Toquerville City Grant Application
2020 Municipal Meter Upgrade

U.S. Department of the Interior
Bureau of Reclamation
WaterSMART Small Scale Efficiency Project
Application Due Date: October 3, 2019
Funding Opportunity: BOR-DO-20-F001

Applicant: Toquerville City
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BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 02/28/2022

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Department of Reclamation WaterSMART	BOR-DO-20-F001	$ 142,370.25	$	$	$	$ 142,370.25
2. Toquerville City Applicant	50% Matching		142,370.25			142,370.25
3.						
4.						
5. Totals		$ 142,370.25	$ 142,370.25	$	$	$ 284,740.50

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY (1) Department of Reclamation WaterSMART	(2) Toquerville City Applicant	(3)	(4)	Total (5)
a. Personnel	$	$ 48,750.00	$	$	$ 48,750.00
b. Fringe Benefits		1,160.00			1,160.00
c. Travel					
d. Equipment	142,370.25	69,210.25			211,580.50
e. Supplies					
f. Contractual					
g. Construction		23,250.00			23,250.00
h. Other					
i. Total Direct Charges (sum of 6a-6h)	142,370.25	142,370.25			$ 284,740.50
j. Indirect Charges					$
k. TOTALS (sum of 6i and 6j)	$ 142,370.25	$ 142,370.25	$	$	$ 284,740.50
7. Program Income	$	$	$	$	$

SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8. Department of Reclamation WaterSMART	$ 142,370.25	$	$	$ 142,370.25
9. Toquerville City Applicant				
10.				
11.				
12. TOTAL (sum of lines 8-11)	$ 142,370.25	$	$	$ 142,370.25

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$	$	$	$	$
14. Non-Federal	$				
15. TOTAL (sum of lines 13 and 14)	$	$	$	$	$

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (YEARS) (b)First	(c) Second	(d) Third	(e) Fourth
16. Department of Reclamation WaterSMART	$ 100,000.00	$ 42,370.25	$	$
17. Toquerville City Applicant				
18.				
19.				
20. TOTAL (sum of lines 16 - 19)	$ 100,000.00	$ 42,370.25	$	$

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:

22. Indirect Charges:

23. Remarks: One payment in the beginning to help purchase the meters, second payment at the completion of the project.

Technical Proposal and Evaluation Criteria:

Executive Summary
Background Data
Project Location
Technical Project Description and Milestones
Evaluation Criteria

Executive Summary:
Application completed September 9, 2019 from Toquerville City, Washington County, Utah. 84774.

Toquerville City proposes a meter upgrade project, to take advantage of new technological advances. The new meters will allow residents and employees to log into the system and see a continual reading of their water use. This is especially helpful for those who face water leaks or other high use concerns. Validating peak flow information for state water use reports will also be more accessible. By making it possible to see where continual flow is occurring, will help the city employees repair and maintain lines and meters to protect water use and make the system more efficient. We also expect to identify cross connections as the proposed meters will give a backflow warning.

The project will enable several employees to review use instead of one employee taking a data log or reviewing the meter in person. Read outs are sent by the proposed meters every 15 minutes. Thus reading from any meter could take place at any time during the month rather than just on the day all the meters are read. Not only can residents become more aware of their water use, but employee time may be directed to more general interest.

Work is expected to begin the first part of December 2019 and be completed by the end of June 2020. Weather in Southern Utah generally allows for workers to complete projects outside during the winter months. Completion date may be flexible as weather allows.

This project is entirely within easements and appurtenances that are owned by Toquerville City.

Background Data:

- Toquerville City is located in southern Utah - in Washington County. Toquerville is approximately 130 miles northeast of Las Vegas and approximately 320 miles southwest of Salt Lake City. Approximately 1,670 residents currently reside in Toquerville and the city is growing rapidly.
- Washington County is in the Virgin River/Kanab Creek basin. This basin is located in the Lower Colorado River Basin and is a tributary to Lake Mead, a Bureau of Reclamation project. Toquerville works to be proactive toward using present resources to their maximum ability.
- The City currently owns six different water rights with the earliest priority of 1862 on five of them; the sixth is priority from 1880. All water rights are for municipal use with total allotted water over 605 AF. Secondary/irrigation/agricultural water is managed by the Washington County Water Conservancy District (WCWCD).

