



No Money? Creative Financing Solutions for Rural Water Systems

Round Mountain Water and Sanitation District
Water Meter Infrastructure and Well Installation

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Carl Hurst, P.E., Iconergy
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District Snapshot

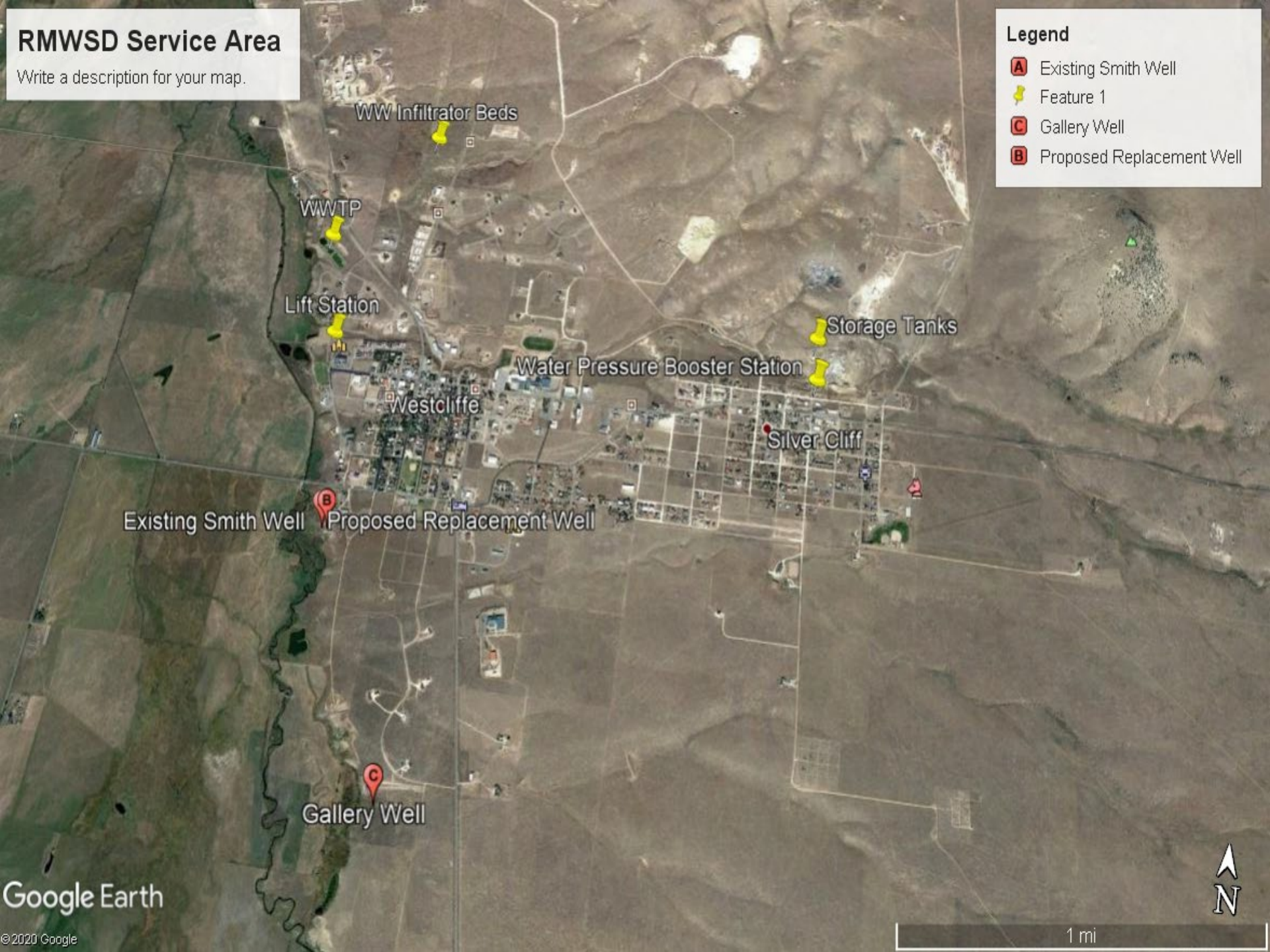
- District population - 1350
- 26 miles of water mains, 18 miles of sewer mains
- 6 full-time staff
- 700 water taps
- District MHI - \$39,000 – Less than 50% of Colorado MHI
- Only 7% of yearly budget funded by property taxes
- Critical infrastructure upgrades needed:
 - WWTP upgrade - \$ 4 million
 - Reservoir installation - \$3.5 million
 - Water Meter/Municipal Well replacement - \$2.1 million

