

# Seal Rock Water District Smart Infrastructure Technology



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## Smart Infrastructure Technology



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# Intelligent Water Networks

## What are they?

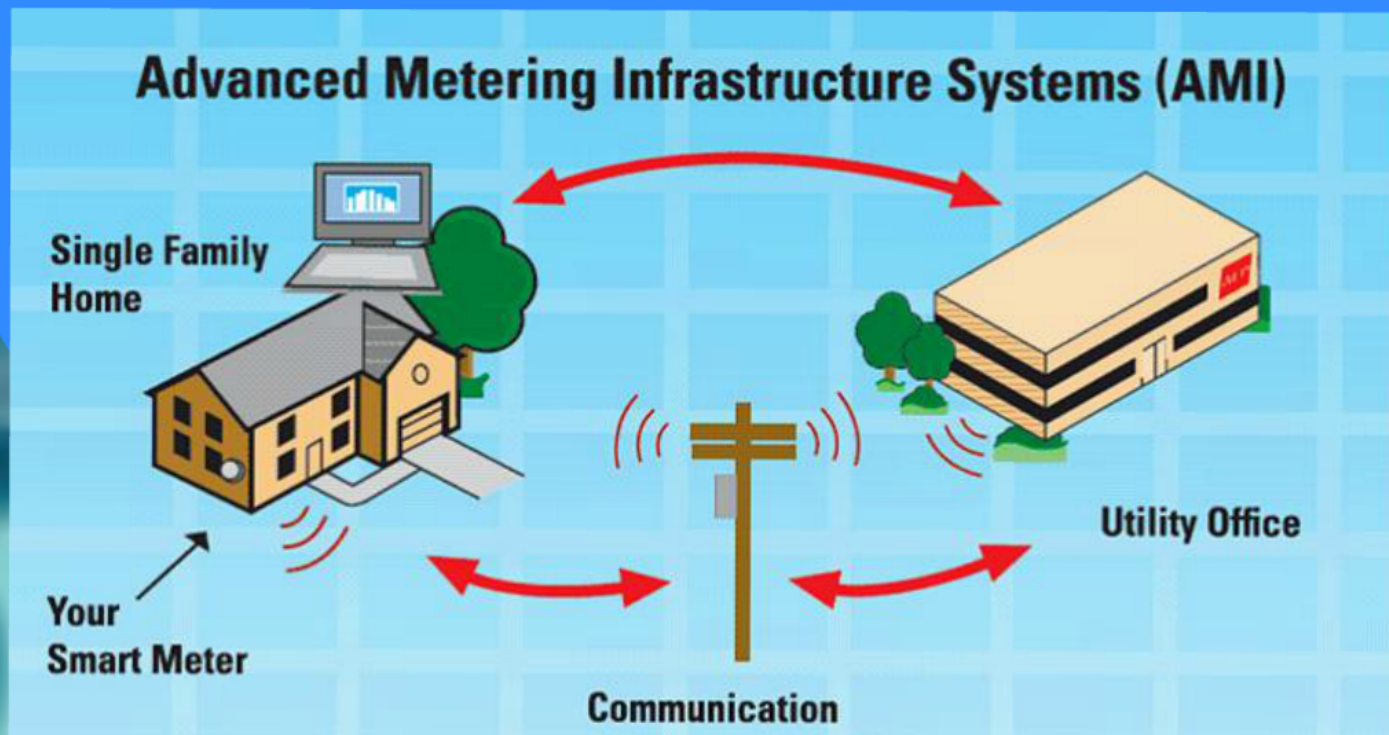
# General Information:

- Service Territory: 12.5 sq/miles
- Static Population: 5,500
- 9-full time employees
- Over 65-miles of pipe.
- 2-million gallons of reserve water.
- Service connections: 2,558
- 95% residential customer base.
- Annual Water Sales volume 95-M/Gal



