Advanced Metering Infrastructure Project
City of Grand Junction

WaterSMART Grants:
FY20 Water and Energy Efficiency Grant Application

Funding Opportunity Announcement
No. BOR-DO-20-F001

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1.1 Executive Summary

Date: October 3, 2019

Applicant Name: City of Grand Junction

Location: City of Grand Junction, Mesa County, Colorado

Proposal Summary:

The City of Grand Junction has initiated implementation of an advanced metering infrastructure (AMI) project for the City's municipal water system as part of its long-term goal of water supply reliability and efficient water management. The AMI Project includes the upgrade of approximately 9,867 existing manual-read water meters with an AMI fixed-based network system that will automatically collect and store hourly consumption data, aiding in water conservation and water use efficiency and improved water management. The City is in the 6th year of its meter replacement program. Completion of the AMI Project is scheduled to be complete by 2022 with the following activities: 1) upgrade remaining 4,569 water meters to AMI compatible water meters; 2) install a fixed network data collection system that will automatically collect and store hourly consumption data from all 9,867 meters; 3) deploy a web-based utility management portal and a web-based customer portal for water customers to access their accounts to view both real-time flow and information and historical usage data. The upgrade to a fully automated AMI system is expected to result in measurable water savings estimated at 741 acre-feet per year (AFY). Furthermore, deployment of a Customer Portal through which water users will have online access to their own real-time hourly water usage data will prompt customers to make positive changes to their water use behaviors. The AMI Project will reduce real system losses and increase water use efficiency and conservation through the availability of near real-time data on water usage and daily water needs.

The AMI Project will expand upon the City's efforts to promote water use efficiency by accomplishing the following: 1) More rapid identification and correction of water leaks (currently meters are read every month allowing leaks to go undetected and water to be wasted for a month before being noticed), 2) More accurate meter readings compared to aging meters (half of the City's meters are greater than 20 years of age and are likely erroneously registering lower water use than actual water use), and 3) Reduced potable water usage based on customer education through the AMI Project's data on water usage. With the current drought conditions in Colorado and decreased reliability of water

supply in the Upper Colorado River Basin, conservation and water use efficiency are key factors for improving water sustainability within the service area.

Schedule:

The City of Grand Junction already has initiated replacement of manual meters with radio-read meters. The City estimates completion of the comprehensive AMI project in no more than 2 years of grant award, with completion no later than September 30, 2021.

Whether or not the proposed project is located on a Federal facility:

The proposed AMI Project is not located on a Federal facility. The City of Grand Junction's watershed does, however, encompass federal lands within the Grand Mesa National Forest managed by the U.S. Forest Service and the Bureau of Land Management.

1.2 Background Data

The following is a general description of the area to be addressed by the City of Grand Junction's AMI Project.

Source of Water Supply and Water Rights

The City of Grand Junction maintains water rights in five drainage basins: Kannah Creek drainage area, the North Fork of the Kannah Creek, the Whitewater Creek drainage area, the Gunnison River, and the Colorado River. The City has continued to invest in infrastructure projects to improve the reliability of the water supply, treatment, and distribution system. Water from Kannah Creek, the North Fork of Kannah Creek, and the Whitewater watershed is diverted through a system of ditches, canals, reservoirs and pipelines to supply water to the City of Grand Junction Water Treatment Plant, the Kannah Creek Treatment Plant, and agricultural irrigation.

The City continues to maintain the Gunnison River pump station for irrigation water supply and as an emergency backup raw water source. The City maintains a 120 cfs water right on the Gunnison River, of which 18.6 cfs is absolute and 101.4 cfs is conditional. The Grand Junction Water Treatment Plant does not have the capability, at the present time, to treat Gunnison River water to meet current drinking water standards.

The City also maintains an 80 cfs water right on the Colorado River, of which 6.96 cfs is absolute and the remaining is conditional. The City conveyed a 20 cfs water right to the Clifton Water District in 1977. Clifton has obtained adjudication of 11.61 cfs as an absolute right. The City has an agreement with the District to maintain an interconnection to provide up to 4.5 mgd of treated water, if needed.

Current and Projected Water Demand

The City's incorporated area covers 39 square miles and has a population of about 60,000. However, the City's water service area is limited to 9 square miles, serving a population of about 30,000 (9,867 active water taps). Water connections include 1,280 Commercial customers, 246 Government customers, and 8,341 residential customers.

The rest of the incorporated area (about 75% of the City) is served by the Ute Water District.

By 2035, the population of the City of Grand Junction is expected to top 100,000. While population forecasts for the District's water service area estimate an annual growth rate of 2.95%, water demand for the City's water service area is currently only projected to grow at an annual rate of 1.4% because of the present service area boundaries. In 2019, the City estimated that the future population within the City of Grand Junction water service area at 49,000 in 2069. Using the current per capita potable water demand and the projected population for 2069, annual treated water demand is estimated at 8,760 acre-feet (AF). This is 3,460 AF more than the current potable water treatment plant production demand of 5,300 acre-feet in 2018.

In 2018, the City of Grand Junction developed a water supply model to determine the firm yield of its Kannah Creek water supply. The model determined the firm yield to be between 5,450 to 5,925 AF once reduced for non-potable deliveries, and treatment and distribution system losses, this results in approximately delivered to customer taps within the service area.

Population increases within the Grand Junction service area are projected to cause an increase in demand that will exceed the Kannah Creek firm yield, making the City's other water rights on the Colorado and Gunnison Rivers critical to the reliability of the system.

Potential Shortfalls in Water Supply

Although all of Colorado has been experiencing drought and water use efficiency and conservation continues, the City does not anticipate a shortfall in supply to meet demands.

Water Delivery System

The City's water delivery system consists of 308 miles of water distribution piping and 9,761 service connections. In addition to the City of Grand Junction service area, the City also supplies potable water to the Kannah Creek service area, which serves 167 connections. The City also maintains one booster pump station.