RMWSD Service Area

Write a description for your map.

Legend

- A** Existing Smith Well
- Feature 1**
- C** Gallery Well
- B** Proposed Replacement Well



Water System Issues

The District's Primary Well

- Failed in December of 2019
- Water system has been running on a single backup secondary well for over 2 years
- The Water treatment system is not to current code
- Water usage in peak months exceeds supply capabilities

Efficiency and Resiliency

- Power outages are not uncommon due to the remote location of the District.
- The District needs to become more efficient and utilize renewable energy sources
- Solar PV a possible solution for energy supply for the new well pump

Most of the Districts water meters were beyond recommended useful life

- Inaccuracy is causing 4.7% - 11.7% in non billed revenues
- Leaks go undetected resulting in total system water losses of 20% - 35%
- Meter reading process is not automated and costly
- Unbilled revenues are approximately \$85,000 - \$100,000 per year

Desired Project Outcomes

Water Supply Well Replacement

- Replacement 270 gpm well installed on existing well site
- Elevation increase to mitigate GWUDI issues
- Improve water treatment system and contact chamber for current code compliance
- Provide efficient pumping system with variable frequency speed control

Solar PV Array

- Install 50kW solar PV net metered with well pump and treatment
- Locate on existing well site on south facing hillside
- Integration with backup generation requirement for resiliency
- Sized to provide net zero operation of well site energy

Desired Project Outcomes

Water Meter Replacement/AMI Infrastructure

- Install ultrasonic meters with multiple reporting parameters
- Immediately resolve lost revenue issues due to accurate metering
- Consumption that can be measured and tracked on hourly basis
- Enable leak detection capabilities
- Provide full integration with current utility billing platform
- Reduce operational costs (vehicles, personnel, inventory, safety)
- Increase awareness, near real-time monitoring for staff and customers
- Enhance conservation initiatives and enforcement
- Potential to recover over 800K in additional revenue over 25 years

PROBLEM!

**HOW CAN WE FINANCE
THIS PROJECT WITHOUT
MATCHING FUNDS??**

Solution! Integrate 3 State programs – No upfront Capital

1. CDPHE development funding and Low Interest Loans via **Colorado Water Resources and Power Development Authority (CWRPDA)**
2. DOLA **Energy Impact Assistance Fund (EIAF) Grant (50% match)**
3. **Colorado Energy Performance Contracting (EPC) program**
Additional revenues from improved metering accuracy, energy and operational cost savings fund the loan payments

Utilizing the SRF loan is enabled by:

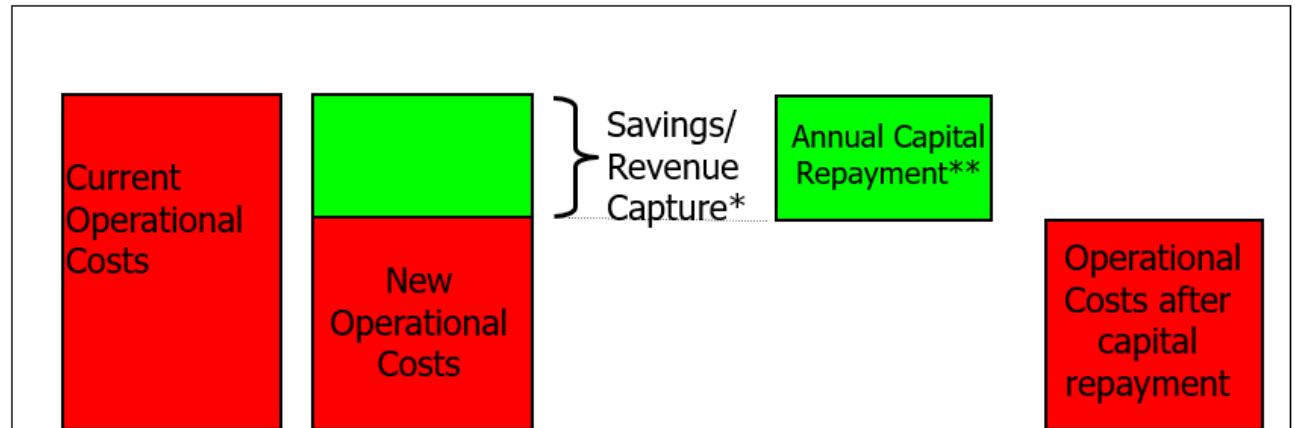
- Performance Contract Legislation allows a qualified ESCO to deliver a performance guaranteed project for water metering systems
 - CRS 29-12.5-102 (2017)
- Does not require an election or other mechanism for loan funding

Self Funded EPC : How Does it Work?

EPC Benefit

Leverage Future Revenue and Operational Savings to Fund Critical Water Infrastructure Improvements Now with Third Party Funding

Self-Funded & Budget-Neutral (No Impact to Budget)



Colorado Performance Contracting

29-12.5-102. Contract for analysis and recommendations.

(1) The board of any political subdivision may contract with an architect, professional engineer, or other person experienced in the design and implementation of utility cost savings measures or energy saving measures for an analysis and recommendations pertaining to such measures that would significantly increase:

- (a) Utility cost savings and operation and maintenance cost savings in buildings or other facilities owned or rented by the political subdivision;

Colorado Performance Contracting

29-12.5-103. Financing energy cost savings measures - exception to debt limitations.

(1) If the board, after receiving the analysis and recommendations pursuant to section 29-12.5-102, finds that the amount of money the political subdivision would spend on such energy saving measures is not likely to exceed the amount of money it would save in energy costs over the term of the contract, the board may:

(a) Enter into an energy cost-savings contract with any architect, professional engineer, or other person experienced in the design and implementation of energy saving measures for buildings or other facilities owned or rented by the political subdivision, with any person or entity experienced in the calculation and analysis of vehicle fleet operational and fuel cost savings, or with the entity or person who performed the energy analysis and provided recommendations pursuant to section 29-12.5-102; or

(b) Otherwise incur indebtedness to finance energy saving measures.

Colorado Performance Contracting

(4) "Energy saving measure" means:

(a) The acquisition and installation, by purchase, lease, lease-purchase, lease with an option to buy, or installment purchase, of a utility cost-savings measure and any attendant architectural and engineering consulting services;

(b) Architectural and engineering consulting services related to utility cost savings; or

(c) The acquisition and installation, by purchase, lease, lease-purchase, lease with an option to buy, or installment purchase of a vehicle fleet operational and fuel cost-savings measure.

(4.1) "Increase in meter accuracy" means a guaranteed increase in efficiency or accuracy of utility metering or related equipment, systems, or processes or procedures that is calculated or determined by using applicable industry engineering standards.

(4.3) "Meter guarantee" means a stipulated or agreed upon increase in billable revenues to result from the guaranteed increase in meter accuracy, based on stipulated or agreed upon components of a billable revenue calculation in a utility cost-savings measure.

