

Replace Gallup ICI Mechanical Water Meters



**US Bureau of Reclamation WaterSMART Grant:
Small-Scale Water Efficiency Projects – FY2018
FOA Number: BOR-DO-18-F009 CFDA Number: 15.507**

Category: Implementation of Efficiency Measures

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TECHNICAL PROPOSAL & EVALUATION CRITERIA

Executive Summary

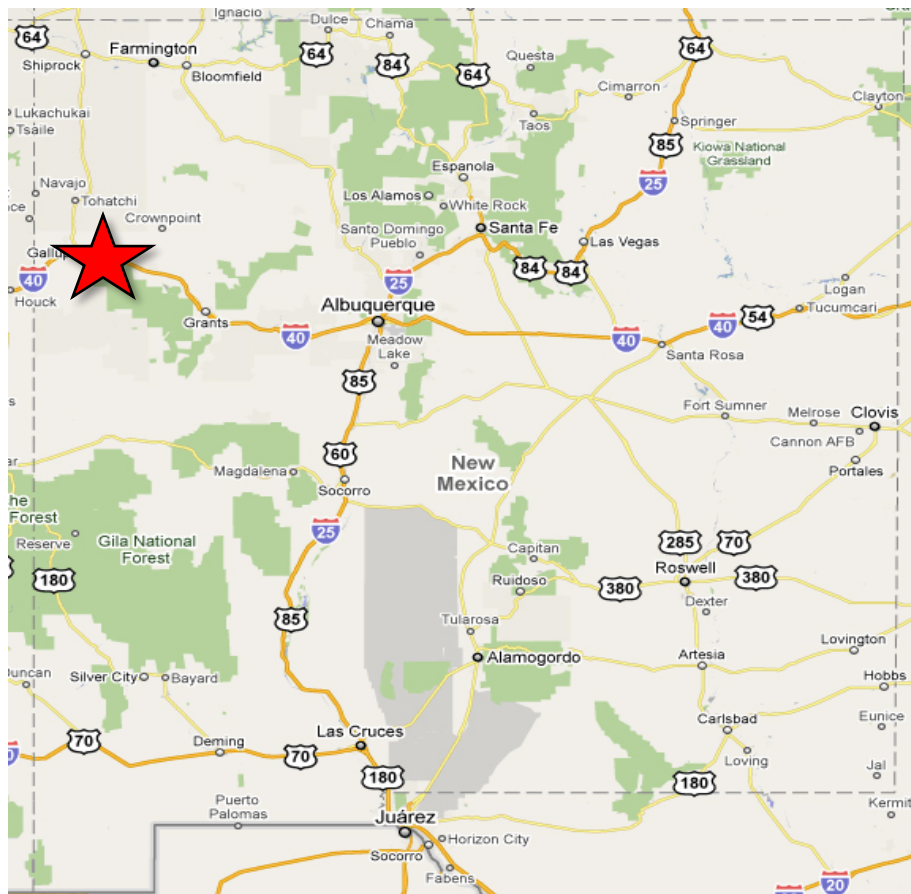
This proposal requests Bureau of Reclamation funding to assist the City of Gallup with *Replacing Industrial, Commercial and Institutional (ICI) Mechanical Water Meters* for a two-year period of time.

This proposal requests Bureau of Reclamation funding to assist the City of Gallup with the replacement of older mechanical meters *in Commercial and ICI applications* with more accurate solid state meters. This project will continue for a two-year period of time.

- The first step will be to analyze the ICI and well head water meters to determine which meters need to be replaced for the best return in revenue and water loss.
- The second step will be to replace the selected water meters with solid state meters.
- The third step will be to track the water use of the new meters and compare the usage to the previous three-year history (old meters) and determine the savings in water and money.