Past Working Relationships with Bureau of Reclamation

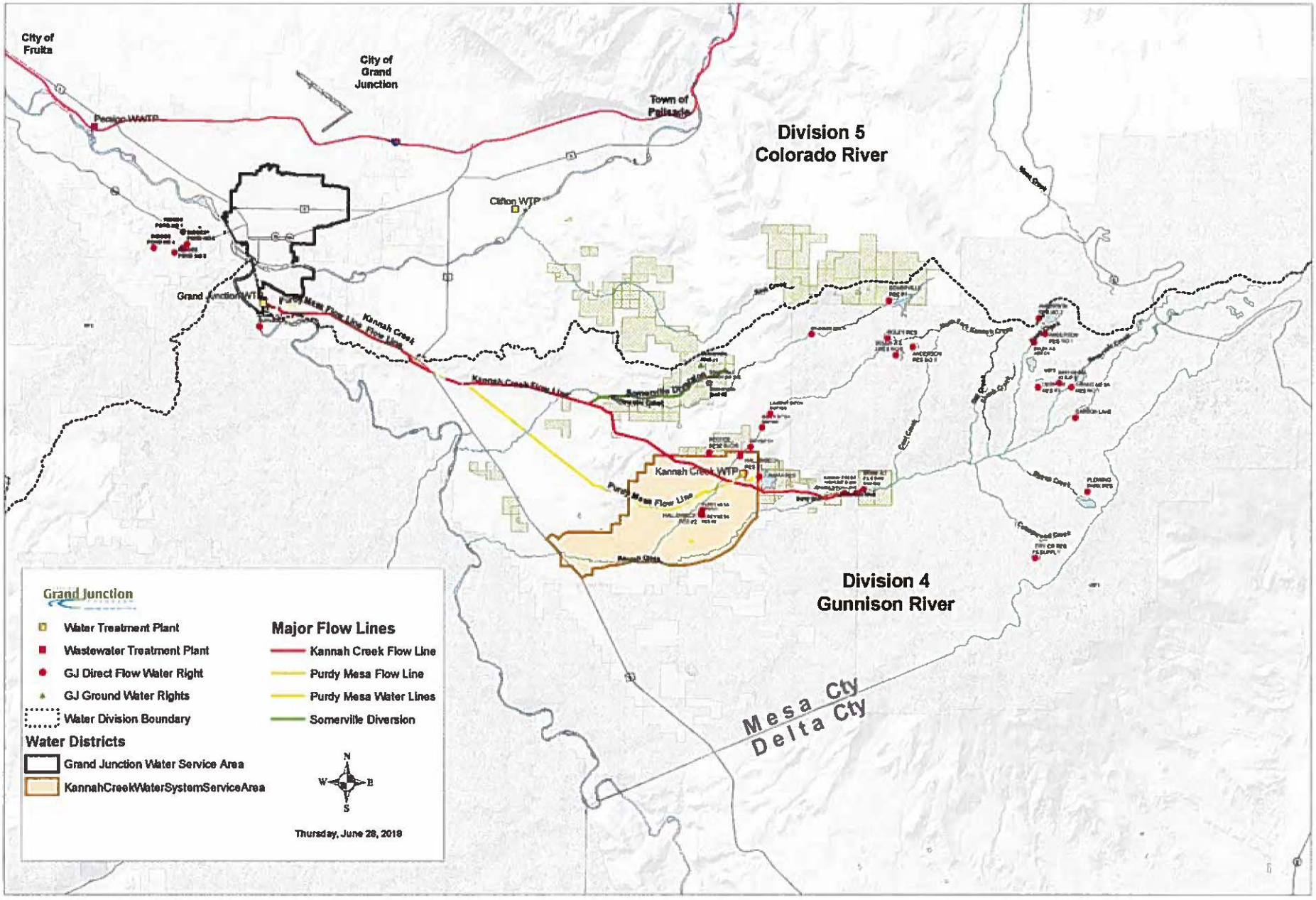
The City of Grand Junction was awarded a grant to implement a Water Marketing Strategy under the FY18 WaterSMART Grants program (BOR-DO-18-F010).

The City of Grand Junction has worked with the Bureau of Reclamation along with their contract operators, Grand Valley Water Users Association and Orchard Mesa Irrigation District, in the past on transferring drainage infrastructure from the Bureau of Reclamation to the City of Grand Junction. The Bureau of Reclamation had not maintained or operated either D Drain or OM Drain 1-1, as an urban storm water drain, and asked the City to take over the drains. D Drain was transferred in 2006, while OM Drain 1-1 was transferred in

2009. The original purpose of both Drain D and Drain 1-1 was to collect administrative spills of agricultural water from laterals associated with the Grand Valley Project and irrigation return flows, which consist of seepage, surface drainage and unused waters, from the lands served by the Grand Valley Project. Once it was determined that a majority of the volume conveyed by these drains was due to storm water runoff and not agricultural water, the ownership, maintenance, and operational control of both Drains was transferred to the City of Grand Junction.

1.3 Project Location

The City of Grand Junction's AMI Project is located in Mesa County, Colorado and encompasses an area that includes the City of Grand Junction, the Colorado River Basin between the towns of Clifton and Palisade, the Gunnison Basin near Orchard Mesa, and the Kannah Creek watershed on the Grand Mesa, as shown on the map below.


City of Fruita
City of Grand Junction
Town of Palisade
Clifton WTP
Grand Junction WTP
Kannah Creek
Kannah Creek Flow Line
Purdy Mesa Flow Line
Somerville Diversion
Kannah Creek WTP
Division 5
Colorado River
Division 4
Gunnison River
Mesa Cty
Delta Cty
Grand Junction
Water Treatment Plant
Wastewater Treatment Plant
GJ Direct Flow Water Right
GJ Ground Water Rights
Water Division Boundary
Water Districts
Grand Junction Water Service Area
KannahCreekWaterSystemServiceArea
Major Flow Lines
Kannah Creek Flow Line
Purdy Mesa Flow Line
Purdy Mesa Water Lines
Somerville Diversion
N
W
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S
Thursday, June 28, 2018

1.4 Technical Project Description

The City of Grand Junction has initiated implementation of an advanced metering infrastructure (AMI) project for the City's municipal water system as part of its long-term goal of water supply reliability and efficient water management. The AMI Project includes the upgrade of approximately 9,950 existing manually-read water meters with an AMI fixed-based network system that will automatically collect and store hourly consumption data, aiding in water conservation and water use efficiency, improved water management, energy savings, and reduced carbon emissions. The City is entering into the second phase of its AMI Project with AMI Project Activities to include: 1) upgrade of the remaining 4,460 water meters to AMI compatible water meters; 2) install a fixed network data collection system that will automatically collect and store hourly consumption data; 3) deploy a web-based utility management portal and a web-based customer portal for water customers to access their accounts to view both real-time flow and information and historical usage data. The upgrade to a fully automated AMI system is expected to result in measurable water savings estimated at 417 acre-feet per year (AFY). Furthermore, deployment of a Customer Portal through which water users will have online access to their own real-time hourly water usage data will prompt customers to make positive changes to their water use behaviors. The AMI Project will reduce real system losses and increase water use efficiency and conservation through the availability of near real-time data on water usage and daily water needs.

