189.8	160.4	-15.5%	121.1	-24.5%	-36.2%
Commercial	880	689	-21.7%	417	-39.5%	-52.6%
Other	1,427	990	-30.6%	984	-0.6%	-31.0%
Unaccounted	1,839	553	191.1%	746	34.9%	292.6%
Total	10,801	8,665	-19.8%	7,252	-16.3%	-32.9%
Total Per-Capita (gpcd)	308.1	216.0	-29.9%	172.1	-20.3%	-44.1%
Water Supply	10,801	8,665	-19.8%	7,252	-16.3%	-32.9%
Water Loss ^(a)	1,839	553		746		
Water Loss %	17.0%	6.4%		10.3%		

C. Project Location

The District's service area encompasses 135 square miles including the City of Desert Hot Springs, 10 smaller communities in Riverside County, and communities in the City of Palm Springs. MSWD offices are located in Desert Hot Springs, California. (Latitude: 33°57'42"N, Longitude: 116°30'12" W). MSWD water supply and distribution system includes three separate and distinct water supply and distribution systems with the largest of the three systems serving the community of Desert Hot Springs; the surrounding communities of West Garnet (located south of Interstate 10 and West of Indian Avenue); and North Palm Springs. The two smaller systems, Palm Springs Crest System and West Palm Springs Village System, are located approximately five miles west of Desert Hot Springs. These two communities are located on the north side of Interstate 10 (I-10) abutting the Morongo Indian Reservation. The District's water service area and sphere of influence boundaries are shown below in Figure 1.

Figure 1: MSWD's Water Service Area and Sphere of Influence Boundaries



D. Technical Project Description

The proposed Advanced Metering Infrastructure (AMI) Implementation Project is a water conservation project that will directly improve the District's water management and water supply reliability efforts, as well as result in significant cost savings to the District. Currently, meter-reading personnel must physically drive to each of the 12,967 metered locations within the service area to manually read water meters. This method is inherently inefficient; requiring excessive time, labor, vehicle maintenance and fuel costs. In this proposed project, the District's existing water metering system will be replaced with state-of-the-art technology that will provide real-time data, as well as allow meters to be read remotely from a central location through a radio-frequency-based fixed communications network. Implementation of AMI will help to conserve our limited water supply, modernize the District's existing water infrastructure through advanced technologies, improve customer service, and streamline water conservation measures.

The purpose of this project is to increase water conservation through leak detection, education, and improved communications between MSWD and its customers. An interactive web portal for customers detailing water consumption data and cost information, coupled with the customers' ethical motivation to conserve water and implementation of economic incentives to meet targeted consumption rates, will modify customer behavior and attitudes toward water use. The resulting water savings are estimated to be 631 acre-feet per year. In addition to savings in water usage and energy consumption, this project will significantly reduce the MSWD's carbon footprint based on vehicle miles travelled.

Most of 12,967 residential, commercial, and industrial meters within MSWD's service area are at least 15 years old and are expected to be replaced with new AMI meters. Concrete and steel meter boxes and lids that are not compatible with AMI are also expected to be replaced with AMI-compatible composite materials. In conjunction with the AMI system, a Meter Data Management System (MDMS) is expected to be implemented, which will be responsible for AMI data analysis, and disseminating metered consumption data. The overall system will be connected to an interactive web portal to allow customers to view their water consumption and changes in rate structure to target any water wasters.

Implementation of this water conservation project is expected to be completed within 18 months. It will result in quantifiable water savings and support broader water reliability benefits by providing the following:

- Pro-active water leak detection system and conserving the costly local groundwater estimated at 604acre-feet per year
- Increased operational efficiency and data accuracy, providing increased customer awareness of water consumption

Being located in a desert region of the State of California, Water shortage remains a high priority topic for MSWD. As noted above 100% of the District water supply is ground water through

three independent systems that makes water management is a more critical task, trying to improve reliability and efficient use of water in each region. As reported in the 2015 UWMP, the increased economic development has brought an increased demand. The project population increase for the service area in year 2040 is at an alarming 86%.

Table 3: Current and Projected Population Increase in Project Area

Table 3-1: Population - Current and Projected							
Service Area	2015	2020	2025	2030	2035	2040	Increase ^(a)
City of Desert Hot Springs	28,134	34,287	40,440	46,593	52,746	58,900	109.4%
Outside City of Desert Hot Springs	9,480	9,827	10,174	10,521	10,868	11,214	18.3%
Total	37,614	44,114	50,614	57,114	63,614	70,114	86.4%

(a) Increase relative to 2015

MSWD is actively working with other agencies and groups to ensure that groundwater will be a reliable resource far into the future. Part of managing groundwater responsibly is limiting the amount of water that MSWD extracts. MSWD has been implementing aggressive water use efficiency standards and practices and implementation of this project will be a milestone in reaching conservation goals.

E. Evaluation Criteria

E.1.1. Evaluation Criterion A—Quantifiable Water Savings

Up to 30 points may be awarded for this criterion. This criterion prioritizes projects that will conserve water and improve water use efficiency by modernizing existing infrastructure. Points will be allocated based on the quantifiable water savings expected as a result of the project. Points will be allocated to give greater consideration to projects that are expected to result in more significant water savings. All applicants should be sure to address the following:

Describe the amount of estimated water savings. For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project. Please include a specific quantifiable water savings estimate; do not include a range of potential water savings.