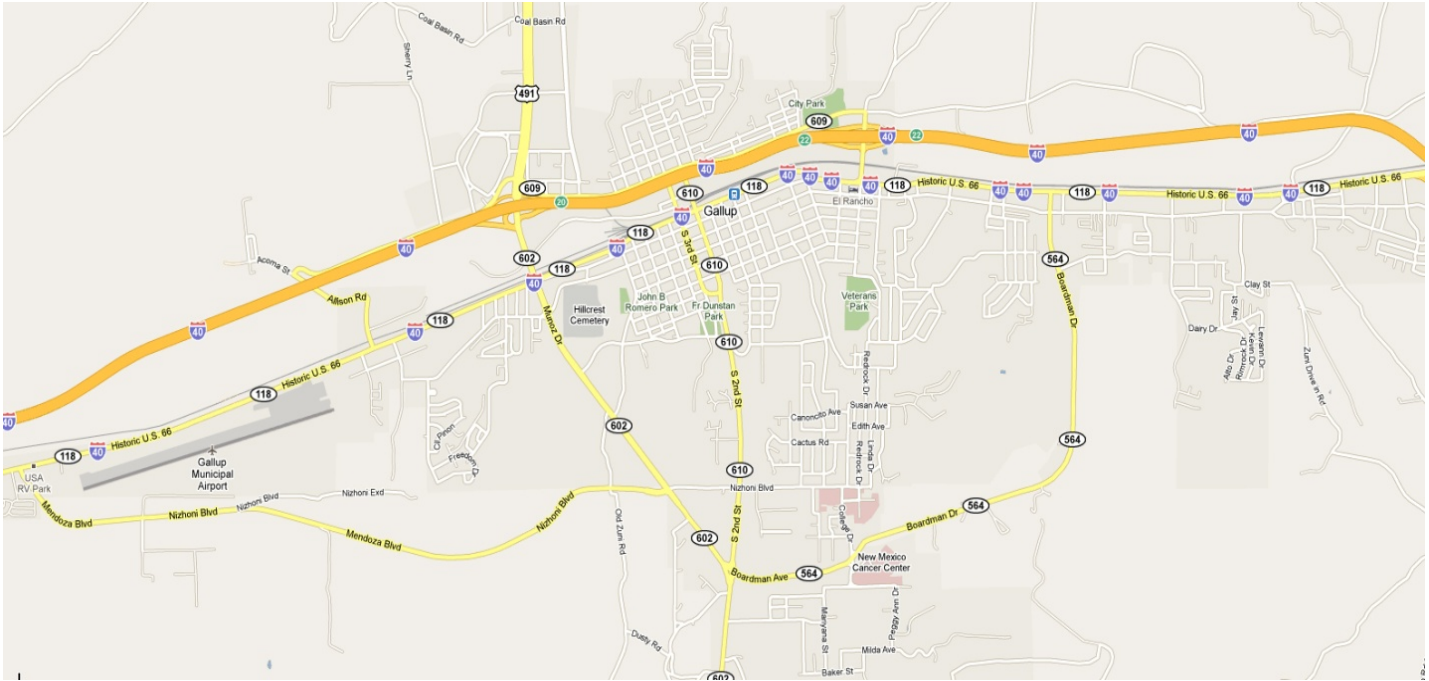
The City of Gallup views water conservation as one of the most important elements of our sustainability initiative. Recognizing the importance of a vigorous water conservation program, the City of Gallup has committed to provide funding, staff, support, and resources to accomplish the policies per our 2013 Water Conservation Plan approved by the New Mexico Office of the State Engineer (NMOSE).