In 2014, the City began implementation of an automated meter reading (AMR) drive-by network that would make meter reading more efficient. As of June 30, 2019, the City has replaced about 5,298 manual meters to AMR meters which represents about 53% of all meters. The AMR meters installed have AMI capabilities, and as a result, will facilitate migration to an AMI system. The City currently collects meter information from automated meters via a driving route using radio read technology. Once the AMI Project is fully implemented, the City will transition to a fixed network data collection system.

The City's AMI Project will involve the following activities:

Task 1 Upgrade Manual Water Meters to AMI Compatible Meters

The City will continue replacing meters with AMI compatible meters. Approximately 4,569 meters will be replaced according to the following schedules:

Table 1: Leak Detection/Correction Behind the Meter

Fiscal Year	Dates	Number of Meters
Pre-award	July 1, 2019 – September 30, 2019	500
FY19	October 1, 2019 – September 30, 2020	2,680
FY20	October 1, 2020 – September 30, 2021	1,389

Task 2 Propagation Study

A preliminary propagation analysis was performed by the AMI technology provider to estimate the number of fixed network data collectors would be required to cover the City's

9 square mile service area. The preliminary analysis indicated that 16 collectors would be needed to capture 99% of the services. A more detailed propagation study will be performed to validate propagation, equipment specifications, and system performance.

Task 3 Install Fixed Network Data Collection System

The results of Task 2 will be utilized to finalize the scope of this task and procure fixed network data collectors. Based on the preliminary propagation study, the fixed network data collection system will include up to 16 collector units. The propagation study will determine strategic placement and installation of the data collectors to maximize effectiveness. The City intends to install data collectors on municipal properties.

Task 4 Implement Utility Management and Customer Portals

The City will evaluate software products that can integrate with the AMI network and existing customer billing software. The City will request software demonstrations to familiarize staff with utility management and customer portal features such as notifications for no flow, high consumption, and leak events. The selected software will be implemented as part of this task. Staff training and customer education and outreach will also be performed as part of this task. Customer outreach and education effort will commence to notify customers of the availability of new customer portal software, featuring tools to help customers better manage their own water usage.

Task 5 Project Management and Reporting Requirements

The City's designated project manager will serve as a primary point of contact for the Bureau of Reclamation and will provide overall project management and fulfill reporting requirements included in the financial assistance agreement. The following reports will be submitted during the term of the agreement:

Task 5.1 Financial Reports

The City will submit a fully completed form SF-425 Federal Financial Report on at least a semi-annual basis and with the final performance report. The SF-425 must be signed by a person legally authorized to obligate the recipient.

Task 5.2 Interim Performance Reports

The City will submit interim performance reports on at least a semi-annual basis. At a minimum, each interim performance report must include the following information:

- A comparison of actual accomplishments to the milestones established by the financial assistance agreement for the period
- The reasons why established milestones were not met, if applicable
- The status of milestones from the previous reporting period that were not met, if applicable
- Whether the project is on schedule and within the original cost estimate
- Any additional pertinent information or issues related to the status of the project.

Task 5.3 Final Performance Report

The City will submit a final performance report encompassing the entire period of performance. The final performance report must include, but is not limited to, the following information:

- Whether the Project objectives and goals were met
- Discussion of the benefits achieved by the Project, including how the plan improves long-term water supply sustainability
- How the water marketing strategy demonstrates collaboration amongst the stakeholders
- Photographs documenting the Project are also appreciated

1.5 Evaluation Criteria

Evaluation Criterion A—Quantifiable Water Savings (30 points)

A.1 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.

Funding for this grant will result in replacement of 4,569 manual-read meters with AMI meters. Since the AMI network has not yet been installed across the network, the City has not yet realized savings associated with the AMI meters that have already been installed. Therefore, the estimated water conserved is based on the benefits associated with installing the AMI network across the entire service area (9,867 meters total). Completion of this project will result in conserving approximately 741 AFY as a direct benefit of installation of completing installation of AMI compatible meters and installation of the AMI network across the entire service area. The installation of the AMI system's network (which will provide near real-time notification of water use) will result in water savings from these sources:

1. Water conserved by water use reduction: 366 AFY
2. Improved residential and distribution system leak detection: 375 AFY

TOTAL 741 AFY

Conserved water will remain in the Kannah Creek watershed, which is part of the Upper Colorado River Basin.

The details about the sources of water savings is provided below.

SOURCE #1: Water Conserved by Water Use Reduction = 366 AFY
A case study performed by IBM Research and published by Hanes, D. (2013), *Every drop counts: How water utilities are putting water efficiency first*, found that informed, engaged, and incentivized citizens, through use of a customer portal, conserved an average of 6.6 percent more water than those with standard billing procedures. Given the current water demand within the AMI project area of 5,550 AFY, this reduction in water usage will conserve approximately 366 AFY for the service area. While the City

has already replaced 53% of its meters with AMI-compatible meters, the customer portal is not in place. Therefore, we have not yet realized the water savings associated with providing customers with real-time data. Once the customer portal is in place, the City will be able to engage and incentivize all customers in the service area (9,867 taps).

Preliminary results reported by the Texas A&M University System from a study conducted with Arlington Water Utilities indicate AMI customer portal users reduced their water use by an average of 8.7 percent in the wintertime and 17 percent in the summertime compared to nonportal users. Since the City of Grand Junction has a much higher water demand in the summertime compared to wintertime because customers utilize potable water for outdoor watering, the City should be able to realize higher actual water savings than the estimated 366 AFY if the City through customer education and promotion of the customer portal.