RMWSD Project Steps

RMWSD engaged Iconergy via the Colorado Energy Office EPC program

- Turnkey project steps performed by Iconergy:
 - Investment Grade Audit (IGA) which included:
 - ✓ Testing a sample group of meters to verify level of revenue capture from project
 - ✓ Developed the scopes of work for the AMI, well, and solar PV
 - Developed all project information and submitted grant and loan applications to secure project financing.
 - Coordinated DOLA grant application and SRF funding program cycles to coincide with project timing
 - Once developed, funded and approved, Iconergy implemented the turn-key delivery of the project measures
 - Iconergy is providing measurement and verification of project savings
- District receives benefits from new metering system, well and solar PV along with the funding to pay for the project.

Project Scope and Cost

#	Measure Description	Utility Savings	Maintenance Savings	Implementation Cost
0	670 ultrasonic meters	\$40,860	\$2,000	\$657,895
1	Well Drilling, Casing, Disinfection, & Building	\$3,301	\$0	\$605,263
2	Well Design Engineering	\$0	\$0	\$43,750
3	Well Generator (50 kVA)	\$0	\$0	\$46,053
4	PV - ground mount 50 kW	\$11,550	\$0	\$210,526
5	Billing system integration	\$0	\$0	\$10,500
6	Software configuration and support	\$0	\$0	\$5,000
7	Development, Engineering, & Commissioning	\$0	\$0	\$96,250
8	Project Management & General Conditions	\$0	\$0	\$147,500
9	Measurement & Verification	\$0	\$0	\$18,000
10	P&P Bond	\$0	\$0	\$27,500
11	Contingency (10%)	\$0	\$0	\$207,582
Total		\$55,711	\$2,000	\$2,075,819

Cost for project: metering system, well and solar PV is \$2,075,819

Project Cost & Performance

Year	Savings			Annual Loan Payment	Annual Net Cash Flow	Cumulative Cash Flow
	Utility savings & Revenue Recovered	Operations Savings				
1	\$ 55,711	\$ 2,000		\$ (57,686)	\$ 26	\$ 26
2	\$ 56,825	\$ 2,040		\$ (57,686)	\$ 1,180	\$ 1,205
3	\$ 57,962	\$ 2,081		\$ (57,686)	\$ 2,357	\$ 3,563
4	\$ 59,121	\$ 2,122		\$ (57,686)	\$ 3,558	\$ 7,121
5	\$ 60,304	\$ 2,165		\$ (57,686)	\$ 4,783	\$ 11,903
6	\$ 61,510	\$ 2,208		\$ (57,686)	\$ 6,032	\$ 17,936
7	\$ 62,740	\$ 2,252		\$ (57,686)	\$ 7,307	\$ 25,242
8	\$ 63,995	\$ 2,297		\$ (65,786)	\$ 506	\$ 25,749
9	\$ 65,275	\$ 2,343		\$ (65,786)	\$ 1,832	\$ 27,581
10	\$ 66,580	\$ 2,390		\$ (65,786)	\$ 3,185	\$ 30,766
11	\$ 67,912	\$ 2,438		\$ (65,786)	\$ 4,564	\$ 35,330
12	\$ 69,270	\$ 2,487		\$ (65,786)	\$ 5,971	\$ 41,301
13	\$ 70,655	\$ 2,536		\$ (65,786)	\$ 7,406	\$ 48,707
14	\$ 72,068	\$ 2,587		\$ (65,786)	\$ 8,870	\$ 57,577
15	\$ 73,510	\$ 2,639		\$ (65,786)	\$ 10,363	\$ 67,940
16	\$ 74,980	\$ 2,692		\$ (65,786)	\$ 11,886	\$ 79,826
17	\$ 76,480	\$ 2,746		\$ (65,786)	\$ 13,440	\$ 93,265
18	\$ 78,009	\$ 2,800		\$ (65,786)	\$ 15,024	\$ 108,289
19	\$ 79,569	\$ 2,856		\$ (65,786)	\$ 16,640	\$ 124,930
20	\$ 81,161	\$ 2,914		\$ (65,786)	\$ 18,289	\$ 143,218
Project Cost	\$	2,075,819				
DOLA Grant	\$	850,000				
Planning Grant	\$	10,000				
Design Grant	\$	129,250				
Loan Amount	\$	1,086,569		<u>Inflation</u>		
Term (years)		20		-Utility	2%	
Interest Rate		1.50%		-Operations	2%	
Payments/Year		4				