- There are 630 connections for culinary water as of this date. The City has received applications for several subdivisions with a total of 58 new lots. Building permits are averaging about 40 new homes a year. Completion and occupancy of these new subdivisions, plus any new homes that come along, will push connections to over 700 in the next couple of years.
- In 2018 Toquerville supplied approximately 75,000,000 gallons of water to its residents. Currently the City also sells water that it owns but isn't required for its citizens, to the WCWCD for their purposes downstream.
- Toquerville's water system includes 22 miles of distribution lines, 1,750,000 gallon of storage with 4 water tanks, 157 fire hydrants, and 400 valves.

Project Location:
Toquerville City's general location was noted earlier. Actual location is 37°15'11.94"N 113°17'04.81" W in the state of Utah. This meter project will take place completely within the boundaries of Toquerville City on meters throughout the city.

Technical Project Description:
The City received a grant in 2013 from the Bureau of Reclamation to replace its old hand-read meters with an electronic read system. This grant made a huge difference for the City to track water use. At the time of the change out, there was up to 68% water loss discovered. Changing the meters, allowed public works to track the loss down and find leaks as they happened - resulting in a loss generally between 5-10% instead. Often water use discrepancy could be attributed to system maintenance procedures. The draw-back was that a leak could go for an entire month – only being detected with the monthly meter reads.

With the new technology available, the City sees the opportunity to again trace loss, but this time before it goes a whole month between readings. Our previous supplier had promised long-lasting batteries, but we discovered that meters failed at a high rate as far as data collection. The new product uses cloud based technology, and life of the meter is expected to be 20 years.

Installation of the 650 meters as described below, and installation and operation of the operating system is the entire scope of the project. Old meters will need to be removed and new meters installed and entered into the City's software for utility billing. A two-day training course is included with the new system. Beginning date will depend on grant release.

- 650 5/8 X 3/4 Badger SS E-Series Meter w/Digital Register & 6' Nicor Cable;
- 650 ORION Cellular LTE Endpoint 2/Install Kit;
- 650 12.25PWATBLKoth Nicor Polymer Meter Lid w/2" Recessed Hole;
- 1 BEACON AMA Engagement Fee and Training - training to include set up and activation of Beacon AMA portfolio & work tied to setting up and configuring billing interface, and On-site training.

Purchasing 650 meters anticipates building 20 new homes, and the installation of the new meter system prior to the completion of the grant period.

Expected Schedule of Installation:

Task /Activity	Planned Start Date	Planned Completion Date
Training for new operation system	December 2, 2019	December 4, 2019
Install new operation system	December 2, 2019	December 10, 2019
Remove and replace 80 meters	December 10, 2019	December 31, 2019
Remove and replace 95 meters	January 1, 2020	January 31, 2020
Remove and replace 95 meters	February 1, 2020	February 28, 2020
Remove and replace 95 meters	March 1, 2020	March 31, 2020
Remove and replace 95 meters	April 1, 2020	April 30, 2020
Remove and replace 95 meters	May 1, 2020	May 31, 2020
Remove and replace 95 meters	June 1, 2020	June 30, 2020

There are no environmental compliance issues, no required permitting, no design or construction that will not be covered by the product system and software.

Funds for the City portion of the system and replacement meters are available through the city's water fund.

Upon installation of each meter we are going to increase Toquerville City's efficiency and awareness of consumer's water demand and usage. By completing this upgrade, the city and its residents will be better informed and more effective stewards of Toquerville's water supply system.

Evaluation Criteria:

Section E. Application Review Information

E.1. Technical Proposal: Evaluation Criteria

The evaluation criteria portion should be addressed in the technical proposal section of the application. Applications should thoroughly address each criterion and any sub-criterion in the order presented below. Applications will be evaluated against the evaluation criteria listed below. If the work described in your application is a phase of a larger project, only discuss the benefits that will result directly from the work discussed in the technical project description and that is reflected in the budget, not the larger project.