SOURCE #2: Improved Residential Leak Detection = 375 AFY

The AMI system will provide real-time data that will recognize if there is an increase in consumption that might indicate a leak, leading to faster detection and repair. Water savings due to improved detection of residential leaks (behind the meter) was calculated using reduction factors and data from the EPA's WaterSense website. The average household's leaks can account for 10,000 gallons of water wasted every year. Furthermore, 10 percent of homes have leaks that waste 90 gallons or more per day (or 32,850 gallons per year). The City plans to retrofit AMI meters for 9,867 taps. While the City replaced 53% of its meters with AMI-compatible meters, the City is only collecting data on a monthly basis using the mobile radio read method. Therefore, we have not realized the potential savings associated with real-time data collection.

Additionally, the City is enrolled in the Colorado Water Loss Initiative (CWLI), a comprehensive program of AWWA M36 water loss training and technical assistance for urban water systems across Colorado. The AWWA M36 water audit methodology is recommended best practice in North America to support informed decision making for water loss control. This program stems from an identified action in Colorado's Water Plan: to support water management activities for all water providers. The program includes four work sessions over a 2-year period, beginning in April 2019. The City is receiving training and technical assistance from national water loss experts as well as recommended next steps for water loss reduction as an outcome of participating in the program. Based on data generated from Phases 1 and 2 of the CWLI program, our water losses were calculated at 116.78 MG per year, at a cost of $442,348. Our data shows that we are above the benchmark of the Unavoidable Annual Real Losses (UARL) which suggests that we can continue to realize water loss savings with the implementation of technology such as AMI. Furthermore, our CWLI data supports the EPA's Watersense calculations shown in Table 2. According to WaterSense, an average household's leaks account for 10,000 gallons of water per year. CWLI calculations which incorporated our number of service connections, water pressure, and average length of service line calculated water losses at 9,911 gallons per year.

Table 2: Leak Detection/Correction Behind the Meter

Households	% of Households	Loss/HH/Gallons/Yr	Loss/Gallons/Total/Yr	AF Saved Through Repairs
9,867	90	10,000	88,803,000	275
9,867	10	32,850	32,413,905	100
			Total Water Savings Source #2	375

A.2 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)?

Current water losses are either seeping into the ground or are conveyed to the Colorado River via a ditch or stormwater conveyance system.

A.3 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 noted in the calculations presented above, water savings were estimated using factors derived from:

- IBM Research and published by Hanes, D. (2013), Every drop counts: How water utilities are putting water efficiency first, and
- EPA's WaterSense website.
- Colorado Water Loss Initiative and AWWA's Water Audit Software
- AWWA's Manual M36, Water Audits and Loss Control Programs

A.4 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.

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.

Please see calculations presented above as well as the Water Audit Worksheet shown in Appendix F.

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

Please see calculations presented above as well as the Water Audit Worksheet shown in Appendix F. By making comparisons to other utilities that have implemented AMI, such as Denver Water, and seeing how they have reduced their annual per capita consumption by 20 percent between 2001 and 2015 shows that there is still a potential for the City of Grand Junction's residents to further reduce water use. AMI is an important component of this education process as it will clearly demonstrate to each customer what their individual usage is.

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 user reductions have been estimated and the basis for the estimations.

Please see calculations presented above and the worksheet in Appendix F, which utilizes data gathered from our distribution system.

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).

N/A

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

Meters: The City's overall AMI project is seeking to replace 4,569 manual meters with AMI compatible meters. The City has selected Neptune through a competitive procurement process in 2015. Approximately 4,569 Neptune T-10 "smart" meters with

R900i E-coders are proposed to be installed for the purpose of replacing antiquated and diminishing meters. These customers will have the ability to access and benefit from the numerous customer portal tools and features available upon AMI implementation.

Fixed Network Data Collection System: The City is proposing to install up to 16 data collectors across the City's service area. A preliminary propagation study performed on the services area determined that 16 data collectors will read approximately 99% of the City's services or 9,556 meters (See Propagation Analysis included in Appendix D). As described in Task 2, the City will perform a more detailed propagation study to refine the number of data collectors needed to maximize data collection coverage. Upon data collector installation, customers will have the ability to access and benefit from the numerous customer portal tools and features available with AMI.

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

Actual water savings will be verified upon completion of the Project through the use of utility data management software to conduct a water balance of the system. Additionally, all usage data for meters equipped with AMI will be compared to historical values to determine water savings due to increased water use efficiency.

Evaluation Criterion B—Water Supply Reliability (18 points)

B.1 Will the project address a specific water reliability concern? Please address the following:

- 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)?

The City's AMI Project will help address specific water reliability concerns in the Kannah Creek and Lower Gunnison basin, where there is a projected shortage. The Statewide Water Supply Initiative (SWSI) 2010 identified water supply shortfalls for both the agricultural and M&I sectors in the Gunnison River Basin by 2050:

- Agricultural – 128,000 acre-feet per year (current), 116,000 (2050)
- M&I – 36,000 to 43,000 acre-feet per year

The Basin Implementation Plant (BIP) for the Gunnison Basin identified addressing M&I and agricultural water shortages as key goals.

The City's proposed AMI Project will realize water savings that can help address these shortfalls. Through demand side management, The City could partially offset the overall shortages that have been identified in the Gunnison River basins.

- 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.

The conserved water could be used to reduce diversions, limit the amount of backup water supplies that are needed to serve long-term municipal water demands, and potentially make water rights available for lease or transfer.

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

The City is currently developing a Water Marketing Strategy under a grant awarded by the Bureau of Reclamation (BOR-DO-18-F010). Any water savings identified could then be used to revise long-term water demand projections and thereby identify underutilized water rights that could be potentially be included in the water marketing strategy.

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

The estimated quantity of conserved water (741 AF) will be used to revise long-term projections of municipal water demand. Based on these projections, the total amount or a portion thereof could be made available for alternate uses.

B.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)?
- 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.

Water savings achieved through the City's AMI Project has the potential to benefit multiple users including agricultural, municipal and industrial.

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

The City's AMI Project supports the City's overall initiative to address water reliability and drought resiliency as well as the water reliability objectives of the Grand Valley Water Conservation Plan.