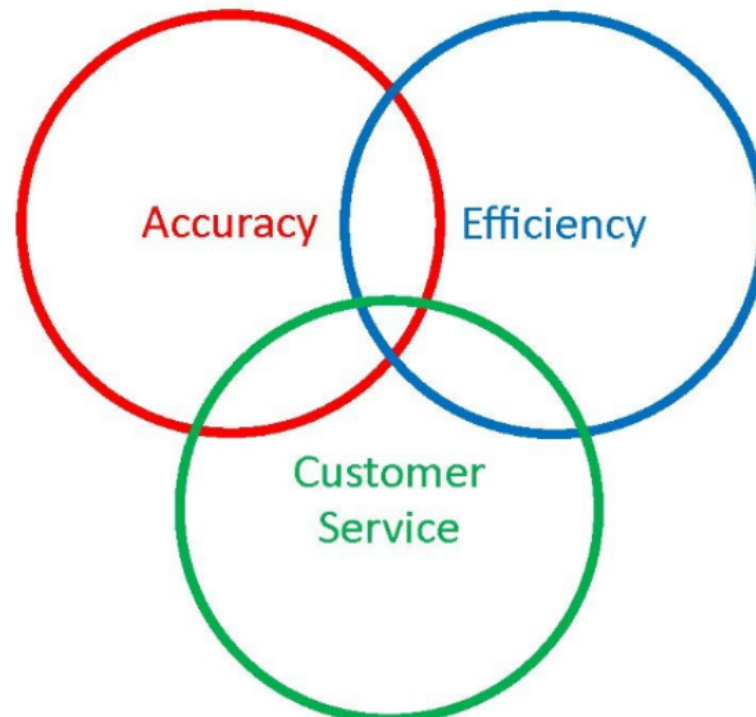
# Advanced Metering Infrastructure

- Systems that measure, collect, analyze usage and communicate with metering devices such as water electric and gas meters, either on request or on schedule.



# Metering Background

- SRWD adopted a touch read meter system in 1990.
- Some radio reads installed along HWY-101 1999.
- Pre AMI included a blend of meters (Sensus/Neptune).
- District has made a strong investment in innovative tools.
- SCADA system monitors the entire Distribution System.
- Undetected customer leaks at the meter point.
- Monthly read time 2-FTE's 4-days.



# Condition Assessment

- Cost to read meters?
- Non-revenue water loss?
- Cost to support existing technology?
- How long does it take to read meters?
- Time spent responding to customer leaks?



# AMI is a Brave new world

- Community engagement.
- Daily data - payload of actionable information which benefits the water provider and customers.
- Education; community messaging centered around conservation.
- Early leak detection; saving customers money they lose from wasted water.
- Customer expectations are changing - greater engagement.





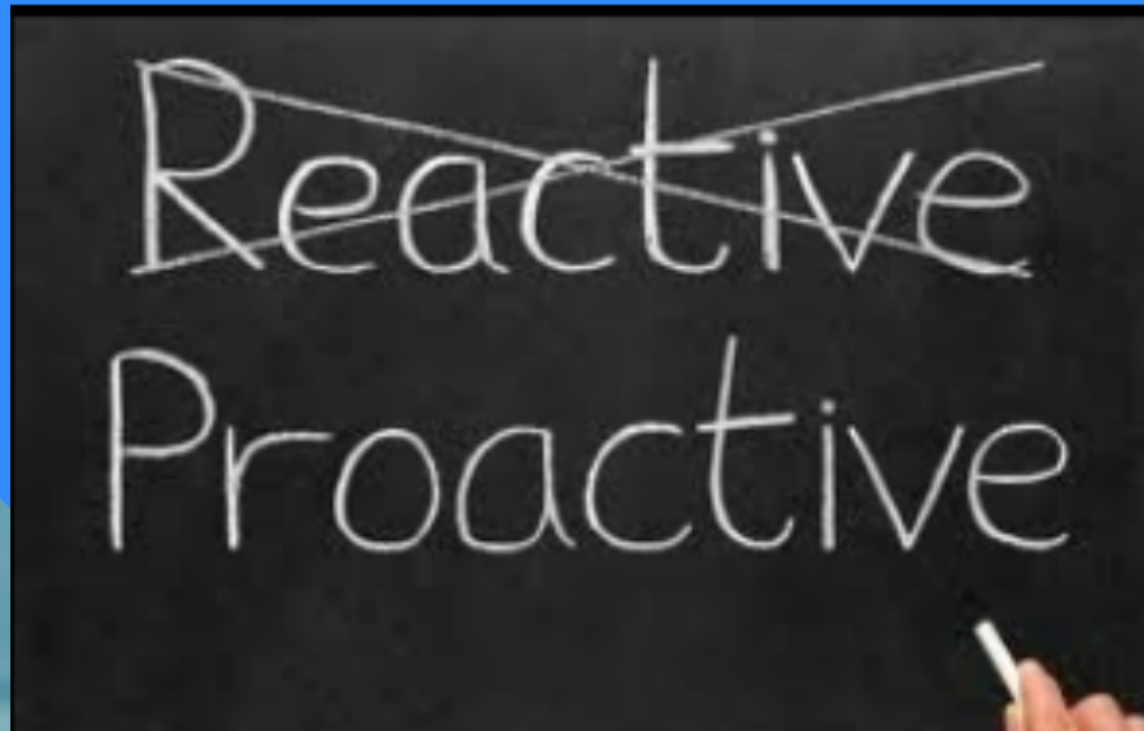
## **Key Benefits of Intelligent Water Networks:**