Evaluation Criteria: Scoring Summary/ Points:

A. Quantifiable Water Savings 30pts
B. Water Supply Reliability 18 pts
C. Implementing Hydropower 18 pts
D .Complementing On-Farm Irrigation Improvements 10pts
E. Department of the Interior Priorities 10pts
F. Implementation and Results 6 pts
G. Nexus to Reclamation Project Activities 4 pts
H. Additional Non-Federal Funding 4 pts.

Total 100 pts.

E.1.1. Evaluation Criteria A: Quantifiable Water Savings (30pts)

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.

It is estimated that Toquerville City could conserve twenty three (23) acre-feet, or 7,500,000 gallons of water through the replacement of the water meters and reading system currently in use. This savings would be achieved through greater water accountability from metering system accuracy coupled with the timeliness of data available to the water customers as a result of the network reading system being considered for deployment.

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)?

According to 2018 records, Toquerville produced approximately seventy-five million (75,000,000) gallons of water. It is estimated that at least ten percent of the water produced is unaccounted for due to deficiencies in the current meter reading system. The overall system inaccuracies are due to meter component failures throughout the system. This includes meter RF endpoint communications failures as well as magnetic coupling slippage within the individual meters at higher flow rates. Quantification of actual system losses is a challenge since the calculations of production vs. distribution are based on data from an inaccurate metering system. The unaccounted-for-water estimates could be higher than water records indicate. This dynamic will undoubtedly be more pronounced as the current system ages and inaccuracies increase.

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 support 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.

It is projected that Toquerville City would be able to account for at least an additional ten percent of the current production through the replacement of the existing meters and reading system. That ten percent would be, as shown above, approximately 23 acre-feet or 7,500,000 gallons of water.

It is believed that with greater metering system accuracy and customer accountability, water consumption decreases. As presently constituted, the metering system currently in service does not facilitate full customer accountability for water consumption due to the system inaccuracies previously described, coupled with the inability to inform the customer of system anomalies such as leaks and excessive consumption other than on a monthly read basis.

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.

   Calculations for the water savings are shown previously in the documentation of estimated water savings section. It is assumed that there is, at a minimum, a ten percent inaccuracy rate as a result of metering system deficiencies. This is likely a conservative projection due to the calculations being derived from data extracted from existing meter records.

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

   Some of the potential for reductions in water use are determined from industry estimates, coupled with actual data from other Utah water providers' experiences like Saratoga Springs City and Weber Basin Water Conservancy District. These utilities implemented metering systems that allowed them to communicate with end user customers on a level not previously possible. The analytics available through network meter reading, coupled with peer lot size comparisons facilitated proactive dialog with customer resulting in significant reductions in water use. Water consumption is decreased when accurate meters are deployed, and customers are expected to pay for

their use. Additional conservation methods can be implemented as customers are made aware of their water consumption pro-actively through the features and benefits of AMI network capabilities proposed with the new system being considered. The current reading system does not facilitate timely data to the end-users. A once-monthly reading from the current system does not enable Toquerville to alert the customer of potential leaks and other anomalies associated with excessive water use on a timely basis.

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.

Water use patterns in Toquerville are comparable to most utilities in Washington County. The Washington County Water Conservancy District, which manages the irrigation/secondary water, has implemented a policy wherein outside watering is allowed in specific zones on certain days. Since the City's water focus is in culinary water, and there are zones where secondary water is not available – in those cases culinary water is used for irrigation purposes - those zones are managed under the same policy as established by the WCWCD. It is difficult to enforce this policy since the Town does not have the manpower or interval data to accurately determine compliance under the current metering system. The network system proposed would enable the Town to have daily readings down to fifteen-minute intervals. This would promote far greater water accountability and would enable the City to encourage compliance with existing water-use-reduction and conservation policies.

The AMI network system proposed has the capability to alert customers on several levels to promote sensible water use and conservation. The system can proactively send emails notices or texts to customers that are approaching specific levels of consumption or have potential system problems such as a leak or an incidence of reverse flow. The system also provides a web portal to enable customers to view their water use via a free phone app. This portal, accessible with a username and password, can provide similar data to each water customer in Toquerville that is viewable from any location that has cellular communication. This level of information promises to promote far greater customer accountability than the City has heretofore been able to promote.