- Will the project benefit Indian tribes?

The project is not expected to benefit Indian tribes.

- Will the project benefit rural or economically disadvantaged communities?

The project is expected to benefit an economically disadvantaged community. The City of Grand Junction meets the following factors for an economically disadvantaged community:

Factor 1 Community Median Home Income (MHI) is equal to or less than 80 percent of State MHI.

Factor 2 Community Median Home Value (MHV) is less than 100 percent of State MHV.

Factor 3 A.) County 24-month unemployment average is greater than the state average plus 1 percent. OR B.) Loss in the number of jobs in the county over 10-year period.

FACTOR	City of Grand Junction	BENCHMARK
MHI	$52,623	<= $55,293 (80% of State MHI)
MHV	$263,333	<= $378,300 (100% of State MHV)
County 24-Month Unemployment	3.6%	>= 3.8% (State average +1%)
County 10-Year Jobs Change	-3,919	<= 0

Source: 2019 SRF Disadvantaged Community Data Application

- 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.

Water savings achieved through the City's AMI Project has the potential to benefit multiple users including agricultural, municipal and industrial, and the environment. The estimated quantity of conserved water (741 AF) will be used to revise long-term projections of municipal water demand. Based on these projections, the total amount or a portion thereof could be made available for alternate uses. These savings will be used to either reduce diversions, make water available for lease or transfer, or left in the river system. The City's water marketing strategy will help further define possible alternate uses.

B.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?
- What is the significance of the collaboration/support?
- Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?

- Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?
- Describe the roles of any partners in the process. Please attach any relevant supporting documents.

The City received widespread support of its Water Marketing Strategy project. Since the AMI Project is complementary to this effort, it will further support collaboration among parties to increase reliability of the water supply in the Grand Valley. The City of Grand Junction's efforts could lead the way for other municipal utilities in Colorado to consider AMI technology. Since the City of Grand Junction's service area abuts the Clifton and Ute service areas, there may be opportunity for the Districts to share collector devices across service areas.

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

Water reliability issues are fully discussed above.

Evaluation Criterion C—Implementing Hydropower (18 points)

This project will not include new hydropower capacity.

Evaluation Criterion D—Complementing On-Farm Irrigation Improvements (10 Points)

This project does not complement On-Farm Irrigation Improvements.

Evaluation Criterion E—Department of Interior Priorities (10 Points)

The following Department of the Interior priorities are applicable to the City of Grand Junction's proposed project:

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

Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment.

The City of Grand Junction will utilize best practices to implement Advanced Meter Infrastructure to realize water savings. The City will be modernizing infrastructure by replacing manual-read meters with AMI-compatible meters. A fixed network data collection system and customer portal will be implemented to collect data real time and provide customers with information about their water use. AMI systems have been proven to result in significant water conservation practices by customers. In addition to water savings, the City expects to reduce vehicle miles traveled for meter reading and maintenance. This is expected benefit the environment by reducing carbon emissions.

E.2. Utilizing our natural resources

N/A.

E.3. Restoring trust with local communities

N/A

E.4. Striking a regulatory balance

N/A

E.5. Modernizing our infrastructure

The City of Grand Junction's AMI Project supports the White House Public/Private Partnership Initiative to modernize U.S. infrastructure by implementing Advanced Metering Infrastructure. AMI is the foundation of a smart utility that will enable the City to use the latest technology to better serve our customers. AMI technology connects every part of a water utility and uses the resulting data to optimize operations, administration and infrastructure. AMI allows water meters to communicate water usage information wirelessly using radio or cellular technologies.

AMI allows customers to better control their consumption, manage their bills and help them to better identify and correct water service issues by providing them with real-time access to meter and water usage information. AMI will also result in environmental and economic benefits by reducing the City's carbon footprint as well as operating costs related to meter reading. It will also help the City better monitor and identify leaks in our system, reducing water losses and preventing larger main breaks.

Evaluation Criterion F— Implementation and Results (6 Points)

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.

The City of Grand Junction, the Clifton Water District, and Ute Water Conservancy District collaborated to develop the Grand Valley Regional Water Conservation Plan. A copy of this plan is included as Appendix E.

Provide the following information regarding project planning:

(1) Identify any district-wide, or system-wide, planning that provides 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.

The City of Grand Junction, the Clifton Water District, and Ute Water Conservancy District collaborated to develop the Grand Valley Regional Water Conservation Plan. As noted on Page 50 of the plan, leak detection programs are a priority for water utilities in the

Grand Valley. AMI supports advancing leak detection programs to provide real-time data from the current high/low meter reading trend evaluations conducted on a monthly basis.

(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).

This project addresses the goals mentioned in our Regional Water Conservation Plan specifically in the area of Leak Detection Programs by upgrading our existing technology to have improved access to the information our water meters provide as well as to install meters on distribution mains to allow us to monitor for distribution main breaks. It also supports Goal #2: "Continue to create public awareness of wise water use and conservation" as well as Goal #4: "Promote water saving awareness in the commercial/industrial sectors." The real-time information and the ease at which this information will be available to our customers will better enable us to meet these two goals.

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 City realizes the importance of quantifying results to evaluate the Project's performance. Evaluating AMI Project metrics is an important means of determining the relative effectiveness of various water management strategies. It is the goal of the City to fully evaluate the benefits and capabilities of the AMI technology by establishing a set of key performance measures to quantify the Project benefits. These performance measures are preliminary and will be further evaluated and refined throughout the planning and implementation stages of the Project.

The City will use the following performance measures to evaluate the performance of the newly installed AMI equipment:

Water Conserved

- **Water demand:** Gauging the effectiveness of the AMI implementation can be accomplished through either analysis of individual accounts in the Project area or sub-areas of the service area to quantify reduction in water demand. Installation of distribution system AMI meters early on in the program will enable establishing a baseline for the sub-areas. Historical consumption data prior to AMI implementation will be compared with consumption data after AMI implementation. Favorable changes in observed water demand patterns will quantify the overall success of the AMI implementation.
- **Water losses:** The City will also measure water losses mitigated. The City is enrolled in the Colorado Water Loss Initiative (CWLI), a comprehensive program of AWWA M36 water loss training and technical assistance for urban water systems across Colorado. The AWWA M36 water audit methodology is recommended best practice in North America to support informed decision making for water loss control. The City will utilize the tools and metrics established in AWWA M36 to monitor performance of the AMI Project.