Background/Location

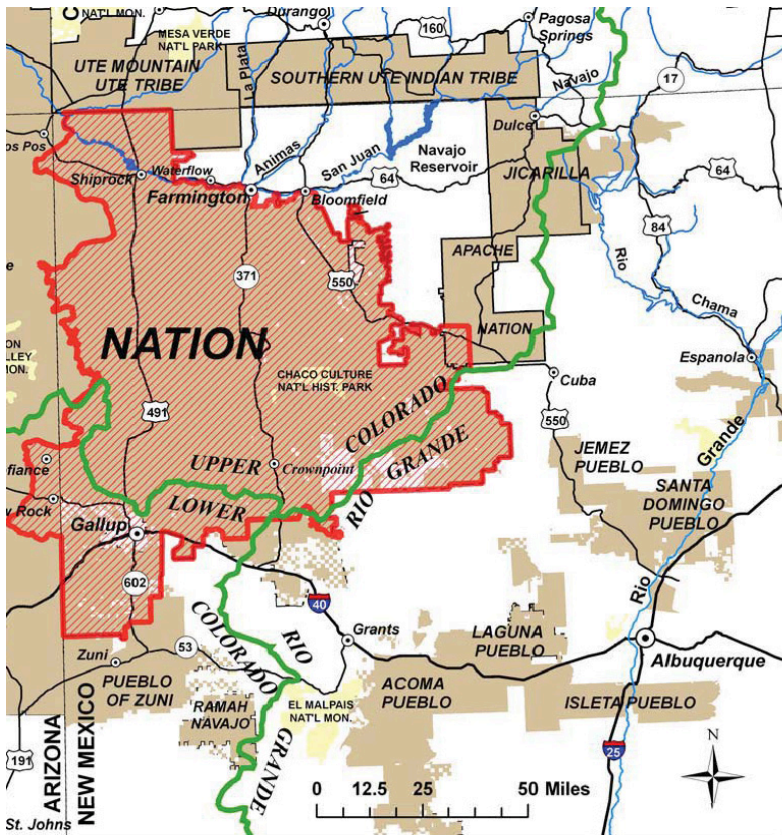


Map of City of Gallup

This City of Gallup is located 40 miles east of the Arizona border and 140 miles west of Albuquerque in the state of New Mexico. Latitude and Longitude = 35.5281° N, 108.7426° W. It is the county seat of McKinley County. Approximately 120 Miles from Albuquerque and Farmington as the nearest, larger towns.



City of Gallup



NGWSP Stakeholder Area

On the Navajo Nation, existing groundwater supplies are dwindling, have limited capacity, and are of poor quality. More than 40 percent of Navajo households rely on water hauling to meet daily water needs. The city of Gallup’s groundwater levels have dropped approximately 200 feet over the past 10 years, and the supply is not expected to meet current water demands within the decade. The City anticipates a 1-million gallon-per-day shortage during peak periods as early as this year.

The City of Gallup is a community of about 20,000 people at the center of numerous low-income communities throughout McKinley County, and the Zuni and Navajo Reservations. Most of these communities have no businesses, schools, or hospitals. This makes Gallup the central economic and social hub for the area, and with a county population that is nearly 80 percent Native American, the city is often called the “Heart of Indian Country.”

Replace Gallup ICI Mechanical Water Meters

The area that Gallup serves has a history of chronic poverty. According to the latest data available from the Census Bureau, in 2010, the average per capita income is \$18,824 in Gallup. Per capita income in the city was \$8,000 a year less than the national figures. Nearly 21 percent of families in Gallup live below the poverty level. The economic picture of the county and reservations shows even less prosperity. On the Navajo Reservation, the per capita income is \$13,794. Nearly a third of the families in McKinley County live below the federal poverty level.

The low tax base stemming from this historically torpid economy has left the area's infrastructure needs unfulfilled. Therefore, many of these communities on the reservations and in the county don't even have basic water utilities, much less roads or electricity. According to the BOR's 2007 Navajo-Gallup Water Supply Project Planning Report and Draft Environmental Impact Statement, more than 40 percent of Navajo households still rely on water hauling to meet daily water needs. This leaves many of them dependent on the City of Gallup for their water supply. The local government maintains a water station for these residents, and it's a common sight around town to see rural residents hauling water in plastic tanks mounted on the back of their pickup trucks.

The city relies solely on a groundwater supply that continues to be progressively mined with little recharge into the source aquifers. Based on current projections, severe shortages in the groundwater supply are expected within the next decade, which would have severe social and economic impacts on the city and on neighboring Navajo communities.

The Navajo-Gallup Water Supply Project is in the planning stages to bring as a water source to Gallup. NGWSP project's 2015 cost estimate is 1 billion \$ public investment and takes decades to complete. This investment should be protected by modernizing our infrastructure to support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure; creating a conservation stewardship legacy second only to Teddy Roosevelt, to remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs. Prioritizing water infrastructure needs and collaborate with stakeholders.

Therefore, The City of Gallup has a strong commitment to replacing *Gallup Commercial ICI Mechanical Water Meters* that involves Navajo-Gallup Supply Project water stakeholders that depend on critical and vulnerable water supplies.

Replacement of Mechanical Meters with Solid State

Mechanical meters vs. Solid state meters

Mechanical Meters

Turbine meters measure water flow with a turbine that is forced to rotate by the flow of water. The number of revolutions is then recorded by a register. Positive displacement meters have a disc or piston that moves as the compartment fills and empties with water, driving gears attached to the register. All mechanical meters have moving parts that wear with use. Wear is accelerated by amount of through put, age, debris in the water and failure to follow manufacturer installation requirements. They require frequent testing for accuracy and can be rebuilt, requiring the utility to inventory parts and employ personnel for the job.

Sonic Meters

Sonic meters do not have moving parts and are based on ultra-sonic measuring principles. "Ultrasonic meters measure the velocity of a fluid with ultrasound to calculate volume flow. Using ultrasonic transducers, the flow meter can measure the average velocity along the path of an emitted beam of ultrasound, by averaging the difference in measured transit time between the pulses of ultrasound propagating into and against the direction of the flow or by measuring the frequency shift from the Doppler Effect".¹ Sonic meters are the most accurate, reliable meters available to date. They have the longest life span (10-20 years); life span is determined by age and not throughput of water. No maintenance or calibration is required, are easy to install in existing cans, are light weight, require no straight run, and can be mounted in any position (vertical, horizontal, or upside down). These meters are the most cost-effective water measurement devices available.