The proposed Advanced Metering Infrastructure (AMI) Implementation Project will conserve water and improve water use efficiency with state-of-the-art meter reading technology that will modernize the existing infrastructure. As a direct result of this project, the estimated amount of water expected to be conserved is 631 acre-feet per year (AFY).

The Water Research Foundation's "California Single-Family Water Use Efficiency Study" (2016) documents an average leakage rate of 30.7 gallons per household per day for a California study group from 2005. This equates to 11,200 gallons per year, or 0.0343 AFY per household.

In addition, with the proposed Project in place, individual accounts which consume higher amounts of water than allotted in the District's lower rate tiers can save 10% annually by receiving an early warning that they are approaching the highest rate tier. By dividing the savings from those accounts by the total number of accounts, the savings was calculated to be an additional 0.008 AFY per meter. This brings the total savings to 0.0423 AFY per AMI meter.

With the proposed installation of 12,967 meters new AMI meters in three years, an annual average savings of about 549 AFY was calculated, as follows:

- $12,967 \text{ meters} \times 0.0423 \text{ AFY/meter} = 549 \text{ AFY}$

While replacement of the existing metering system with AMI technologies will directly reduce customer metering inaccuracies, this project will also reduce real losses through implementation of leak detection and pressure monitoring. Therefore, an additional 15% reduction in water loss has been added: $549 \text{ AFY} \times 1.15 = 631 \text{ AFY}$

Note that this is a very conservative estimate, using statewide averages for water losses. In fact, according to the 2015 MSWD UWMP (noted in Table 2), the documented losses in the MSWD service area were actually greater: 746 AFY in 2015. Using 604 AFY is a very conservative estimate.

Installation of AMI meters will reduce water loss due to leakage and will encourage water conservation.

Describe current losses: Please explain where the water that will be conserved is currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?.

Leakage sources are typically valves (faucets, water bibs, etc.), broken or cracked pipes, hot water heaters, and irrigation systems. Leakage either soaks into the ground (broken or cracked pipes, water bibs) or goes into drains and the wastewater system. The water that will be conserved will continue to be stored/protected (for future use) in the existing water supply contained in the Coachella Valley Groundwater Basin.

Describe the support/documentation of estimated water savings: Please provide sufficient detail supporting how the estimate was determined, including all supporting calculations. Note: projects that do not provide sufficient supporting detail/calculations may not receive credit under this section. Please be sure to consider the questions associated with your project type (listed below) when determining the estimated water savings, along with the necessary support needed for a full review of your proposal. In addition, please note that the use of visual observations alone to calculate water savings, without additional documentation/data, are not sufficient to receive credit under this section. Further, the water savings must be the result of reducing or eliminating a current, ongoing loss, not the result of an expected future loss.

As demonstrated above, credible documents such as the Water Research Foundation's "California Single-Family Water Use Efficiency Study" (2016) were used to quantify the expected amount of water conserved by reduction of water lost to leaks. Per this publication, the documented average leakage rate for typical homes is rate of 30.7 gallons per household per day for a California study group from 2005 that translates to 11,200 gallons per year, or 0.0343 AFY per household.

In addition, early warning of excessive water usage has resulted in at least 10% water reduction in water loss when compared to the current system. Therefore, with the proposed installation of 12,967 meters new AMI meters, an annual average savings of about 549 AFY was calculated, as follows:

- $12,967 \text{ meters} \times 0.0423 \text{ AFY/meter} = 549 \text{ AFY}$

While replacement of the existing metering system with AMI technologies will directly reduce customer metering inaccuracies, this project will also reduce real losses through implementation of leak detection and pressure monitoring. Therefore, an additional 15% reduction in water loss has been added: $549 \text{ AFY} \times 1.15 = 631 \text{ AFY}$

Note that this is a very conservative estimate, using statewide averages for water losses. **To estimate water savings based on actual losses as documented in 2015 (per the 2015 UWMP) that number is even higher, a documented 746 AFY.** Therefore, the result of reducing or eliminating a current, ongoing loss (746 AFY) is actually greater than the result of an expected future loss (631 AFY), making this a very conservative estimate.

Please address the following questions according to the type of infrastructure improvement you are proposing for funding. See Appendix A: Benefit Quantification and Performance Measure Guidance for additional guidance on quantifying water savings.

(2) Municipal Metering: Municipal metering projects can provide water savings when individual user meters are installed where none exist to allow for unit or tiered pricing, when existing individual user meters are replaced with advanced metering infrastructure (AMI) meters, and

when new meters are installed within a distribution system to assist with leakage reduction. To receive credit for water savings for a municipal metering project, an applicant must provide a detailed description of the method used to estimate savings, including references to documented savings from similar previously implemented projects. Applicants proposing municipal metering projects should address the following:

- a. How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.*

As demonstrated above, reliance on widely accepted study for estimating water loss and application of a conservative estimate after AMI implementation for additional water saving has been used to quantify the estimated average annual water savings resulting from this project.

- b. How have current distribution system losses and/or the potential for reductions in water use by individual users been determined?*

The MSWD UWMP-2015 documents the amount of water loss in detail. In addition to improving metering practices and operational efficiency, the AMI system will enhance the customer experience and support conservation efforts by allowing customers to make more informed choices regarding water usage as well as identify potential issues on the customer side of the meter. AMI will also enable MSWD to better manage the billing process, and ensure that customer meters are properly sized for a given application.

The AMI system will also enable various alerts to be generated at the customer premise and transmitted back to the main web-based system for processing. Such alerts will include identification of leaks within the customer's private plumbing system, and can be quantified by determining the average flow rate and duration for such events along with the total number of resolved instances.