- Reduced staff time to read meters.
- Increased system maintenance.
- Reduce non revenue water loss.
- Increased employee safety.
- Reduce our demand on the Source.
- Environmental benefits.
- Conservation!



# Customer Benefits

- Gallon reading is easier to understand.
- Usage information and history is readily available through the internet.
- Much earlier notification of potential customer leak.
- Information available before Standard Billing Periods i.e 30-days.

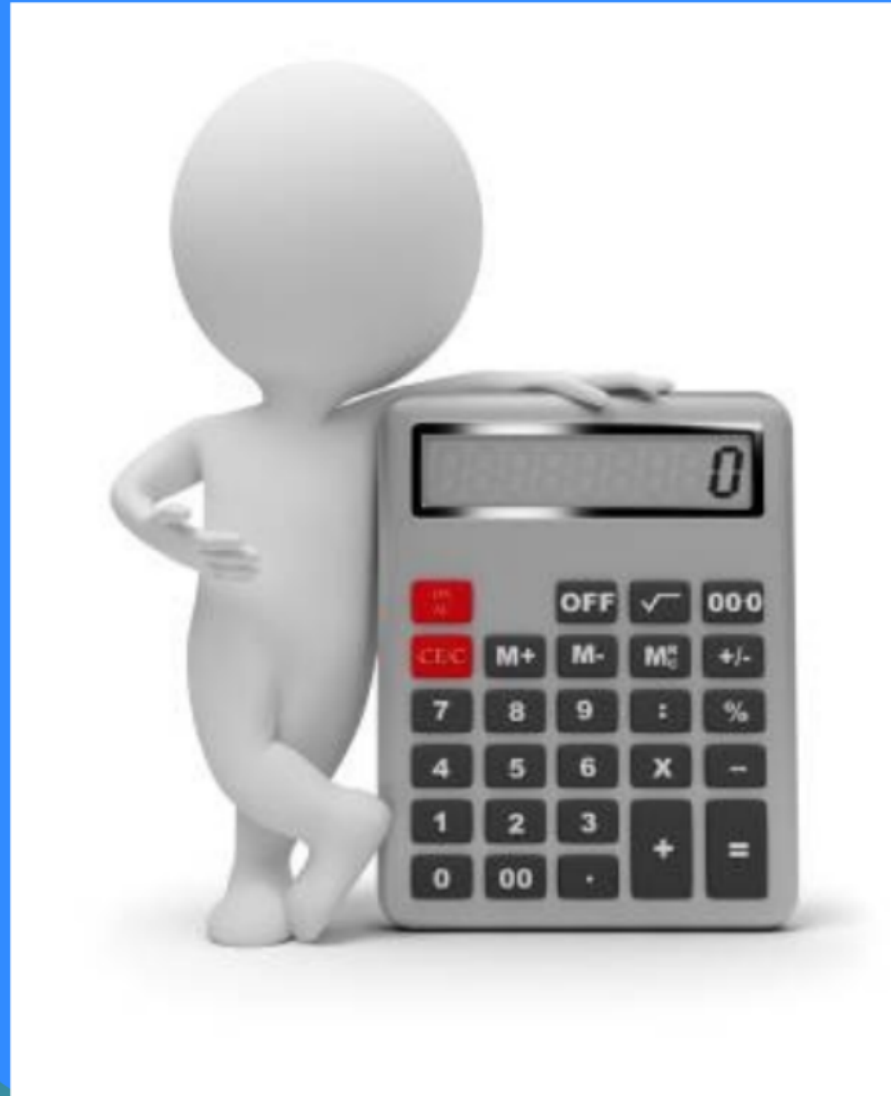


# Operational Efficiencies

- End of using 4-FTE's to manually collect readings each month.
- More data to act on, so increase field services.
- With AMI, you cant achieve 100% staff reduction of meter readers.
- One employee has been reclassified as a result of implementing AMI.
- Net Savings (when factoring monthly endpoint charge) is about 10% of current meter reading cost.



# Return on investment:



# Factors in Return on Investment:

- Meter Technology:
  - Longer life
  - No Accuracy fall-off
  - Alarms
- Operational efficiencies:
  - Streamlined billing and acct information
  - Water production audits
- Sustainability:
  - Proactive leak detection
  - Smaller carbon footprint
  - More Data = better planning



# Proactive approach by the SRWD Board

- Targeted approach to reduce water loss through capital improvements.
- Replacement of 50,000 LF of mainline (approx 9.5 miles) in the last 5-years.
- Replacing failed pressure reducing valves and master meters.
- Pump station improvements.
- Increased efficiency.
- AMI metering infrastructure.



## Measurable improvements in unaccounted for water:

- Water Management and Conservation plan adopted 2014. Water loss recorded at 21%
- WMCP Update 2019...**water loss within 10%**

Exhibit 8. Annual Water Audit, FY 2012-2013 to FY 2017-2018.

Fiscal Year	Demand (MG)	Metered Consumption (MG)	Accounted For Water Loss (MG)	Water Loss (MG)	Water Loss (%)
2012-2013	108.2	81.7	3.2	23.3	21.5
2013-2014	109.3	81.7	4.3	23.3	21.3
2014-2015	115.8	86.4	11.6	17.8	15.3
2015-2016	128.3	86.4	22.6	19.3	15.4