The Pros of sonic meters:

- Can be used in a wide range of applications
- Not affected by debris, slurry, or waste
- Life of meter is affected by age and is not affected by throughput of water
- Up to 20-year life; meter battery is guaranteed up to 20 years
- No mechanical parts that wear
- No calibration, rebuilding, or maintenance required
- No straight run required
- Less labor, fewer fittings, no strainer, smaller piping configuration
- Light weight makes for easier installation
- Can be installed in a pre-fab meter-set can
- Most accurate and reliable
- Most cost effective of all meter types

The Cons of sonic meters:

- Battery cannot be replaced but are warranted up to 20-years

Electromagnetic Meters

An electromagnetic meter (mag) does not have moving parts. It uses a magnet and two electrodes to transmit signals indicating volume and rate of flow moving through a channel. Water conducts electricity and produces an electrical charge when it moves through a magnetic field. The size of this charge is proportional to the speed of the water going through the field. By applying a strong magnetic field inside a known pipe dimension, the rate of flow of the water can be determined.

These meters can be used in applications where a high degree of accuracy is required over a wide range of flow rates such as hotels, schools, apartments, laundromats, and commercial properties. They can also be ordered with an IP 68 certified register for flooded meter cans/pits. However, they require a minimum of 5 pipe diameters of straight run upstream and downstream.

Mag meters are not affected by debris and can even be used to measure waste water. No maintenance or calibration is required.

The Pros of mag meters:

- No mechanical parts that wear
- High accuracy
- Can be used in a wide range of applications with low and high flows
- Not affected by debris, slurry, or waste
- Life of meter is affected only by age and is not affected by throughput of water
- Long term cost effective; longer life since the battery is replaced instead of replacing meter
- Easy to install, less man power
- Requires no testing or rebuilding

The Cons of mag meters:

- Requires straight run
- Higher up-front cost

Mechanical Meters

Positive displacement meters:

Positive displacement meters are designed for residential and light commercial accounts such as single-family residence, retail stores, small gas stations, and small office buildings. There are 14 laundromats in the City of Gallup that are equipped with 2-inch positive displacement meters. Due to the high volume of water used, this is not the proper meter to use and consequently, sees a high rate of failure. The manufacturer does not guarantee accuracy over 8,000,000 gallons, even if the meter is rebuilt. Therefore, most laundromat positive displacement meters should be replaced annually. Additionally, the 3-year history of these sites, shows a gradual decrease of water usage in about 35% of the targeted sites. When a meter starts to fail, it has a gradual decrease in accuracy. This gradual decrease will continue until the meter stops recording. This slow down period can last a year or longer. Thousands of gallons of water can be lost revenue to the City before that meter is replaced. Meter failure rarely favors the utility; 98% of the time it favors the customer.

Four existing 2-inch positive displacement meters in laundromats were replaced 3-5 times within 10-years. One meter was replaced 5 times within 10-years. The meter's register was disassembled to see the cause of the failure. The magnet had completely snapped off the drive shaft and there were abrasion marks on the chamber and nutating disc. The abrasion is caused by sand and debris in the water. Once the magnet breaks off the drive shaft, the meter stops recording, but the water continues to flow.

A 2-inch positive displacement meter will record accurately between 2.5-160 gpm.

The Pros of positive displacement meters:

- Sensitive for low flow applications
- Readily available parts
- Easy to rebuild
- Accurate at normal flow operating ranges
- No straight run required

Cons of positive displacement meters:

- Accuracy relates to age, wear, and water throughput
- Limited applications
- In high demand applications, they have a short life span
- Debris, high water pressure, and temperature extremes can accelerate wear
- Plastic internal parts wear quickly and easily damage by sand, decreasing accuracy and can cause 100% failure

Turbine Meters:

Turbine meters are designed to register constant medium to high flows. They are meant to be used for irrigation, well head production, and industrial sites. AWWA standards require meters to record accurately at +/-1.5%. These meters will meet these standards only when recording under their designed operating range. Some mobile home parks and apartment buildings have 3 to 6-inch turbine meters. Turbine meters *should not* be used for this application because of their inability to record low flows. AWWA has conducted research on apartment complexes and has found that 1 out of 3 toilets are leaking at any one time. This can cause a 24/7 low flow usage that the meter is not capable of recording.