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).

The network reading system proposed would enable Toquerville to audit supply vs. consumption data on a timelier basis. If source meters were monitored with the network reading system proposed, along with customer consumption meters, comparative data would be immediately available. This would enable the City to

perform comparative analysis and determine what water losses are due to distribution system leakage.

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

- **650 5/8 X 3/4 Badger SS E-Series Meter w/Digital Register & 6' Nicor Cable;**
- **650 ORION Cellular LTE Endpoint 2/Install Kit;**
- **650 12.25PWATBLKoth Nicor Polymer Meter Lid w/2" Recessed Hole;**
- **1 BEACON AMA Engagement Fee and Training - training to include set up and activation of Beacon AMA portfolio & work tied to setting up and configuring billing interface, and On-site training.**

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

Verification of water savings will be done through consumption and production caparisons with previous historical data. The network reading system proposed has the capability to provide comparative data at the utility production level and at the individual customer level. This will enable Toquerville Town to extract much more granular data for water auditing purposes and customer accountability. Water savings will be achievable and quantifiable through more accurate system production accountability and end-user consumption data.

The City currently has a significant development proposed and if approved, water supplies will be taxed beyond current levels. It is projected that with the implementation of the proposed system, water consumption per household will decrease, thus enabling the City to implement more equitable water distribution through individual accountability and timeliness of information regarding consumption habits and trends.

Appendix A: Projects with Quantifiable Water Savings
Measuring Devices: A.2.a. Municipal Metering
For projects that install or replace existing municipal meters, the applicant should consider the following:

- Whether the project includes new meters where none existed previously or replaces existing meters.

  These are a new meter style replacing existing out-of-date meters. These meters allow not only staff, but customers the opportunity to see what their usage is at any time.

- Whether the project includes individual water user meters, main line meters, or both.

  We expect that the new meters will replace individual water user meters. Source meters will also be updated to make sure the entire system coordinates together.

- If the project replaces existing individual water user meters with new meters, whether new technologies (automatic meter reading or AMI meters) will be employed.

  New cloud technology meters will replace the current ineffective electronic read meters.

- If main line meters are included, whether system leak detection and leak reduction will be improved.

  We expect that as source meters are updated to integrate into the Badger system, the same benefits of early detection and alarm notification will be a benefit in detecting inaccuracies and deficiencies that are not available in the current system.

- Include a description of both pre-and post-project rate structuring.

  Current rates allow for 10,000 gallons at a flat rate of $36.21 each month, with increasing structure at $4.00/ 1000 from 10,000 to 30,000 and $6.00/1000 above 30,000. The City is in the process of a water rate study to make sure current needs are being met by current rates. The expectation is an increase in the water rate and a reduction in the flat rate gallons. As residents are able to see what their water use is on an ongoing basis, we expect self-conservation as well.

E.1.2. Evaluation Criteria B: Water Supply Reliability (18 pts)
*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.*

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:

   - 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)?

     Toquerville's water supply is reliable. The springs that provide the water rights are historic and water has always been there. As the area grows though, giving attention to protecting how the water is used and minimizing loss will make a lot of difference to future residents. Especially living in a desert, those resources need to be used to their highest, best use. New technology has heightened the ability to audit water use at any time, sending alarms when certain thresholds are reached – including

backflow, providing reliability not only for the amount of water served, but also for the quality of water provided in the culinary system.

- 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.

  In 2017 Toquerville City made an agreement with the Washington County Water Conservancy District for water that is not used out of the City's water rights is sold to the District and used for their purposes downstream. As the City grows and that water is then required by Toquerville residents, less water will be sold to the WCWCD. The City is trying to be proactive in managing water so that when the population increases, practices are already in place to conserve water to its best ability.

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

  Toquerville water is all culinary water. Its water rights are designated municipal. The Washington County Water Conservancy District manages all irrigation water for Toquerville. The source for the WCWCD rights and the Toquerville water is the same. As above, the District purchases water that is not used by the City and turns it to their purposes.