- c. For installing individual water user meters, refer to studies in the region or in the applicant's service area that are relevant to water use patterns and the potential for reducing such use. In the absence of such studies, please explain in detail how expected water use reductions have been estimated and the basis for the estimations.*

According to an article titled "Advanced Metering Infrastructure Drivers and Benefits in the Water Industry" published August 1, 2011 in WaterWorld, "water utilities across the country are literally leaking money. They take in, treat and pump water to their customer, but can be losing as much as 30% of their product along the way to leaks in the distribution system. With an AMI system, the whole distribution network can be continuously monitored by hourly interval reads."

The Water Research Foundation's "California Single-Family Water Use Efficiency Study" (2016) documents an average leakage rate of 30.7 gallons per household per day for a California study group from 2005. This equates to 11,200 gallons per year, or 0.0343 AFY per household. This rate was the basis for estimated water used reductions for the MSWD.

Another example was found after reviewing annual water loss audits for the City of Dallas, Georgia. It was determined that in one-year (2014) water loss accounted for nearly 20% of the city's total water supply for that year or 31.3 million gallons.

Closer to home, the City of Santa Maria, CA began converting to AMI in December 2009. At the end of one year, with only one-third of their 20,000 meters converted, the water loss revenue was reduced from 6% to 2%, resulting in more than \$600,000 in recovered revenue. Other California cities (both large and small) have converted to AMI and experienced similar conservation benefits including the cities of San Francisco, Santa Rosa, Pleasanton, Redwood City, Hayward, Sacramento, Westwood, Truckee Donner, Fresno, Beverly Hills, Pasadena, Huntington Beach, Fountain Valley, Solana Beach and San Diego.

In addition, MSWD uses multiple planning documents to monitor its water supply and water loss. Following are some examples:

- Urban Water Management Plan -2015: https://www.mswd.org/documents/6-21-16_FINAL%20MSWD%202015%20UWMP%20Report.pdf
- MSWD Strategic Plan 2017 with updates in 2019: <https://www.mswd.org/documents/MSWD%20Strategic%20Plan%20%202017-Final.pdf>
- Engineer's Report on Water Supply and Replenishment Assessment – by Coachella Valley Water District: <http://www.cvwd.org/ArchiveCenter/ViewFile/Item/505>
- Water Master Plan: <https://www.mswd.org/documents/Water%20Master%20Plan.pdf>

d. If installing distribution main meters will result in conserved water, please provide support for this determination (including, but not limited to leakage studies, previous leakage reduction projects, etc.). Please provide details underlying any assumptions being made in support of water savings estimates (e.g., how leakage will be reduced once identified with improved meter data).

MSWD does not have distribution main meters.

e. What types (manufacturer and model) of devices will be installed and what quantity of each?

MSWD has received several proposals and cost quotations for the AMI radio endpoints to be installed. MSWD is currently reviewing the proposals and will be ready to award the contract upon notice of this grant funding.

f. How will actual water savings be verified upon completion of the project?

Water savings will be verified by comparing historical water usage data prior to implementation of the AMI system with the actual water usage data after AMI implementation.

E.1.2. Evaluation Criterion B — Water Supply Reliability

Up to 18 points may be awarded under this criterion. This criterion prioritizes projects that address water reliability concerns, including making water available for multiple beneficial uses and resolving water related conflicts in the region. Note that an agreement will not be awarded for an improvement to conserve irrigation water unless the applicant agrees to the terms of Section 9504(a)(3)(B) of Public Law 111-11 (see p. 52 of the FOA for additional information).

Please address how the project will increase water supply reliability. Proposals that will address more significant water supply shortfalls benefitting multiple sectors and multiple water users, will be prioritized. General water supply reliability benefits (e.g., proposals that will increase resiliency to drought) will also be considered. Please provide sufficient explanation of the project benefits and their significance. These benefits may include, but are not limited to, the following:

- 1. Will the project address a specific water reliability concern? Please address the following:*
 - o Explain and provide detail of the specific issue(s) in the area that is impacting water reliability, such as shortages due to drought, increased demand, or reduced deliveries. Will the project directly address a heightened competition for finite water supplies and over-allocation (e.g., population growth)?*

MSWD currently receives 100% of its water supply from groundwater produced from the Coachella Valley Groundwater Basin, which underlies the District's water service area. The reliability of this basin is of utmost concern to the District and all who pump from the groundwater basin, particularly as population of the area has nearly doubled since 1976. Any water conservations efforts (such as the AMI Project) will enhance the reliability of the supply in the groundwater basin by making more groundwater available.

The proposed project will increase water supply reliability by allowing the District and customers within the service area to efficiently manage and monitor water usage through an interactive web portal. The AMI system will streamline water conservation management efforts to support the reliability of the District's water supply. Implementation of leak detection technologies will also help preserve the District's valuable water supply by ensuring that water leakages are identified and addressed immediately.

- o Describe how the project will address the water reliability concern? In your response, please address where the conserved water will go and how it will be*

used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.

Implementation of the AMI Project will enhance the reliability of the supply in the groundwater basin, by making more groundwater available to its users, thereby offsetting groundwater pumping and increasing the reliability of the City's current water supplies. Conservation of groundwater is one of the essential goals for the water districts in Coachella Valley Groundwater Basin. Overdraft of the groundwater will result in declining water levels, increased pump lifts, and increased energy consumption to pump ground water for domestic and irrigation use. Therefore, MSWD has identified preservation of water supply and improvement of infrastructure for energy efficiency as top strategic priorities for the District.