These meters also have had high failure rates and are historically replaced up to 3 times in 10-years. Six-inch turbine meters start recording accurately at 20 gpm (flow ranges 20-3,100 gpm).

The Pros of turbine meters:

- Work well at medium to high, constant flows
- They are inexpensive

The Cons of turbine meters:

- Mechanical with parts that wear
- Poor accuracy at low flows
- Accuracy relates to age, wear, and water throughput
- Require testing and rebuilding

- Limited applications
- Require straight run so they cannot be installed in meter-set cans
- Require strainer

Table 1 is a list of the top water users and have been targeted for meter replacement as they are the most likely meters that are failing or at minimum recording inaccurately. The existing meters are Turbine or Positive Displacement meters.

Table 1: Meter Replacement				
Meter Location	Existing Meter	Meter Size	Replacement Meter	Cost
Elite Laundry	Turbine	2"	Sonic	\$910
Red Hill Mobile Park	Turbine	6"	Mag	\$5,465
R M C H	Turbine	4"	Mag	\$4,650
Red Hill Mobile Park	Turbine	6"	Mag	\$5,465
66 Laundry	PD	2"	Sonic	\$910
Magic Laundromat I	PD	2"	Sonic	\$910
Cedar Hills Apts	Turbine	6"	Mag	\$910
Gallup Indian Medical Center	Turbine	4"	Mag	\$4,650
NME Enterprises INC	PD	2"	Sonic	\$910
Tower Management	Turbine	3"	Mag	\$3,900
Gallup High School	Turbine	3"	Mag	\$3,900
Truck stops of America	PD	2"	Sonic	\$910
McKinley Co Adult DC	Turbine	4"	Mag	\$4,650
Wal-Mart Stores, INC #01-906	Compound	4"	Mag	\$4,650
Sunset Hills LTD	Turbine	3"	Mag	\$3,900
Little Sisters of The Poor	Turbine	4"	Mag	\$4,650
NOW LTD - Chaparral TR PK	Turbine	4"	Mag	\$4,650
University of NM	Turbine	6"	Mag	\$5,465
Cliffside Apts (3 apts combined)	Turbine	3"	Mag	\$3,900
Best Western Inn & Suites	Turbine	4"	Mag	\$4,650
			Total cost	\$70,000

The above water meters shown in Table 1 are used for estimated budgetary purposes, and may not be the meters chosen for the project. The selected meters will be determined by the meter analysis.

Benefits of the solid-state water meters are:

- Burst pipe alarms,
- Back flow alarm,
- Have a 45-year life (3" – 10") with battery change-out, creating a smaller carbon foot-print and reducing employee work, saving on fuel and wear and tear on vehicles, and long-term savings on replacing meters,
- The battery is warranted for 20 years for ½" to 2" and 10- years for 3" – 10",
- Alert City staff members about a possible leak when there is at least one 24-hour period of time when the water is flowing through the water meter,
- Can be installed in numerous configurations.

This *Replace Gallup ICI Mechanical Water Meter* program will promote good water management and efficient water use.

The average total amount of water supply for the City is about 3,100 acre feet per year. The estimated amount of water conserved / average annual water supply is 0.09% per year. There are several benefits to the City's water management, including improving water use efficiency from this *Replace Gallup ICI Mechanical Water Meter* proposal, such as:

- Using the data from FY2016, there is an estimated 14,000,000 Gallons per year of unaccounted for water by installing 24 ICI meters. Conserved water will result from the end user's willingness to cut back on their water use as a consequence of their higher bills, since the new meters will record water that was previously not recorded nor charged to the customer.
- An estimated 30% of water consumption could be recovered with this project.

The City of Gallup plans to **achieve full implementation of the proposed activity** by *Replacing City of Gallup Mechanical Water Meters* as an on-going City water conservation project with a schedule of Completion Tasks as shown on Page 19. The City of Gallup has a proven track record for implementation and completing many Bureau of Reclamation Water Conservation grants. If this *Replace Gallup ICI Mechanical Water Meters* project is funded through Bureau of Reclamation, the City can leverage its funds to complete and implement this project program.

The City of Gallup intends to **evaluate the effectiveness** of the completed activity as part of the *Replace Gallup ICI Mechanical Water Meters* grant proposal with the Contractor submitting a bi-annual estimate of water savings due water savings from installation of new ICI Commercial AMR meters from 10% of Total number of new water meters installed. The "water savings" is noted on an Excel spreadsheet and this data is used in City reports. These estimates of saved water will also be submitted to Reclamation as part of the regular reports and in the final report.