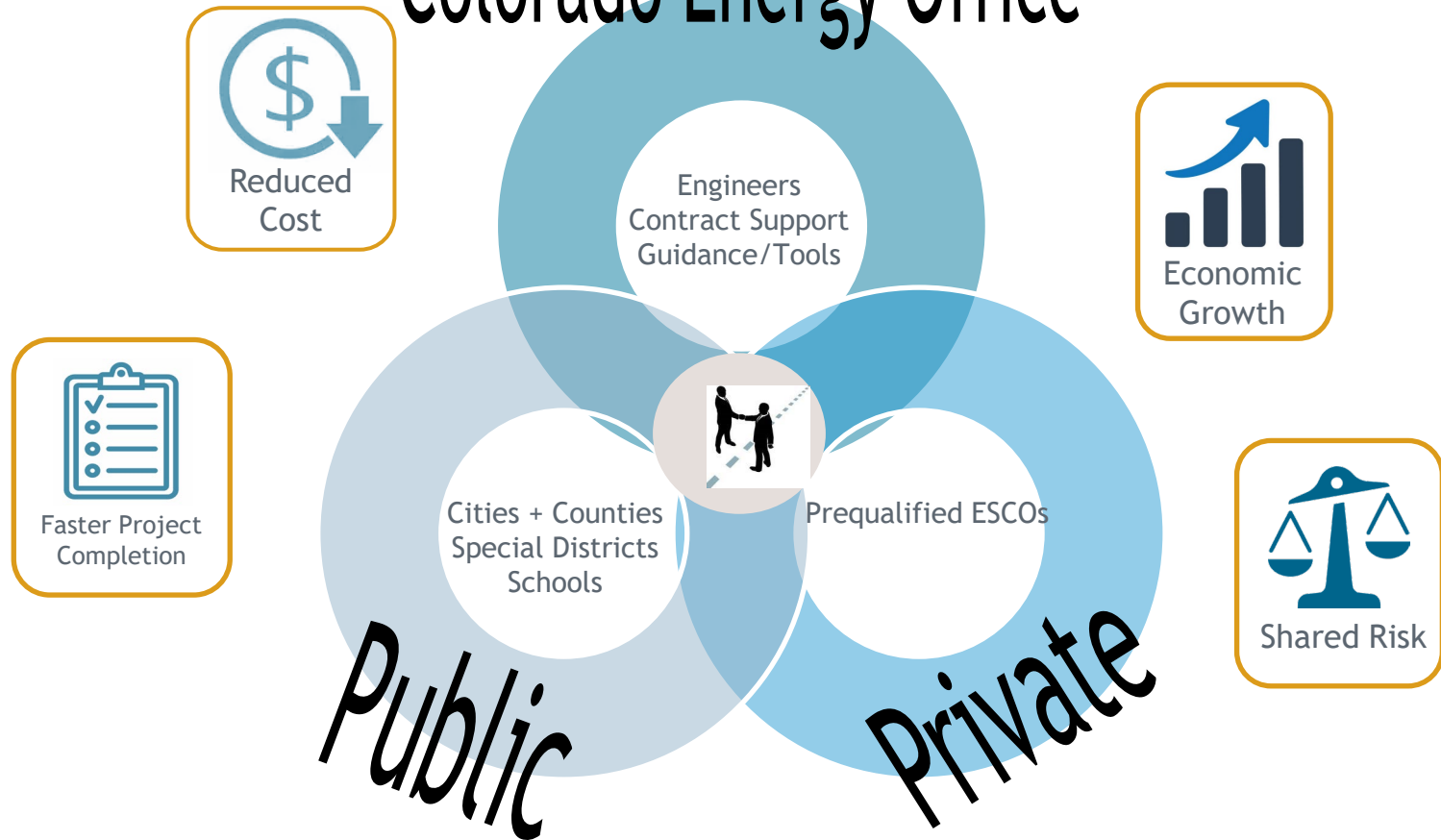


iconergy

- A Colorado local-Colorado native company
- Denver Headquarters and a satellite offices throughout Colorado
- Pre-Approved ESCO for the Colorado Energy Performance Contracting program
- Our team represents 110 years of combined experience and over \$500M in projects delivered.
- We specialize in retrofit projects for rural Colorado
 - AMI, Energy efficiency, renewables, facility improvements
- We integrate multiple funding sources to reduced budget impact