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

  The total water right used in the agreement is 118,005,480. In 2017 Toquerville used 74,540,000 gallons and in 2018 that use increased to 77,017,700. Cloud based metering will support the City as it moves forward to provide future residents the ability to monitor their own use - making sure that supply system remains in place for the future.

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)?

  Agriculture has always been a part of Toquerville's character. There is a desire to maintain large ag tracts of land in some parts of the city. The joint management of water with the Conservancy District is a blessing to help retain that flavor. Being able to support that use with excess culinary rights is good for all. By tracking culinary use for leaks or cross connections, that ability to support is enlarged as the culinary water is monitored and protected better.

- 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.

Because the project only works with replacing meters already in place, there is no benefit or detriment to any species.

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

As stated before, tracking and protecting usage, leakage, and backflow the City has the ability to spread its water rights in support of use now and in the future.

Will the project benefit Indian tribes?

There is no benefit or detriment to any Indian tribes. The residents of Toquerville City will be the beneficiaries of the meter upgrade project – though individuals in the community may belong to tribes, no tribal entity will receive a benefit from it.

- Will the project benefit rural or economically disadvantaged communities?

Toquerville is a rural community with its historic roots in farming. It is also a community in one of the most beautiful, traveled areas of the country. Its beautiful surroundings and rural nature attract people from all walks of life, not only for viewing, but for settling. That creates diversity in the community. Part of the community is well-to-do move-ins, and part is made up of poorer family / farming. By minimizing water loss, and tracking water use, rates may be able to stay lower to assist those who are more economically challenged.

- Describe how the project will help to achieve these multiple benefits. In your response, please address where the conserved water 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.

As stated in the reliability section of this narrative, the City was able to develop an agreement with the Washington County Water Conservancy District to sell excess/unused water rights to the District – thus using in full the City's water rights. The District uses that water to offset other uses in their water system.

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?

The City Council is behind conservation efforts and appreciates new technology in that respect. The only drawback in moving ahead without grant support is the financial aspect. Replacing all city meters is an expensive undertaking. Assistance

to replace the currently inefficient meters is necessary to maintain the culinary system.

- What is the significance of the collaboration/support?

  Without financial support, the city would limp along with the ineffective meters that are in place. The only other option would be to put into place two different metering systems because the city could not afford to replace the entire city at once, which in and of itself is a very ineffective way to meter the water.

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

  By keeping the entire city on the same metering system, future water monitoring will conserve water now and in the future. Because of the nature of the water rights, it isn't expected that water conservation projects other than delivery through metering would be an outcome of this meter change out.

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

  There is no tension, litigation or conflict over water at this time, nor is it something that the City would ever expect to happen. As the City grows that will be seen, though the WCWCD is very proactive in providing water for the future and works to support cities in the county.

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

  There are no partners because of the character of the project.

4. Will the project address water supply reliability in other ways not described above? **No**

E.1.3. Evaluation Criterion C: Implementing Hydropower (18pts)
Up to 18 points may be awarded for this criterion. This criterion prioritizes projects that will install new hydropower capacity in order to utilize our natural resources to ensure energy is available to meet our security and economic needs. **NA**

E.1.4. Evaluation Criterion D: Complementing On-Farm Irrigation Improvements (10 pts)
Up to 10 points may be awarded for projects that describe in detail how they will complement on-farm irrigation improvements eligible for NRCS financial or technical assistance. **NA**

E.1.5. Evaluation Criterion E: Department of the Interior Priorities (10 points)
Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports the Department priorities. Please address those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed.

Points will be allocated based on the degree to which the project supports one or more of the priorities listed, and whether the connection to the priority(ies) is well supported in the proposal.

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.

      Technological advances in metering and tracking water use make upgrading systems attractive to municipalities in order to become more water conservative.

   b. Examine land use planning processes and land use designations that govern public use and access. **NA**
   c. Revise and streamline the environmental and regulatory review process while maintaining environmental standards. **NA**

   d. Review DOI water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity. **NA**

   e. Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands. **NA**

   f. Identify and implement initiatives to expand access to DOI lands for hunting and fishing. **NA**

   g. Shift the balance towards providing greater public access to public lands over restrictions to access. **NA**

2. Utilizing our natural resources: **NA**
   a. Ensure American Energy is available to meet our security and economic needs;
   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' life cycle;
   d. Manage competition for grazing resources.