The City has a clear baseline of historical water distribution and billing data to compare with current and future records once AMI is installed and the utility management software is put into service. Data analytics and customer engagement portal software is included as part of the Project proposal and will assist the City in analyzing the data collected from the Project. It is the goal of the District to equip City employees with the necessary tools to not only monitor water production and consumption but to also analyze and evaluate solutions for minimizing water losses and increasing water use efficiency. Similarly, it is the goal of the City to provide tools and resources to the customers so that they can comprehensively understand their water usage patterns and have access to regular feedback on the effectiveness of any activities and efforts to reduce water usage in their homes and businesses.

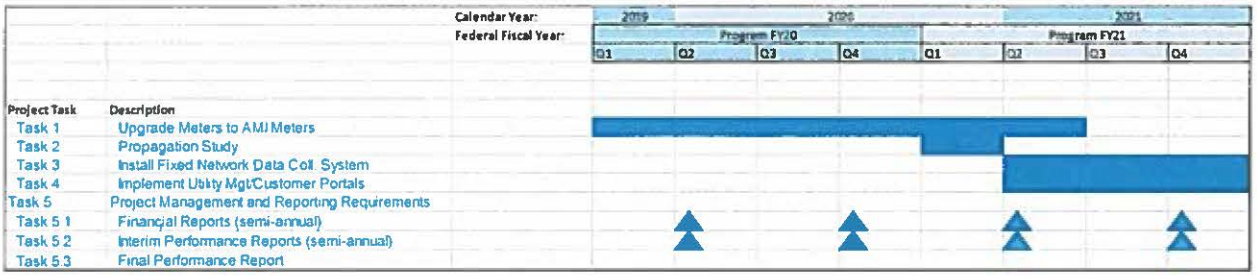
The City monitors water supply and demand data on a monthly basis. Data analytics and trend analysis can also be performed on a monthly, quarterly and annual basis. Our Customer Service Department has parameters set in their billing software to flag users with an abnormal spike in their usage from one billing period to the next; when we are able to fully implement our AMI system, we will be able to achieve this in real-time.

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.

The following project schedule shows the stages and duration of the proposed work, including major tasks, milestones, and dates.



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

The City does not anticipate any permits will be required for this project since meters will be installed within the City's right of way and fixed network data collectors will be installed on City properties.

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

The only design work that will need to be performed is the propagation study described in Task 2.

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

The City does not anticipate the need for any new policies or administration actions to implement the AMI Project.

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

The City does not anticipate any environmental compliance requirements.

Evaluation Criterion G— Nexus to Reclamation Project Activities (4 Points)

Is the proposed project connected to Reclamation project activities? If so, how?

Reclamation's WaterSMART Program focuses in part on the uses of technology to balance future water supply and demand needs throughout the western United States.

The proposed AMI Project demonstrates the opportunities for significant water and energy conservation through remote sensing, state-of-the-art software, and systems integration.

Please consider the following:

- Does the applicant receive Reclamation project water?

The City of Grand Junction does not receive Reclamation water.

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

The City's AMI Project is not on Reclamation project lands or directly involve Reclamation facilities.

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

The City of Grand Junction's water rights are within two river basins - the Colorado River and the Gunnison River. The following Bureau of Reclamation projects are located within these basins and may realize some benefits from the City's proposed water savings that will result from the AMI Project:

- **Grand Valley Project:** The Grand Valley Project is in west-central Colorado in the Colorado River Basin. Water is furnished to 33,368 acres of land along the Colorado River in the vicinity of Grand Junction. The project works include a diversion dam, a power plant, two pumping plants, two canal systems totaling 90.1 miles, 166 miles of laterals, and 113 miles of drains. Participants include: Mesa County Irrigation District, Orchard Mesa Irrigation District and Palisade Irrigation District.
- **Uncompahgre Project:** located on the western slope of the Rocky Mountains in west-central Colorado. The project is operated by Uncompahgre Valley Water Users Association and serves lands surround the town of Montrose and extends 34 miles along both sides of the Uncompahgre River to Delta, Colorado. Project features include Taylor Park Dam and Reservoir, Gunnison Tunnel, 7 diversion dams, 128 miles of main canals, 438 miles of laterals, and 216 miles of drains. The systems divert water from the Uncompahgre and Gunnison Rivers to serve over 76,000 acres of project land.

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

The City of Grand Junction's AMI Project will contribute water to the Upper Colorado River Basin downstream of Reclamation projects.

- Will the project benefit any tribe(s)?

The City of Grand Junction's AMI Project is not expected to benefit any tribes.

Evaluation Criterion H— Additional Non-Federal Funding (4 Points)

State the percentage of non-Federal funding provided using the following calculation:

Non-Federal Funding	$1,521,141
Total Project Cost	$1,821,141
% Non-Federal Funding	84%

2.0 Environmental and Cultural Resources Compliance

All projects being considered for award funding will require compliance with the National Environmental Policy Act (NEPA) before any ground-disturbing activity may begin.

- 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.

No.

- Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

No.

- 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.

No.

- When was the water delivery system constructed?

The City of Grand Junction's water delivery system was originally constructed in 1900. The oldest assets in the City's existing distribution system infrastructure components are 1940.

- 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.

No.

- 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.

N/A.

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

No.

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

No.

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

No.

- 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.

3.0 Required Permits or Approvals

Since AMI meters and data collectors will be installed within the City's right of way or on City property, the City does not anticipate the need for any Federal, state, territorial, tribal, or local permits or approvals.

4.0 Project Budget

4.1 Funding Plan and Letters of Commitment

The non-Federal share of Project costs will be provided by the City of Grand Junction. The City will make its contribution to the cost share requirement through a combination of monetary and in-kind contributions. The source of funds is the City's Water Enterprise Fund.

Project funding will not be provided by third party funding sources. Therefore, no letters of commitment are included with this application.