Energy Performance Contracting Partnership

Colorado Energy Office



DeLynne Southern
Sr. Program Strategist
delynne.southern@state.co.us
281-961-3851

Colorado Water Resources and Power Development Authority (CWRPDA)

- State Revolving Fund (SRF)
 - Low interest loan program to finance design and construction of public drinking water, wastewater and stormwater infrastructure projects

- Three Agencies

DOLA



CDPHE



CWRPDA



- Drinking Water Revolving Fund (DWRF) and Water Pollution Control Revolving Fund (WPCRF)
 - Must be on **eligibility list (EL)**.
 - Link to EL: <https://cdphe.colorado.gov/state-revolving-fund-information>. Select 1.

EIAF Grant Program

Cycle 23-11: \$25,000,000 available

Application period opens: June 30, 2023

Application period closes: 11:59 p.m. August 1, 2023

Final awards: November 2023

- 50% match requirement
- Tier I (up to \$200,000) and Tier II (up to \$1 million)

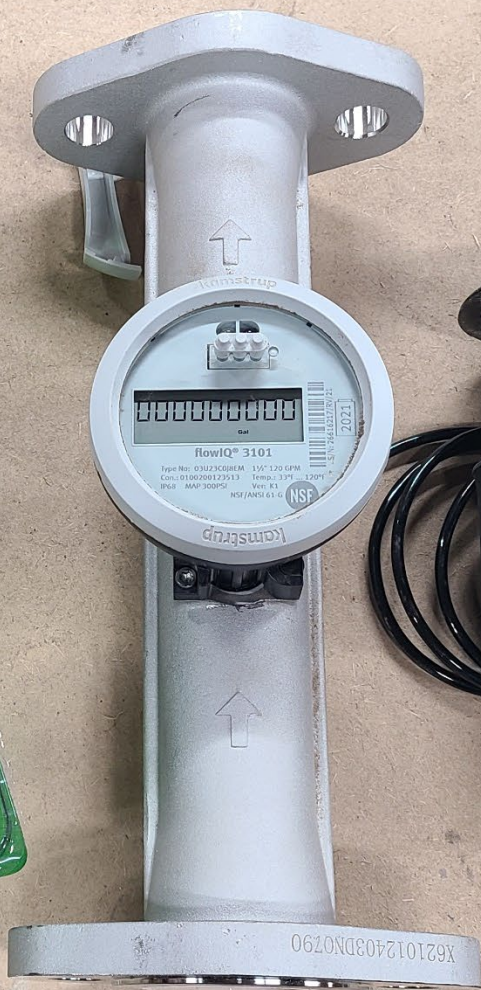
[Energy/Mineral Impact Assistance Fund Grant website](#)

Contact your DOLA Regional Manager



Project Results

- District received three grants totaling \$989,250
- 35% reduction in un-metered water loss
- Average 7.5% additional revenue capture from new meter use
- Projected average monthly electric cost reduction of \$3500
- 320 gpm well will double existing water production capabilities
- AMI provides immediate notification to the district and customer base of leaks, pipe bursts, freezing, etc.
- The District has saved hundreds of thousands of gallons of water thanks to the AMI meter system
- Additional revenue capture and energy savings pay for the project loan payment – no need to raise water rates to pay for project