2016-2017	110.7	84.0	9.2	17.4	15.7
2017-2018	110.2	87.8	9.0	13.5	12.2

# The Industry:

- Proper water management is necessary in order to gain control of the little water we do have.
- Innovative metering technology is one cost effective solution for municipal water suppliers.



CUSTOMER  
SERVICE



WATER &  
ENERGY  
CONSERVATION



OPERATIONS &  
ASSET  
MANAGEMENT



GOVERNMENT  
REGULATIONS



REVENUE  
MANAGEMENT



INFORMATION  
INTEGRATION





United States Department of Agriculture  
Rural Development

*AMI installation was a \$1.5Million-dollar project fully funded through a grant provided by USDA Rural Development through its Water and Waste Disposal Loan and Grant program.*



# Regional Considerations

## Mid-Coast Water Planning Partnership

### Placed Based Planning

The purpose of the Mid-Coast Water Planning Partnership is to develop an inclusive community forum which examines water use in the region, identifies current and potential water challenges, and creates a unified plan to balance water needs.

Working TOGETHER has helped to bridge our differences and build appreciation for each other's accomplishments & challenges.



## Mid-Coast Water Planning Partnership Placed Based Planning

Although the mid-coast receives ~70 inches of rainfall annually, local communities have struggled to meet water demands in recent years. A 2008 study found that, given current supplies and infrastructure, water suppliers could have insufficient supplies by as early as 2020. Some communities already struggle to meet their water needs.

Developing strategies to improve conservation is an important step in managing water resources in our region. Smart Water Technology and redundant water supply systems will go a long way to ensuring this precious recourse is here for future generations.

**BERNARD**

**DEHYDRATED  
WATER**

EMPTY CONTENTS OF CAN  
INTO  
ONE GALLON OF WATER.  
STIR UNTIL DISSOLVED.  
CHILL AND SERVE

*MANUFACTURED AND DISTRIBUTED TO  
THE NAVY FOR CATERING ESTABLISHMENTS*

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