Table 1—Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non Federal Entities	
1. City of Grand Junction, Water Enterprise Fund	$1,345,460
2. City of Grand Junction in-kind contribution*	$175,581
3.	
Non-Federal Subtotal	
Other Federal Entities	
1.	
2.	
3.	
Other Federal Subtotal	
REQUESTED RECLAMATION FUNDING	**$300,000**

4.2 Table 2—Budget Proposal (Total Project Costs)

BUDGET ITEM DESCRIPTION	Project Element/Task	COMPUTATION		Quantity	TOTAL COST
		$/Unit	Quantity		
Salaries and Wages					
Pipeline Maintenance Worker	Task 1 Upgrade Meters to AMI Meters	$ 24.22	5222	hours	$ 126,470
Customer Service Supervisor	Task 4 Implement Utility Mgt/Customer Portals	$ 35.24	80	hours	$ 2,819
Project Manager	Task 5.1 Financial Reports	$ 43.03	4	hours	$ 172
Budget coordinator	Task 5.1 Financial Reports	$ 36.13	4	hours	$ 145
Project Manager	Task 5.2 Interim Performance Reports	$ 43.03	32	hours	$ 1,377
Administrative Assistant	Task 5.2 Interim Performance Reports	$ 20.92	4	hours	$ 84
Project Manager	Task 5.3 Final Performance Report	$ 43.03	40	hours	$ 1,721
Budget coordinator	Task 5.3 Final Performance Report	$ 36.13	4	hours	$ 145
Administrative Assistant	Task 5.3 Final Performance Report	$ 20.92	4	hours	$ 84
Fringe Benefits					
Pipeline Maintenance Worker		32%	$ 126,469.92		$ 40,470
Project Manager		32%	$ 3,270.28		$ 1,046
Budget Coordinator		32%	$ 289.04		$ 92
Administrative Assistant		32%	$ 167.36		$ 54
Customer Service Supervisor		32%	$ 2,819.20		$ 902
Contractual/Construction					
Meters	Task 1 Upgrade Meters to AMI Meters	$ 240.00	4569	meters	$ 1,096,560
	Task 2 Propagation Study	$ 25,000.00	1	each	$ 25,000
Collector Units	Task 3 Install Fixed Network Data Coll. System	$ 14,000.00	16		$ 224,000
	Task 4 Implement Utility Mgt/Customer Portals	$ 300,000.00	1	software	$ 300,000
TOTAL DIRECT COSTS					$ 1,821,141
TOTAL ESTIMATED PROJECT COSTS					$ 1,821,141

4.3 Budget Narrative

The City's proposed budget includes the following costs.

Salaries and Wages

The City's designated project manager will be Mark Ritterbush, Water Services Manager. Other key personnel include Randi Kim, Utilities Director; Amy Brown Administrative Assistant; Linda Longenecker, Budget Coordinator; and Debi Overholt, Customer Service Supervisor.

The salaries and wages included it the budget proposal are for City employees who will be administering and overseeing the AMI project. Tasks may include but are not limited to project meetings, inspections, preparing bid advertisements, software integration, training, and public outreach and education.

In addition to project management and administration, the City utilizes City Pipeline Maintenance Workers to self-perform meter installation.

The cost share for these budget items will fall solely on the City. The salary and wage rates provided are based on 2019 rates.

Position	Direct Labor Rate (hourly)	Fringe Rate	Estimated Hours
Mark Ritterbush (Project Manager)	$43.03	32%	116
Amy Brown (Admin Assistant)	$20.92	32%	10
Linda Longenecker (Budget Coordinator)	$36.13	32%	10
Debi Overholt (Customer Service Supervisor)	$35.24	32%	80
Pipeline Maintenance Workers	$24.22	32%	5,222

Fringe Benefits

Fringe rate includes employer-paid taxes and benefits such as Medicare, Social Security, Health Insurance, Life Insurance, Retirement, and Vehicle Allowance. These rates are used for application purposes only.

Travel

No travel costs are included in this budget.

Equipment

Equipment costs have been included under the contractual portion of this narrative.

Materials and Supplies

Material and supply costs have been included under the contractual portion of this narrative.

Contractual

The contractual budget makes up the bulk of the overall budget proposal. The City will contract with local vendors for the purchase and installation of 4,569 "smart" meters, up to 16 fixed base data collectors, software to compile meter reading information into a usable format, customer/utility portal to maximize the benefits of the system, and staff training. The number of fixed base data collectors were obtained by a preliminary propagation study undertaken in March 2018; however, final figures and collector placement will be finalized once the propagation analysis is completed. The rates and costs for contractual services for meters was based upon a competitive procurement process conducted in 2015, and contract renegotiation in 2018.

The cost of meters is based upon meter size. Average cost of meters for all sizes in the City's system is $240.

Costs for the fixed network and software are estimated based upon preliminary pricing that includes:

Propagation study	$25,000
Fixed network data collectors (16 @ $10,875)	$174,000
Installation contractor for fixed network	$50,000
Utility Management Customer Portal software	$300,000

The City plans to conduct a competitive procurement process for AMI software implementation.

Other Expenses

No other expenses are included for this project.

Indirect Costs

Indirect costs are not included in the requested budget.

Total Costs

Total project costs are estimated at **$1,821,141** including the Federal and non-Federal cost share amounts.

Appendix A

Mandatory Federal Forms

- SF-424 Application for Federal Assistance
- SF-424A Budget Information for Non-Construction Programs
- SF-424B Assurances for Non-Construction Programs

Appendix B
Letters of support

Letters from the following interested stakeholders supporting the advanced metering infrastructure project for the City of Grand Junction are included.

- Colorado Water Conservation Board
- Grand Valley Water Users Association

COLORADO
Colorado Water
Conservation Board
Department of Natural Resources
1313 Sherman Street, Room 718
Denver, CO 80203

February 26, 2019

Randi M. Kim
Utilities Director
City of Grand Junction
333 West Avenue, Building E
Grand Junction, CO 81501

Subject: Letter of Support - WaterSMART Water and Energy Efficiency Grant
City of Grand Junction Bureau of Reclamation Funding Opportunity No. BOR-DO-19-F0004

Dear Ms. Kim,

The Colorado Water Conservation Board (CWCB) would like to express our support of the City of Grand Junction's application for a grant under the Bureau of Reclamation's WaterSMART Water and Energy Efficiency Program.