Account Information

369.01
 Lea Lane Park
 9 Lea Lane
 Westcliffe, CO 81252

Phone Number (719) 371-3735
 Email Address robynwallerich@gmail.com

2 Registered Users [\[Register New User\]](#)
lealane@roundmountain.com
robynwallerich@gmail.com

Current Billing Period
 Mar 1, 2023 - Mar 31, 2023 (Day 28 of 31)

Estimated Bill (as of 3/28/2023 12:13 PM) **\$2,684.00**
 Projected Bill (at last reported use rate) **\$2,876.20**

Water Use (as of 3/28/2023 12:13 PM) **226.2k Gallons**
 Projected Water Use (at last reported use rate) **248.3k Gallons**
 Last 24 Hours: 5,346 Last Day: 2,726

[Export](#) [My Thresholds](#)

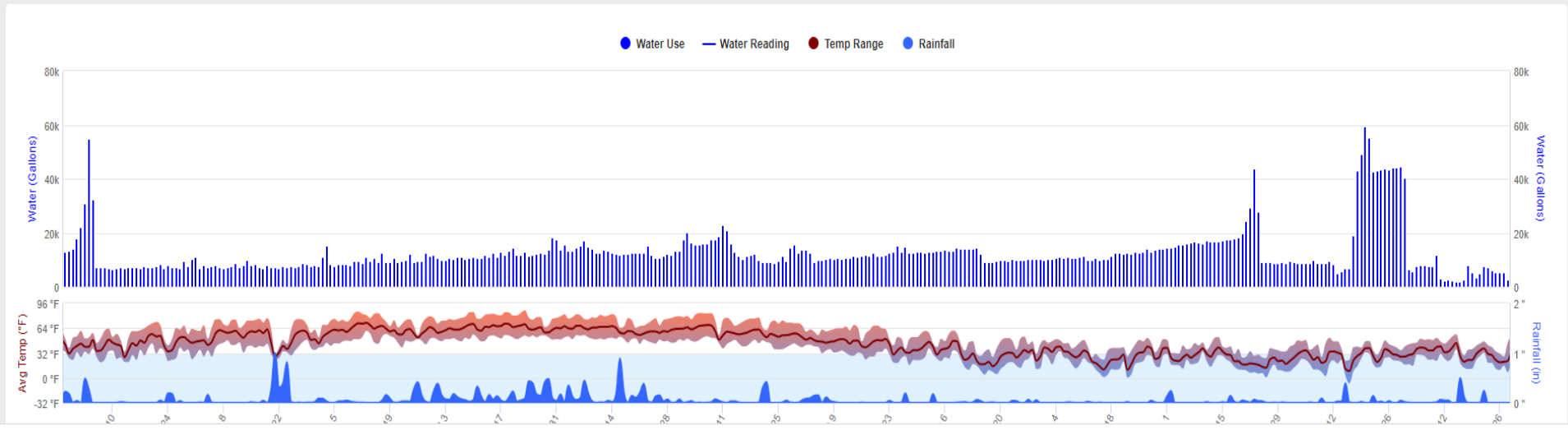
- 369.01
- 03/11/2023 Exceeding Dollar Budget: You are likely to exceed your dollar budget.
 - 02/24/2023 Water Use: Abnormal water use detected.
 - 03/01/2023 Water Threshold: Water use exceeding a user defined threshold.
 - 02/17/2023 Exceeding Dollar Budget: You are likely to exceed your dollar budget.
 - 02/01/2023 Water Threshold: Water use exceeding a user defined threshold.
 - 01/10/2023 Exceeding Dollar Budget: You are likely to exceed your dollar budget.
 - 01/01/2023 Water Threshold: Water use exceeding a user defined threshold.

Account # 369.01 Inactive

Last 365 Days (Tue Mar 29, 2022 - Tue Mar 28, 2023)

4.6M Gallons (1,957 min, 12.6k avg, 59.3k max)

Back 24 hours 48 hours 72 hours 30 days 45 days **365 days** 12 months



4/10/2023

New Well and Treatment Building





Questions & Discussion

Thank You!

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