There are no additional partners with the activity. If this funding is received, the Reclamation federal cost-share portion would be 50%, and the City funding would be 50%.

The City of Gallup **strategy to monitor the *Replace Gallup ICI Mechanical Water Meters* program's performance** will be accomplished by gathering data regarding water meters changed, including estimated water saving included in Excel spreadsheet reports to the City's Water & Sanitation Department. This data will be disseminated and included in bi-annual BOR grant reports. Meetings are held with the Contractor as needed to address any concerns, etc.

Schedule

The anticipated start date for the activity/project is September 30, 2018 and the completion date is September 30, 2020.

October 2018: A study will be completed to determine the estimated water usage of a facility, using engineering standards. We will then compare the meter use against estimated usage.

November 2018: Resource Wise will select the meters to be replaced.

December 2018: Spec meters to be used and order the meters.

Jan – June 2019: City will install the meters as time allows.

**July 2019 thru
June 2020:** Monitor water reads to determine water use and comparison to the previous meters history.

ENVIRONMENTAL CRITERIA

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? **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? **No**

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States?” **No**

When was the water delivery system constructed?
Approximately in the 1900’s to current time period

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., head gates, canals, or flumes)? **No**

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? **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**

PERMIT approval is not required for this proposal

The *Replace Gallup ICI Mechanical Water Meters* grant project will be in compliance with the National Environmental Policy Act (NEPA), ESA, NHPA and all applicable state, federal and local environmental, cultural, resource protection laws and regulations including the Clean Water Act.

Currently, any discharges from the City of Gallup's Waste Water Treatment Plant are in compliance with its NPDES permit which was developed based on federal and state regulations, since the *Replace Gallup ICI Mechanical Water Meters* will be a Water Meter Installation project.

E.1. Technical Proposal: Evaluation Criteria

E.1.1. Evaluation Criterion A—Project Benefits (35 points)

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

- Describe the expected benefits and outcomes of implementing the proposed project.
Expected benefits and outcomes include: accurate water reads, equitable water bills, lower water losses, additional revenue benefits to the City, and water conservation as a result of higher water bills. As the ICI customers see increased water bills, the City can offer free water audits to promote water conservation.
- What are the benefits to the applicant's water supply delivery system?
Replacing Gallup ICI Mechanical Water Meter grant program will help the NGWSP supply water delivery system reliability and benefits will help the Navajo and Jicarilla Apache tribe's water allocation with accurate and equitable ICI meter reading/billing, lower water losses, saving water, added revenue for the City.
- Extent to which the proposed project improves overall water supply reliability
Replacing Gallup ICI Mechanical Water Meter grant program will help improve overall water supply reliability and benefits will help the Navajo and Jicarilla Apache tribe's water allocation with accurate ICI meter reading, saving water. Accurate meter reads will facilitate in the City targeting the largest water users for free water conservation audits.
- The expected geographic scope benefits from the proposed project (e.g., local, sub-basin, or basin). Any anticipated positive impacts/benefits to local sectors and economies.
Replacing Gallup ICI Mechanical Water Meter grant program geographic scope benefits will help the Navajo and Jicarilla Apache tribe's water allocation with accurate ICI meter reading, saving water for the tribes.

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

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

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

- Does the proposed project implement a goal or address a need or problem identified in the existing planning effort?

The Gallup Joint Utilities Water Conservation Plan, prepared by DePauli Engineering, adopted in 2013, endorses Commercial Water Audits and minimizing Non-Revenue Water by replacing mechanical meters with Automatic Meter Reading (AMR) technology with an emphasis on the replacement of meters for the top users in the commercial sector. Which is a Priority in the City of Gallup's water planning and installation efforts.

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

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

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

- 1) October 2018: A study will be completed to determine the estimated water usage of a facility, using engineering standards. We will then compare the meter use against estimated usage.**
 - 2) November 2018: Resource Wise will select the meters to be replaced.**
 - 3) December 2018: Spec meters to be used and order the meters.**
 - 4) Jan – June 2019: City will install the meters as time allows.**
 - 5) July 2019 thru June 2020: Monitor water reads to determine water use and comparison to the previous meter's history.**
- Describe any permits that will be required, along with the process for obtaining such permits. ***There will be no need for permits since all the existing ICI water meter are on City Property.***
 - ***There will be no need for engineering or design work performed specifically in support of the proposed project. Since the City of Gallup's Water Department normally replaces meters as daily work needs.***
 - ***There will be no need for and environmental compliance estimate in support of the proposed project. Since the City of Gallup's Water Department normally replaces meters as daily work needs.***

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

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

- Does the applicant receive Reclamation project water?
Yes – the Navajo Gallup Water Supply Project. (NGWSP) is currently in construction phase to receive Reclamation Project water.