We understand that the City of Grand Junction is proposing an Advanced Metering Infrastructure (AMI) Project that would convert a total of 9,800 meters to AMI compatible meters, install a fixed network data collection system, and utility management and customer portals that will achieve significant water savings. CWCB supports these types of water efficiency projects.

The City of Grand Junction is also enrolled to participate in the Colorado Water Loss Initiative (CWLI) program beginning in April. CWLI is a comprehensive program of American Water Works Association (AWWA) M36 water loss training and technical assistance for urban water systems across Colorado. The AWWA M36 water audit methodology is recommended best practice in North America to support informed decision making for water loss control. This program stems from an identified action in Colorado's Water Plan: to support water management activities for all water providers. Through this program, City of Grand Junction staff will receive training and technical assistance from national water loss experts as well as recommended next steps for water loss reduction as an outcome of participating in the program. These tools will enable to monitor the performance of its AMI Project.

Further, we understand that BOR has not awarded any grants for AMI projects in the State of Colorado. If the City of Grand Junction is awarded a grant under this program, it could serve to lead the way for other utilities in Colorado to pursue AMI projects.

Sincerely,

Kevin D. Reidy

Kevin Reidy
CWCB Water Efficiency Technical Specialist

GRAND VALLEY WATER USERS ASSOCIATION
GRAND VALLEY PROJECT, COLORADO
1147 24 ROAD (970) 242-5065 FAX (970) 243-4871
GRAND JUNCTION, COLORADO 81505
www.grandvalleywaterusers.com

March 14, 2019

Randi M. Kim
Utilities Director
City of Grand Junction
333 West Avenue, Building E
Grand Junction, CO 81501

Subject: Letter of Support – WaterSMART Water and Energy Efficiency Grant
City of Grand Junction Bureau of Reclamation Funding Opportunity No. BOR-DO-19-F0004

Dear Ms. Kim,

The Grand Valley Water Users Association (GVWUA) would like to express our support of the City of Grand Junction's application for a grant under the Bureau of Reclamation's (BOR) WaterSMART Water and Energy Efficiency Program.

We understand that the City of Grand Junction is proposing an Advanced Metering Infrastructure (AMI) Project that would convert a total of 9,800 meters to AMI compatible meters, install a fixed network data collection system, and provide utility management and customer portals that will achieve significant water savings. These project objectives align with the Colorado Water Conservation Board's water efficiency initiatives as well as the regional and local support of water efficiency projects. The GVWUA understands the importance of parallel water conservation and efficiency efforts to support the changing water environment of western Colorado and the western United States as a whole.

We understand the City of Grand Junction is also enrolled to participate in the Colorado Water Loss Initiative (CWLI) program beginning in April. CWLI is a comprehensive program of American Water Works Association (AWWA) M36 water loss training and technical assistance for urban water systems across Colorado. The AWWA M36 water audit methodology is recommended best practice in North America to support informed decision making for water loss control. This program stems from an identified action in Colorado's Water Plan to support water management activities for all water providers. Through this program, City of Grand Junction staff will receive training and technical assistance from national water loss experts as well as recommended next steps for water loss reduction as an outcome of participating in the program. These tools will enable the city to monitor the performance of its AMI Project.

Further, we understand that BOR has not awarded any grants for AMI projects in the State of Colorado. If the City of Grand Junction is awarded a grant under this program, it could serve to lead the way for other utilities in Colorado to pursue AMI projects.

Sincerely,

Mark Harris, General Manager
Grand Valley Water Users Association

Appendix C
Official Resolution

An Official Resolution has been prepared by the City of Grand Junction and will be included on the agenda for an upcoming City Council meeting. The approved resolution will be submitted no later than November 1, 2019.

Resolution No. __-19

A RESOLUTION SUPPORTING THE GRANT APPLICATION FOR A BUREAU OF RECLAMATION GRANT FOR ADVANCED METERING INFRASTRUCTURE PROJECT

Be it resolved by the City Council of the City of Grand Junction, Colorado that:

The City of Grand Junction by, with and through this Resolution of the City Council supports the WaterSMART Water and Energy Efficiency Grant application that the City of Grand Junction has made to the United States Bureau of Reclamation (BOR). The application will assist the City in implementing an Advanced Metering Infrastructure Project.

The BOR provides assistance to states, tribes and local governments to conduct planning activities to develop water marketing strategies that establish or expand water markets or water marketing activities between willing participants, in compliance with state and Federal laws.

In accordance with the grant purposes, the City Utilities Department proposes to implement of an advanced metering infrastructure (AMI) project for the City's municipal water system as part of its long-term goal of efficient water management. The AMI Project includes the upgrade of approximately 9,867 existing manually-read water meters with an AMI fixed-based network system that will automatically collect and store hourly consumption data, aiding in water conservation and water use efficiency and improved water management.

Completion of the AMI Project is scheduled to be complete by 2021 with the following activities: 1) upgrade remaining 4,569 manual-read water meters to AMI compatible water meters; 2) install a fixed network data collection system that will automatically collect and store hourly consumption data; 3) deploy a web-based utility management portal and a web-based customer portal for water customers to access their accounts to view both real-time flow and information and historical usage data. The upgrade to a fully automated AMI system is expected to result in measurable water savings estimated at 741 acre-feet per year (AFY). Furthermore, deployment of a Customer Portal through which water users will have online access to their own real-time hourly water usage data will prompt customers to make positive changes to their water use behaviors. The AMI Project will reduce real system losses and increase water use efficiency and conservation through the availability of near real-time data on water usage and daily water needs.

The City staff is seeking Bureau of Reclamation grant funding in the amount of $300,000 over a period up to 2 years. The City Council of the City of Grand Junction authorizes the expenditure of funds necessary to meet the terms and obligations, including established deadlines, of any Grant awarded.

If the grant is awarded, the City Council hereby authorizes the City Manager to sign the grant agreement with Bureau of Reclamation for the Advanced Metering Infrastructure Project grant program.

The City staff has recommended that the City Council support the grant application and if awarded that the grant be utilized for the important purposes of continuing to carefully manage the water resources.

PASSED and ADOPTED this 16th day of October 2019

Rick Taggart
President of the Council
ATTEST:

Wanda Winkelmann
City Clerk