3. Restoring trust with local communities: **NA**
   a. Be a better neighbor with those closest to our resources by improving dialogue and relationships with persons and entities bordering our lands;
   b. Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.

4. Striking a regulatory balance: **NA**
   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.

      Any time technological advances work to update, and upgrade infrastructure, governmental entities should take advantage of those steps to improve the delivery systems for the services they provide.

   b. Remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs. **NA**

   c. Prioritize DOI infrastructure needs to highlight:
      1. Construction of infrastructure;
      2. Cyclical maintenance;
      3. Deferred maintenance.

      Small cities struggle financially to stay current on infrastructure. Deferring maintenance may be the only way to provide services and stay fiscally responsible. Toquerville has been blessed to receive support by grants and low-interest loans from larger government and quasi-government entities to improve and update their water service appurtenances.

E.1.6. Evaluation Criterion F: Implementation and Results (6 pts)
*Up to **6 points** may be awarded for these subcriteria.*

E.1.6.1. Subcriterion F.1— Project Planning
Points may be awarded for proposals with planning efforts that provide support for the proposed project.

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 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.

(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 State of Utah is very pro conservation. There are new conservation methods being discussed on the State level which will be ultimately passed on to local governments. We live in a desert, and wise water use is always valuable. The ability to track even small

water loss will become even more valuable as we move into the State's new phase. Toquerville City is a small entity and, though we have great support from other local government and quasi-government entities, there are some things that must be done by the City which are difficult because of small size and limited budget. The ratio of benefit vs cost is great with this project.

Prior to about 2010, the City did little to accurately measure its water usage. Residents were just billed a flat rate with little regard to the actual water usage. Leaks in lines were abundant and the City lost money in an effort to pay water costs. Determined to address the deficits and detect problems in the lines, the City coordinated with the Utah Department of Drinking Water to remove and reinstall lines in an old subdivision to recapture perceived loss. That project manifested great improvement in water loss. At the same time, the City applied for and received a Reclamation meter grant to replace old hand-read meters throughout the city with electronic-read meters as a means to more accurately track water use and water loss. Great strides were made by being able to data log meters by computer. Repairs, recapture, and reports have been much better but these meters are now failing to give the reports that were promised for a longer span of time.

Toquerville City created their Conservation Plan at the time of this previous water upgrade and meter change out (2013). At that time, graduated water rates were established for water use and plans to stay current with available tracking devices were spelled out. The plan stated conservation ideals that work in the Southern Utah climate. Master meters were put in place and valves were installed to separate segments of the system for repair work without shutting down large tracts of the city. The Plan also called up the Washington County Conservancy District as a balancing entity in charge of irrigation water. It also includes projections for future water needs into 2050.

This new application to upgrade using new technology is another step in the direction to maintain and report the City's water use under the Conservation Plan.

E.1.6.2. Subcriterion F.2— Performance Measures

Points may be awarded based on the description and development of performance measures to quantify actual project benefits upon completion of the project.

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 Grants 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 Grants 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).

Quantifiable savings and measurement is not difficult to envision with this meter replacement. But actuals will come when we see the outcome of the installation. We hope to see better detection for leaks, and will see that as we review reports that the new meters can create. The City has been able to detect loss but only on a monthly basis with the current meters. We would hope that we would be able to identify leaks and backflow concerns as the meters are installed.

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

Points may be awarded based upon the extent to which the proposed project is capable of proceeding upon entering into a financial assistance agreement.

Applicants that describe a detailed plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most points under this criterion.

- Describe the implementation plan 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 entire scope of the project includes the installation of 650 meters, and installation of the new system and training to operate it. Old meters will need to be removed and new meters installed and entered into the City's software for utility billing. A two-day training course is included with the new system.