- Is the proposed project connected to a Reclamation project or activity? If so, how?
Is the project on Reclamation project lands or involving Reclamation facilities?
Is the project in the same basin as a Reclamation project or activity?

Yes – Replacing Gallup ICI Mechanical Water Meter grant program is connected to a Reclamation facility called the Navajo Gallup Water Supply Project (NGWSP); and is in the same basin as the Navajo-Gallup Water Supply Project (NGWSP) project area. NGWSP will divert surface water from the San Juan River to Gallup. The project is projected to cost \$995 million and require decades to complete. The City of Gallup will have to repay the BOR its portion of the project. Until then, Gallup continues to rely on groundwater mining for a water supply. The aquifers that Gallup draws from are rapidly depleting, on average of 200 feet in ten years, and most estimates expect water shortages for the city in the near future. These future water shortages could be helped by accurate water meter reading mitigation, to be installed for this proposed Gallup ICI AMR Water Meter Management Plan.

- Will the project benefit any tribe(s)?

Yes – the Replacing Gallup ICI Mechanical Water Meter grant program benefits saving water for the Navajo and Jicarilla Apache tribe who are will be receiving water from the Reclamation NGWSP project.

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 of the Interior priorities.

There is no environmental compliance required. The *Replace Gallup ICI Mechanical Water Meters* project includes inspection of old, mechanical, commercial, city owned water meters within the City for possible loss by poor meter performance.

For this project, the Contractor will submit semi-annual estimates of water conserved from commercial, ICI water meter AMR replacements. This amount will be included in reports to Reclamation.

The Replace Gallup ICI Mechanical Water Meters program will utilize science to identify best AMR Meter practices to manage water resources and adapt to changes in the environment. Proceeding with this grant application program will help with DOI water distribution systems to identify opportunities to resolve water consumption metering conflicts to expand water meter accuracy to monitor water capacity.

Replace Gallup ICI Mechanical Water Meters program will be broken into these four major tasks:

- Task 1 – Contractor a will analyze the ICI and well head water meters to determine which meters need to be replaced for the best return in revenue and water loss.
- Task 2 – Purchasing ICI Commercial Water Meters; the meter shall be warranted for 20 years for water consumption accuracy.
- Task 3 – City Water Department crew will Install ICI Water Meters
- Task 4 – The contractor will track the water use of the new meters and compare the usage to the previous three-year history and determine the savings in water and money.

PROJECT BUDGET

BUDGET PROPOSAL

City of Gallup "Gallup ICI Water Audits and AMR Meters"

(two years) September 2018 through September 2020

EXPENSE	breakdown	Federal Share	City of Gallup Cost Share	Partner
Salaries & Wages (City of Gallup)				
Employee 1: Grant Administrator for program for 2 years	(\$23 per hour) (= 109 hours / year)		\$5,000.00	City of Gallup
Water Department Employees	(\$46 per hour for 2 man crew) (= 136 hours/year)		\$12,500.00	City of Gallup
City use of Equipment, Truck Backhoes and tools			\$1,000.00	City of Gallup
Travel	(.545 cents/mile) 400 x .545		\$218.00	City of Gallup
Materials & Supplies	\$1,282.00		\$1,282.00	City of Gallup
Other				
Contractual ResourceWise				
Salaries & Wages				
ResourceWise Employee : Lonnie Burke	See ResourceWise proposal	\$12,000		ResourceWise
ResourceWise Employee : Aaron Burke	See ResourceWise proposal	\$6,365		ResourceWise
Meters		\$40,000.00	\$40,000.00	
Travel				
ResourceWise	(See ResourceWise proposal)	\$1,635.00		ResourceWise
Other / Environmental Compliance Costs	\$0.00	\$0.00	\$0.00	
Total Direct Costs:		\$60,000	\$60,000	
TOTAL Estimated PROJECT COSTS:		\$120,000		

Budget Narrative

Replacing Gallup ICI Mechanical Water Meters is listed as an Implementation Policy in the City of Gallup 2013 Water Conservation Plan. The budget for this project is \$80,000 for Meter Costs, \$20,000 for Contractual Costs, including \$30,000 City of Gallup In-Kind funding.