- *Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.*

The intended use of the conserved water is to simply return it in the groundwater basin. No mechanism is necessary.

- *Indicate the quantity of conserved water that will be used for the intended purpose.*

Implementation of the AMI Project is expected to result in an average savings of approximately 631 AFY of conserved water, intended to enhance the water supply in the Coachella Valley groundwater basin.

2. *Will the project make water available to achieve multiple benefits or to benefit multiple water users? Consider the following:*
 - *Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)?*

Implementation of the AMI Project is expected to result in an average savings of approximately 631 AFY of conserved water, intended to enhance the water supply in the Coachella Valley groundwater basin. This will make water available for the benefit of all users of the basin; including agriculture, municipal and industrial, environmental, and recreational users. In addition, because MSWD relies on emergency connections from DWA and CVWD (and indirectly from the Colorado River and the State Water Project), less reliance on these emergency connections through implementation of the AMI project will benefit the customers of those agencies as well the region.

- *Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state listed species, or a species of*

particular recreational, or economic importance)? Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project.

There has been a tremendous environmental impact from years of drought conditions. The recent drought conditions have caused losses or destruction of fish and wildlife habitat, loss of wetlands, more wildfires and lower water levels in reservoirs, lakes, and ponds. Water conservation achieved through AMI system implementation will result in preservation of critical water resources and reduced use of energy that will benefit the environment in the Valley.

- *Will the project benefit a larger initiative to address water reliability?*

The proposed AMI project will benefit several larger initiatives to address water reliability, including the following:

1. **Mission Springs Water District (2015) Urban Water Management Plan (UWMP)** (State approved water conservation plan that recognizes that unaccounted for water loss in MSWD service area is estimated to be 8% from 2010 through 2035.)
2. **Mission Springs Water District (2004) Water Conservation Master Plan** and the **Mission Springs Water District (2007) Comprehensive Water System Master Plan** which both identified several important operational improvements to reduce unaccounted for water, including water meter replacements.
3. **2014 Coachella Valley Integrated Regional Water Management Plan (IWRMP)** recognizes climate change and effect on water supply reliability
4. **The Climate Change Handbook for Regional Water Planning (Department of Water Resources 2011)** recommends that regions identify strategies that can help them to adapt to climate change as well as mitigate greenhouse gas emission.
5. **DWR California Single-Family Water Use Efficiency Study** cites conservation as the simplest, most cost-effective way to remedy, or at least postpone water resource management issues.
6. **Mission Springs Water District Strategic Plan** identified the following goals, which will be addressed by the proposed AMI project:
 - a. Goal #1-4: Evaluate Opportunities with the Agua Caliente Indian Reservation to access groundwater within the Indio and San Geronio Pass basins”.
 - b. Goal #2-3: Conduct an analysis of staffing and workload allocation for infrastructure and maintenance operations to determine staffing needs based on industry standards.

- c. Goal #2-5: Develop a Technology Plan that incorporates all aspects of the District's internal and external technology including field operational technology.
- d. Goal #3-8: Develop and implement a customer education program designed to educate customers on water and sewer rates.
- e. Goal #3-5: Conduct a customer experience

Southern California has experienced several significant droughts and water shortages since the 1970s, triggering great concern regarding water reliability. Each of the above initiatives was developed in an effort to address the issue of water reliability. The proposed AMI project is consistent with the objectives of each of these initiatives. Implementation of AMI will allow MSWD to detect and address water leaks in the system in an efficient and timely manner to prevent water waste. It will also help conserve water by allowing customers and the District to monitor water usage consumption and alert customers if there is excessive usage.

- *Will the project benefit Indian tribes?*

Yes. In October 2018, MSWD executed a Memorandum of Understanding (MOU) with the Agua Caliente Band of Cahuilla Indians (ACBCI). The purpose of this MOU was to formalize a commitment to work together to accomplish multiple objectives, including water conservation, environmental protection and stewardship, and enhancing the reliability of our water supplies. This project will help to achieve each of those goals to benefit both the MSWD and the Agua Caliente Band of Cahuilla Indians.

- *Will the project benefit rural or economically disadvantaged communities?*

Yes, all meters within the service area will be updated, including all rural and economically disadvantaged communities within the service area. With the median household income of \$34,251 (2017 American Community Survey), Desert Hot Springs is considered a severely disadvantaged community. The median household income is almost half of State median household income of \$67,169 and below 60% of the national median household income of \$57,652.

Should water shortages occur, this project will support reliability of water supplies, which will minimize the need to increase water rates to all customers, including economically disadvantaged communities.

- *Describe how the project will help to achieve these multiple benefits. In your response, please address where the conserved will go and where it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*

Implementation of the AMI Project is expected to result in minimum water savings of approximately 631 AFY, intended to enhance the water supply in the Coachella Valley groundwater basin. Implementation of the AMI Project will enhance the reliability of the supply in the groundwater basin, by making more groundwater available to its users, thereby offsetting groundwater pumping. This will make water available for the benefit of all users of the basin. In addition, because MSWD relies on emergency connections from DWA and CVWD (and indirectly from the Colorado River and the State Water Project), less reliance on these emergency connections through implementation of the AMI project will allow those supplies to remain in the river system and reduce the extent of diversions.