Expected Schedule of Installation:

Task /Activity	Planned Start Date	Planned Completion Date
Training for new operation system	December 2, 2019	December 4, 2019
Install new operation system	December 2, 2019	December 10, 2019
Remove and replace 80 meters	December 10, 2019	December 31, 2019
Remove and replace 95 meters	January 1, 2020	January 31, 2020
Remove and replace 95 meters	February 1, 2020	February 28, 2020
Remove and replace 95 meters	March 1, 2020	March 31, 2020
Remove and replace 95 meters	April 1, 2020	April 30, 2020
Remove and replace 95 meters	May 1, 2020	May 31, 2020
Remove and replace 95 meters	June 1, 2020	June 30, 2020

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

Since the City owns the existing meters and meter boxes, and has easements for the services – there are no permits required for their replacement.

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

We do not foresee any engineering except what is included in the new meter package.

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

There will not be any new policies or administrative actions except the resolution that is required by this application.

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

Since the project replaces existing meters where there are no environmental compliance concerns, there are no costs for environmental impacts.

E.1.7. Evaluation Criterion G: Nexus to Reclamation Project Activities (4 pts)
E.1.7. Evaluation Criterion G— Nexus to Reclamation Project Activities (4 Points)
*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:

- Does the applicant receive Reclamation project water?
- Is the project on Reclamation project lands or involving Reclamation facilities?
- Is the project in the same basin as a Reclamation project or activity?
- Will the proposed work contribute water to a basin where a Reclamation project is located?
- Will the project benefit any tribe(s)?

Toquerville City is located in Washington County, Utah – the southwest corner of the state. Washington County is in the Virgin River/Kanab Creek basin. This basin is located in the Lower Colorado River Basin and is a tributary to Lake Mead, a Bureau of Reclamation project. The residents of Toquerville City will be the

beneficiaries of the meter upgrade project – though individuals in the community may belong to tribes, no tribal entity will receive a benefit from it.

E.1.8. Evaluation Criterion H: Additional Non-Federal Funding (4 pts)
*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:*

- Non-Federal Funding **50% if this grant is awarded**
- Total Project **$284,740.50**

D.2.2.5 Project Budget:

1. Funding Plan and letters of commitment:

The City has set aside depreciation funds that will cover ½ of the $284,740.50 of the cost of the project. The City's portion will include $73,160 in kind. Since the project would be completed entirely with City funds and labor, and the Reclamation WaterSMART grant, there are no letters of commitment. The City has not incurred costs prior to the grant award.

2. Budget Proposal:

Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal Funding	$ 142,369.75
Costs to be paid by the applicant	$ 142,369.75
Value of third party contributions	$ NA
TOTAL PROJECT COST	**$ 284,740.50**

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Salaries and Wages				
Employee 1: Lance –Project Manager	35.00/meter	650		$ 22,750.00
Employee 2: Maintenance	18.50/meter	650		$ 12,025.00
Employee 3: Maintenance	16.50/meter	650		$ 10,725.00
Fringe Benefits				
Full-Time Employees	1160.00/month	3 employees		$ 1,160.00
Part-Time Employees				$
Equipment				
Item A Vac Truck	$25/meter	650		$ 16,250.00
Item B GIS	$7,000	Project		$ 7,000.00
Supplies and Materials				
Item A	164.87	650		$107,165.50
Item B	130.10	650		$ 84,565.00
Item C	25.00	650		$ 16,250.00
Item D	3600.0	1		$ 3,600.00

Contractual/Construction				**NA**
Third-Party In-Kind Contributions				**NA**
Other				**NA**
TOTAL DIRECT COSTS				**$281,490.50**
Indirect Costs				
Clerical Employee	$5.00/meter	650		$ 3,250.00
TOTAL ESTIMATED PROJECT COSTS				**$284,740.50**

3. Budget Narrative:

The project includes removal and installation of 650 meters within the City. The expected out-of-pocket cost is for the meters and radio equipment to use with them. Toquerville City will supply site work – to include labor of pulling old meters and installing new meters, administrative costs for removing old meters and installing the new meters in the computer system; equipment to remove and install meters as in-kind matching

Removal and replacement will be done as soon as meter training is completed. As meters are removed and installed, wages, benefit, and equipment costs will be incurred. Labor costs are for the Project Manager and 2 maintenance employees. Labor on-site costs include preparation of site, and removal and replacement of the meters.