The City of Gallup will hire a contractor to perform the Replace Gallup ICI Mechanical Water Meters program at a rate of \$100 per hour plus travel and tax, with an estimate of 200 hours for a total of \$20,000. The Contractor will receive the water customer's information supplied by the City, contact the water customer, and schedule replacing commercial, ICI mechanical water meters at no cost to the water customer. Bi-annually, the contractor will supply documentation on where the commercial ICI water meter installations took place and estimate the volume of water saved from ICI water meter replacements.

All City staff time, supplies, equipment, travel and other costs will be paid for by the City for this project as In-Kind costs. In-kind staff-time service hours included in the budget are \$20,000. Another \$40,000 will be supplied from City of Gallup FY19 Budgeted grant funding. For a Total of \$60,000 City of Gallup In-Kind funds.

Summary of Funding Sources

The table below outlines the funding plan for the *Replace Gallup ICI Mechanical Water Meters* program. There are no other partners with the activity/project.

Summary of non-Federal & Federal funding sources

FUNDING SOURCES	Funding Amount
RECIPIENT FUNDING (City of Gallup) Non-Federal Entity	
1. Project Administrator, Plans, Coordinates <i>"Gallup ICI Water Audits and AMR Meters" grant for 2 years</i>	\$5,000
2. City Water Department Staff Hours, Travel and Equipment to Install Meters	\$15,000
3. Budgeted City grant funds	\$40,000
Non-Federal Entities SUBTOTAL:	\$60,000
2. ResourceWise hired as Project Lead Consultant for: <i>"Replace Gallup ICI Mechanical Water Meters" grant for 2 years</i>	\$20,000
Other Federal Entities	\$0
Requested Reclamation Funding:	\$60,000
Total Project Funding:	\$120,000

POINTS OF CONTACT

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RESOLUTION

THE GALLUP CITY COUNCIL

RESOLUTION No. R2018-____

**Approving grant application submission and if awarded, implementation of a
Bureau of Reclamation (BOR) Grant #BOR-DO-18-F009
Replace Gallup Industrial, Commercial and Institutional (ICI) Mechanical Water
Meters**

WHEREAS, Water and Sanitation Staff have prepared an application, *Replace Gallup ICI Mechanical Water Meters*, # BOR-DO-18-F009, which is a grant application between the Bureau of the Reclamation (BOR) and the City of Gallup;

WHEREAS, if awarded, the *Replace Gallup ICI Mechanical Water Meters* grant will allow for the replacement of approximately 24 old, large sized mechanical, commercial and multi-family mechanical meters, with state of the art Automatic Meter Reading (AMR) meters;

WHEREAS, Staff estimates that the proposed *Replace Gallup ICI Mechanical Water Meters* grant program will find an estimated 14,000,000 Gallons per year of unaccounted for water by installing an estimated 24 ICI meters, helping to protect our limited ground water resources;

WHEREAS, the *Replace Gallup ICI Mechanical Water Meters* grant implementation will increase water meter accuracy readings. Hard water, debris, and wear and tear reduce the accuracy of old mechanical water meters over time. Replacing these old meters with new AMR technology meters can help utilities recover lost water and wastewater revenue; and

WHEREAS, the *Replace Gallup ICI Mechanical Water Meters* grant proposal total project costs are estimated at \$120,000. The U.S. Bureau of Reclamation share is calculated at \$60,000, matched with \$60,000 of in-kind expenses. Expenditures will be utilized to hire an experienced, licensed contractor, and to purchase large, commercial sized ICI meters. In-Kind matching funds will come from grant administrative and staff wages to install water meters, travel, equipment, and vehicle use. \$40,000 of matching City of Gallup funds are approved in the Gallup FY19 Budget;

NOW THEREFORE, BE IT RESOLVED that the Governing Body of the City of Gallup does hereby approve the grant submission, and if awarded, implementation of the *Replace Gallup ICI Mechanical Water Meters* BOR grant Funding Opportunity application and partnership between the City of Gallup and the Bureau of Reclamation.

PASSED, ADOPTED AND APPROVED this ____ day of August 28, 2018, in a duly called meeting of the Gallup City Council at which a quorum was present, at Gallup, New Mexico, by a vote of ____ in favor, ____ opposed, and ____ abstaining.

BY: _____
Jackie McKinney, Mayor
City of Gallup

ATTEST: _____
Alfred Abeita, City Clerk

This Resolution is scheduled for the August, 2018 City Council Meeting review and approval. A copy will be sent after approval and signatures are complete.

Replace Gallup ICI Mechanical Water Meters