3. *Does the project promote and encourage collaboration among parties in a way that helps increase the reliability of the water supply?*
- *Is there widespread support for the project?*

There is widespread support for water conservation projects such as the proposed AMI Implementation project, as indicated below:

- **State Support:** through their approval of the 2015 Mission Springs Water District Urban Water Management Plan; The Climate Change Handbook for Regional Water Planning (Department of Water Resources 2011) and the DWR California Single-Family Water Use Efficiency Study which cites conservation as the simplest, most cost-effective way to remedy, or at least postpone water resource management issues.
- **Regional support:** through their approval of the 2014 Coachella Valley Integrated Regional Water Management Plan (IWRMP)
- **Tribal support:** through the 2018 execution of a Memorandum of Understanding (MOU) with the Agua Caliente Band of Cahuilla Indians (ACBCI). The purpose of this MOU was to formalize a commitment to work together to accomplish multiple objectives, including water conservation, environmental protection and stewardship, and enhancing the reliability of our water supplies.
- **Consistent Local Support:** through approval of the 2004 MSWD Water Conservation Master Plan and the 2007 MSWD Comprehensive Water System Master Plan and the 2017 MSWD Strategic Plan.

- *What is the significance of the collaboration/support?*

The District has a desert climate with low rainfall and humidity and a large range between high and low temperatures. The District only receives an average of approximately 5.5 inches of rain each year with the majority (70 percent) occurring between December and February.

With the water supplies being so scarce within the region, MSWD and its partners such as CVWD have recognized the need to manage the Mission Creek Subbasin as a complete unit rather than as individual segments underlying the individual agency's boundaries.

AMI systems have a proven track record in water conservation beyond drought stages. This is one of the single-most important factors in success of the AMI system and is achieved by customer's involvement in staying informed of their water usage. Also, the water usage below the lower tier cost is an incentive that will allow the customer to become an effective partner in water conservation. The water savings achieved through implementation of the AMI system, will benefit all District partner agencies and their customers.

- *Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?*

Yes. According to a May 26, 2017 'Environment & Energy Report' article entitled "*High Cost of Smart Water Meters Slows Adoption by Utilities*", only about 20% of U. S. drinking water utilizes have adopted the new technology (as opposed to 60% of country's electrical meters. Completion of this project and its proven success should encourage other water users to follow suit.

- *Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?*

Well over a hundred years ago, Mark Twain said, "Whiskey is for drinking and water is for fighting." It was as true then as it is today. Conflicts over water rights have existed throughout history, including in the semi-arid Coachella Valley region that the proposed project promises to help to resolve.

Recent examples of these conflicts include the lawsuits between the State Water Resources Control Board and the Morongo Band of Mission Indians, in response to their partnership with Nestle Corp who invested \$26 million dollars to construct a plant on the Morongo reservation to produce one billion bottles of its Arrowhead brand of spring water each year. In 2013, the tribe sued DWA and CVWD asserting rights to the groundwater under its reservation and accusing the agencies of letting the water levels in the aquifer declines. In 2016, MSWD sued both agencies, alleging that DWA's push to become an exclusive "Groundwater Sustainability Agency" over part of MSWDs service area violated a 2004 settlement in which DWA and CVWD pledged to share management of the region's groundwater with MSWD.

At the heart of these conflicts is the simple issue of supply and demand. Population in California has nearly doubled since 1976, resulting in an increase in demand for water, yet supplies remain limited. Any efforts to narrow the gap between supply and demand will help to resolve or alleviate the conflict. The only way the supply can be "increased" is to reduce use of the available groundwater; i.e. to "conserve" the supplies we do have. Any water that can be

conserved in the groundwater will help to mitigate the scale of the conflict. It has been proven that the proposed AMI Implementation project will conserve this precious resource which will allow the MSWD to better manage its use and distribution of the water by reducing the amount of lost water.

As demonstrated, while there is existing tension between various water suppliers, the implementation of this project will not be impacted by the current legal disputes and in fact, will assist with the overall cause of increasing water capacity.

- *Describe the roles of any partners in the process. Please attach any relevant supporting documents.*

MSWD is the sole agency responsible for implementation of the project and does not have any partners.

4. *Will the project address water supply reliability in other ways not described above?*

No.

E.1.3. Evaluation Criterion C — Implementing Hydropower

This criterion is not applicable to this project.

E.1.4. Evaluation Criterion D — Complementing On-Farm Irrigation Improvements

This criterion is not applicable to this project.

E.1.5. Evaluation Criterion E — Department of Interior Priorities

Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports the Department of the Interior 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(is) is well supported in the proposal.

1. *Creating a conservation stewardship legacy second only to Teddy Roosevelt*
 - a. Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment;

Throughout history, fresh water supplies have been limited and man is not able to create more. Management and conservation of this precious natural resource is our goal and is really the only

option to ensure that our basic human needs will be met. Today this goal is more critical than ever before, with recent changes to the environment (e.g. climate change) resulting in extended periods of drought in southern California. The proposed project is the perfect example of utilizing science to better manage our water resources to adapt to these changes in the environment. The science of AMI technology is state-of the-art water metering. Replacing old technologies (AMR meters) with AMI meters as this project proposes, will reduce the quantity of water losses experienced in the distribution system, and thereby conserve our limited water supply. In fact, the proposed AMI Implementation Project is the perfect example of utilizing science to manage and conserve our water resources and adapt to changes in the environment.

- b. Examine land use planning processes and land use designations that govern public use and access;
- c. Revise and streamline the environmental and regulatory review process while maintaining environmental standards.
- d. Review DOI water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity;
- e. e. Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands;
- f. f. Identify and implement initiatives to expand access to DOI lands for hunting and fishing;
- g. g. Shift the balance towards providing greater public access to public lands over restrictions to access.

2. *Utilizing our natural resources*

- a. Ensure American Energy is available to meet our security and economic needs;

This project highlights energy efficiency that is achieved in various aspects of water resource management such as reduction of efforts for meter reading, savings on fuel energy, reduction of greenhouse gas emissions and its subsequent impacts. In addition, automation of the billing system will further reduce energy as compared to conventional billing systems. Increased operational efficiency will also result in reduced energy for water distribution system.

- b. Ensure access to mineral resources, especially the critical and rare earth minerals needed for scientific, technological, or military applications;
- c. Refocus timber programs to embrace the entire 'healthy forests' lifecycle;
- d. Manage competition for grazing resources.

3. *Restoring trust with local communities*

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

Neighbors closest to the MSWD resources include all residents of and in the vicinity of the Coachella Valley, including the Agua Caliente Band of Cahuilla Indians and the Morongo Indians. Directly or indirectly, MSWD shares the limited water resources with these neighbors. Any efforts undertaken by the MSWD to use less of (i.e. conserve) these shared resources will help to restore the trust with these communities and help us to be a better neighbor.

- a. Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.

The proposed project is expected to conserve approximately 631 AFY of the water resources shared by the community, including the Agua Caliente and the Morongo Indian tribes. The project will provide real time documentation of results, showing the actual savings and how it will benefit all. Timely exchange of this information provided easily through the AMI technology will expand the lines of communication with these entities and encourage further discussion and cooperation.

4. *Striking a regulatory balance*

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

5. *Modernizing our infrastructure*

- a. Support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure;

The proposed AMI Project will provide state-of-the-art meter reading technology to replace outdated, less efficient technology, consistent with the goal of “modernizing U.S. infrastructure”.

- b. Remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs;
- c. Prioritize DOI infrastructure needs to highlight: 1) Construction of infrastructure; 2) Cyclical maintenance; 3) Deferred maintenance.

This project is directly in line with the identified DOI infrastructure needs as it includes construction of infrastructure using modern technology that will reduce the cyclical and deferred maintenance requirements tremendously by replacement of antiquated meters with new state-of-the-art technology.

E.1.6. Evaluation Criterion F — Implementation and Results

E.1.6.1. Subcriterion F.1 — Project Planning

Does the applicant have a Water Conservation Plan and/or System Optimization Review (SOR) in place? Please self-certify or provide copies of these plans where appropriate to verify that such a plan is in place.

Provide the following information regarding project planning:

- 1) Identify any district-wide, or system-wide, planning that provide support for the proposed project. This could include a Water Conservation Plan, SOR, Drought Contingency Plan or other planning efforts done to determine the priority of this project in relation to other potential projects.*

MSWD utilizes several documents including the following planning documents:

- MSWD Strategic Plan 2017 with updates in 2019
- Urban Water Management Plan -2015
- Engineer's Report on Water Supply and Replenishment Assessment – by Coachella Valley Water District
- Water Master Plan

Each one of these documents include discussions about incorporating technology, optimizing operational processes for maximum efficiency, energy saving opportunities that AMI will address.

- 2) Describe how the project conforms to and meets the goals of any applicable planning efforts and identify any aspect of the project that implements a feature of an existing water plan(s).*

The AMI implementation directly addresses the MSWD strategic goals that were established in 2017 and updated in 2019. This project is directly in line with Goal No. 1 for protecting and increasing water supplies, Goal No. 2 for infrastructure improvements, Goal No. 3 for proactive financial management, and Goal No. 4 for public outreach. Using the Strategic Plan as a road map, the AMI implementation plan is one of the top priority projects for the District. The current need for meter replacement and the larger vision for water conservation will be achieved once this project is implemented.

E.1.6.2. Subcriterion F.2 — Performance Measures

Provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project (e.g., water saved or better managed, energy generated

or saved). For more information calculating performance measure, see Appendix A: Benefit Quantification and Performance Measure Guidance.

All Water and Energy Efficiency Grant applicants are required to propose a “performance measure” (a method of quantifying the actual benefits of their project once it is completed). A provision will be included in all assistance agreements with Water and Energy Efficiency Grant recipients describing the performance measure and requiring the recipient to quantify the actual project benefits in their final report to Reclamation upon completion of the project. If information regarding project benefits is not available immediately upon completion of the project, the financial assistance agreement may be modified to remain open until such information is available and until a Final Report is submitted. Quantifying project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of Water and Energy Efficiency Grants.

Note: program funding may be used to install necessary equipment to monitor progress. However, program funding may not be used to measure performance after project construction is complete (these costs are considered normal operation and maintenance costs and are the responsibility of the applicant).

The following performance measures will be developed to measure the gained efficiencies in water conservation and energy consumption.

1. Water Savings: Post project water loss records will be compared to the latest prior to start of AMI implementation to determine the actual savings for the goal of water conservation of min 631 AFY
2. Energy Savings: Current cost of energy consumption is readily available and will be compared to the post project values to determine the energy savings
3. Operational Efficiencies: Annual cost of billing process, meter reading and replacement efforts as compared to that after AMI implementation will provide the gained savings through more efficiency operational process.

E.1.6.3. Subcriterion F.3 – Readiness to Proceed

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 of 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.

MSWD staff are in the process of filing the Categorical Exemption to complete the CEQA process in the next month. The District is currently reviewing proposals for installation of the AMI system and will be ready to award a contract for procurement and installation of meters upon receiving the notice of award for this grant application.

Table 4: Estimated AMI Implementation Plan

Estimated AMI Implementation Plan			
Phase	Description	Start	Finish
Design & Technology Selection	Receive proposals for product selection and development of the web-portal	On going	June-2019
	Process CEQA	Mar-2019	April-2019
Project Implementation & Construction Phase	Award of contract	Immediately upon Notice of Award estimated July 2019	Aug-2020
	Meter Replacement	Sep -2019	Dec-2020
	System testing and billing interface	Aug- 2020	Dec-2020
Public Outreach	Conduct neighborhood meetings, consumer notifications, community engagement	Sep 2020	Dec-2020

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

After completion of the CEQA Notice of Exemption, there will not be any permit requirements for this project.

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

MSWD has been preparing for the implementation of the AMI system for a while. The Customer

Service and the Engineering Departments in MSWD have been researching various systems and interviewing potential system providers. MSWD is ready to start implementation of the project once the notice of grant award has been received.

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

MSWD process requires approval of the contract award by the District Board members that will be scheduled upon notice of grant funding. There are no other policy or administrative actions required.

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

The compliance cost has not been discussed with Reclamation, however, the cost of CEQA process has been based on performance of similar projects and utilizing as-needed consultants.

E.1.7. Evaluation Criterion G — Nexus to Reclamation Project Activities

Up to 4 points may be awarded if the proposed project is in a basin with connections to Reclamation project activities. No points will be awarded for proposals without connection to a Reclamation project or Reclamation activity.

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

The proposed project is not connected to any Reclamation project activities.

- *Does the applicant receive Reclamation project water?*
Not applicable.
- *Is the project on Reclamation project lands or involving Reclamation facilities?*
Not applicable.
- *Is the project in the same basin as a Reclamation project or activity?*

Not applicable.

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

Not applicable.

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

Yes. In October 2018, MSWD executed a Memorandum of Understanding (MOU) with the Agua Caliente Band of Cahuilla Indians (ACBCI). The purpose of this MOU was to formalize a commitment to work together to accomplish multiple objectives, including water conservation, environmental protection and stewardship, and enhancing the reliability of our water supplies. This project will help to achieve each of those goals to benefit both the MSWD and the Agua Caliente Band of Cahuilla Indians (attached this agreement).

E.1.8. Evaluation Criterion H — Additional Non-Federal Funding

Up to 4 points may be awarded to proposals that provide non-Federal funding in excess of 50 percent of the project costs. State the percentage of non-Federal funding provided using the following calculation:

Table 5: Percentage of Non-Federal Funding for Project

Percentage of Non-Federal Funding		
Non-Federal Funding Amount	Total Project Cost	Non-Federal Funding Percent
\$3,437,536	\$3,737,536.	92%



SECTION 2: PROJECT BUDGET

Standard Form 424 Budget Information C

This document is included in the separate submission with all of the Mission Springs Water District's completed Standard Form 424 copies.

A. Funding Plan and Letters of Commitment

The District does not have any third-party funding sources or expected Federal funding sources outside of this application for assistance. Currently, MSWD does not have any pending funding requests for this project outside of this application and will provide the funding from the Water Utility Capital Project Funds that will be allocated as part of the Capital Improvement Program for the proposed project.

B. Budget Proposal

Table 6: Total Project Costs

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$300,000
Costs to be paid by the applicant	\$3,437,536
Value of third-party contributions	\$0
Total Project Cost	\$3,737,536

Table 7: Summary of Funding Sources

Funding Sources	Amount
MSWD Cash Contributions	\$3,367,274
MSWD in-kind contributions*	\$70,262
Other Federal Entities	\$0
Bureau of Reclamation	\$300,000
Total:	\$3,737,536

Table 8: Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
Salaries and Wages				\$50,112
Director of Administrative Services	\$85.11/Hour	78	Hour	\$6,639
Customer Service Manager	\$35.34/Hour	416	Hour	\$14,701
Field Service Supervisor	\$55.33Hour	520	Hour	\$28,772
Fringe Benefits				\$20,150
Director of Administrative Services	\$28.51/Hour	78	Hour	\$2,224
Customer Service Manager	\$17.58/Hour	208	Hour	\$7,313
Field Service Supervisor	\$20.41/Hour	520	Hour	\$10,613
Equipment				
Included in Construction Cost				\$
Supplies and Materials				\$3,637,274
¾" AMI/AMR Ultrasonic Water Meter with Dual Integral Radio	\$252.50/Each	12,297	Each	\$3,104,992.50
1" Ultrasonic AMI/AMR Water Meter with Dual Integral Radio	\$346.25/Each	548	Each	\$189,745
1 ½" Ultrasonic AMI/AMR Water Meter with Dual Integral Radio	\$658.70/Each	168	Each	\$110,661.60
2" Ultrasonic AMI/AMR Water Meter with Dual Integral Radio	\$721.59/Each	157	Each	\$113,275.50
3" Ultrasonic AMI/AMR Water Meter with Dual Integral Radio	\$2,310.77/Each	30	Each	\$69,323.10
4" Siemena Mag 8000	\$3,556.43/Each	10	Each	\$35,564.30
6" Siemena Mag 8000	\$4,305/Each	2	Each	\$8,610
8" Siemena Mag 8000	\$5,102.14/Each	1	Each	\$5,102.14
Contractual/Construction				\$30,000
CEQA Process				\$30,000
Third-Party Contributions				
None				\$0
Other				
				\$0
Total Direct Costs				\$
Indirect Costs				
				\$0
Total Estimated Project Costs				\$3,737.536

C. Budget Narrative

Salaries and Wages

April Scott, the District's Customer Service Manager, will be the project manager for this project. She is supported by the Engineering, Operations and Informational Technology staff members. Key personnel are listed in above table. The salaries for these employees are not anticipated to be escalated within the contract implementation period.

Fringe Benefits

Fringe Benefits for key staff members are included in the Budget Proposal table.

Travel

Travel is not included in this proposal

Equipment

Cost of equipment and installation are listed as part of the contractual work.

Materials and Supplies

Material and supply for this project will be part of the contractual work.

Contractual

MSWD has been researching and reviewing proposals from qualified system providers and will be ready to award the contract and start implementation of the project upon receiving the notice of award of this grant. The cost for the procurement, installation and interface of billing services have been included in installation of unit costs of meters and included in the Supplies and Material section of the Budget Proposal table.

Third-Party In-Kind Contributions

There are no third-party contributions towards this project.

Environmental and Regulatory Compliance Costs

The project is categorically exempt from the provisions of CEQA. However, \$30,000 has been allocated for environmental and cultural report studies if that would be necessary under Federal regulations.

Other Expenses

There are no other expenses.



Indirect Costs

There are no indirect costs associated with this project.

Total Costs

The total cost of the project is included in the Budget Proposal table above.

SECTION 3: 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:

MSWD is in the process of completing the Notice of Exemption for CEQA. The Notice of Exemption for this project falls under the categorical exemptions identified by the State Resources Agency. (CEQA Guidelines 14 CCR Section 15300-15331).

As demonstrated in the Budget Proposal summary, majority of the work in this project is the replacement of meters and creating a web portal for billing and customer outreach. It is anticipated that an antenna tower may be needed and the location is currently identified to be by the MSWD offices that has already been disturbed by prior construction activities. Repeat Network Collectors will be installed on existing light poles as needed for data transmission.

This project has been processed for Categorical Exemption that meets the following requirement: “no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.”

- *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.*

As noted above, this project will not have any adverse impact on the surrounding environments. Most of the work involved is to replace the existing meters that will not require any disturbance to the surrounding area. The driving to each meter location is currently occurring on monthly basis and the replacement of the proposed meters will reduce the vehicular traffic and greenhouse gas produced by these trips.

The proposed site for the location of the antenna tower is within the MSWD office area which is located within the City of Palm Desert’s urban area. It has already been disturbed and has gone through the appropriate CEQA process.

- *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?*

As described above, the meter and antenna locations are in developed areas. There are no known species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area.

- *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.*

Installation of meters and antenna will be within existing private and District properties and will not affect any "Waters of the United States".

- *When was the water delivery system constructed?*

MSWD was established in 1953 and was formerly known as Desert Hot Springs County Water District.

- *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.*

The proposed AMI Project will not result in any modification or effect to individual features of an irrigation system such as head gates, canals, or flumes.

- *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.*

The meter replacement will not impact any of the structures or the historic places because the project proposes to replace the existing meters with new ones capable of AMI amenities.

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

The proposed project will only change the meters at developed locations and will not impact any undeveloped or archeological sites.

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

This project will directly benefit the low income or minority population as it will help identify water leakage and therefore lower the water usage cost. In addition, the benefits gained from implementing the AMI system, will allow MSWD to manage and operate the system at a higher efficiency that will lower the overall cost of water distribution to the benefit of its customers.

According to the 2017 American Community Survey, the median household income for Desert Hot Springs is only \$34,251 which is almost half of State median household income of \$67,169 and below 60% of the national median household income of \$57,652.

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

The project is limited to the replacement of existing meters and does not propose any potential to limit access to and ceremonial use of Indian sacred sites.

- *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?*

The proposed project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area.

SECTION 4: REQUIRED PERMITS OR APPROVALS

No permits or approvals other than the contract approvals that have been noted in the schedule section are anticipated to be required in order to implement the Project.

SECTION 5: LETTERS OF SUPPORT

The decision to submit this grant application was made close to the submittal deadline. Therefore, while the agencies approached are supportive of the project, none were able to send letters before submittal.

SECTION 6: OFFICIAL RESOLUTION

The draft resolution included below has been scheduled for approval by the Mission Springs Water District Board members on April 15, 2019.

SECTION 7: UNIQUE ENTITY IDENTIFIER AND SYSTEM FOR AWARD MANAGEMENT

MSWD has initiated the registration process for enrollment with the System of Award Management. The current registration form will be provided to BOR by April 19, 2019.

SECTION 8: APPENDIX

This section contains the required and optional forms MSWD believes are relevant for this submittal.

Standard Form 424 Application for Federal Assistance
Standard Form 424 Budget Information
Standard Form 424D Construction Program Assurances
SF-LLL Disclosure of Lobbying Activities



Appendix: Forms

Items for ARC Consideration and/or Determination:

Determination:

Consideration:

Red Flag Review:

Other Notes: Resolution pending; no letters of support; project to install 12,967 AMI meters

REFERENCES:

Ineligible Projects

- Operations, Maintenance, and Replacement
- Water Reclamation, Recycling and Reuse
- Groundwater Recharge
- Water Purchases
- Building Construction
- Pilot Projects
- High-Efficiency Indoor Appliance and Fixture Installation
- Other Types of Renewable Energy Projects (other than hydropower)