Salaries and Wages:
Salaries include one project manager and two maintenance employees. Costs are estimated at $70/meter for a total $45,500.

The clerical employee charged with updating meter information is paid $20/hr. Each meter removal and installation takes about 15 minutes for a total of $3,250 for 650 meters.

Fringe Benefits:
Fringe benefits include State Retirement, a benefit stipend the city pays each employee to cover their own health /medical insurance costs, and a supplemental vision/dental/death/AD&D package.

Travel:
No travel is expected to be attached to this project.

Equipment:
Equipment costs include a City-owned vac truck for site preparation and removal of existing meter. Cost is estimated at $25/meter or $16,250. GIS/locating equipment and support are estimated at about $11 each meter for a total of $7,000.

Materials and Supplies:
As soon as grant is released 650 Meters will be purchased from Hydro Specialties Co of Bluffdale, Utah; including all meters and installation appurtenances, software, and training. Quoted price is $211,580.50. These expenditures are direct costs for purchase of new meters.

Contractual:
Third-Party In-Kind Contributions:
There will be no expected third party contributions.

Environmental and Regulatory Compliance Costs:
Because the existing meters are all within developed land and easements owned by the City, there are no requirements for environmental and regulatory costs. The purchased meters meet standards to be used in municipal metering systems.
Other Expenses:
There are no other expected costs.

Indirect Costs:
The only indirect cost is as listed above for the clerical support to delete existing meter accounts on the City's computer system and enter new meters accounts.

Total Project Cost is estimated at $284,740.50

D.2.2.6. Required Permits or Approvals

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

Note that improvements to Federal facilities that are implemented through any project awarded funding through this FOA must comply with additional requirements. The Federal government will continue to hold title to the Federal facility and any improvement that is integral to the existing operations of that facility. Please see P.L. 111-11, Section 9504(a)(3)(B). Reclamation may also require additional reviews and approvals prior to award to ensure that any necessary easements, land use authorizations, or special permits can be approved consistent with the requirements of 43 CFR Section 429, and that the development will not impact or impair project operations or efficiency.

Toquerville is the permitting agency within the project area. There are no required easements or permits required for the work that will be done. All meters to be removed and replaced currently sit within the City's rights-of-way.

D.2.2.7. Letters of Support

Please include letters from interested stakeholders supporting the proposed project. To ensure your proposal is accurately reviewed, please attach all letters of support/ partnership letters as an appendix. Letters of support received after the application deadline for this FOA will not be considered in the evaluation of the proposed project.

No letters of support have been included as all costs will be paid by Toquerville City except as received through this grant application.

D.2.2.8. Official Resolution

Include an official resolution adopted by the applicant's board of directors or governing body, or, for State government entities, an official authorized to commit the applicant to the financial and legal obligations associated with receipt of a financial assistance award under this FOA, verifying:

- The identity of the official with legal authority to enter into an agreement.
- The board of directors, governing body, or appropriate official who has reviewed and supports the application submitted.
- The capability of the applicant to provide the amount of funding and/or in-kind contributions specified in the funding plan.
- That the applicant will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

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

Official Resolution:

The Official Resolution passed by the Toquerville City Council on September 05, 2019 approving the application for the 2019 Toquerville Meter Upgrade project follows below:

D.3. Unique Entity Identifier and System for Award Management

All applicants (unless the applicant has an exception approved by Reclamation under 2 CFR §25.110[d]) are required to:

(i) Be registered in the System for Award Management (SAM) before submitting its application;

(ii) Provide a valid unique entity identifier in its application; and

(iii) Continue to maintain an active SAM registration with current information at all times during which it has an active Federal award or an application or plan under consideration by a Federal awarding agency.

Meeting the requirements set forth above is mandatory. If the applicant is unable to complete registration by the application deadline, the unique entity identifier must be obtained and SAM registration must be initiated within 30 days after the application deadline in order to be considered for selection and award.

Reclamation will not make a Federal award to an applicant until the applicant has complied with all applicable unique entity identifier and SAM requirements and, if an applicant has not fully complied with the requirements by the time Reclamation is ready to make an award, Reclamation may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant.