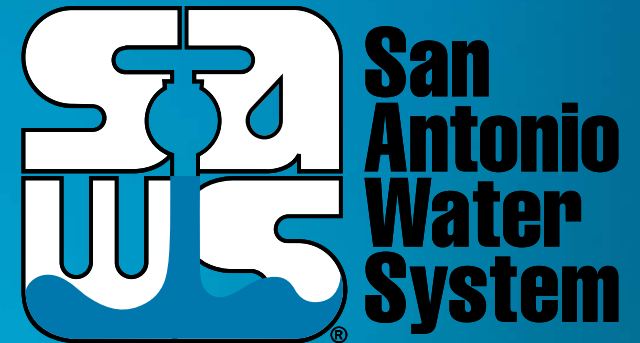


# Cultivating a Culture of Technology Innovation

Robert R. Puente  
President/Chief Executive Officer

Emerging Water Technology Symposium  
May 10, 2022



MAKING SAN ANTONIO  
**WATERFUL**





# SAWS by the Numbers

One of Nation's Largest Municipally Owned Utilities

- 2 million customers in 4 counties
- 1,700 employees
- \$8.3 billion assets
- 13,090 miles of pipe
- \$909.4 million operating budget
- \$2.6 billion capital expenditures next 5 yrs

# Technology Contributes to Efficiency



## Three Examples from Among Many Technology Advancements

- Advanced Metering Deployment
- Smart Manhole Covers
- Conservation Advances for Customers

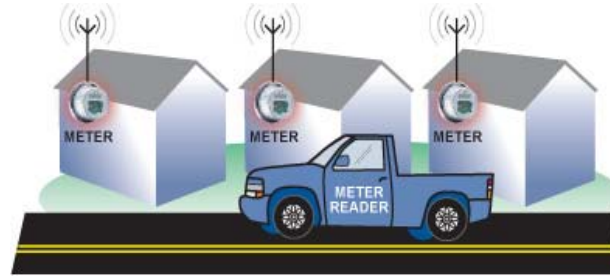
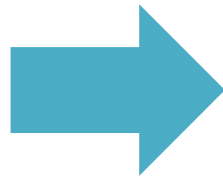
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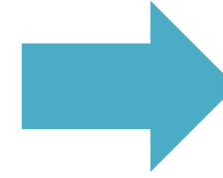
# Meter Reading Technology Over Time



Manual



Automated  
Meter Reading

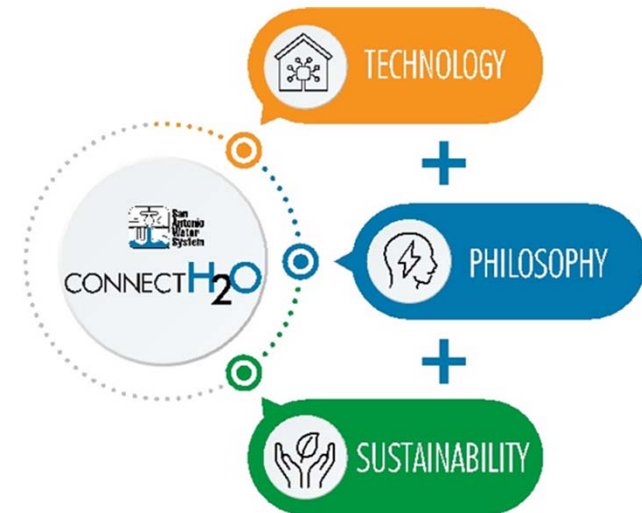


Advanced Metering  
Infrastructure

## Getting A Big Investment Right

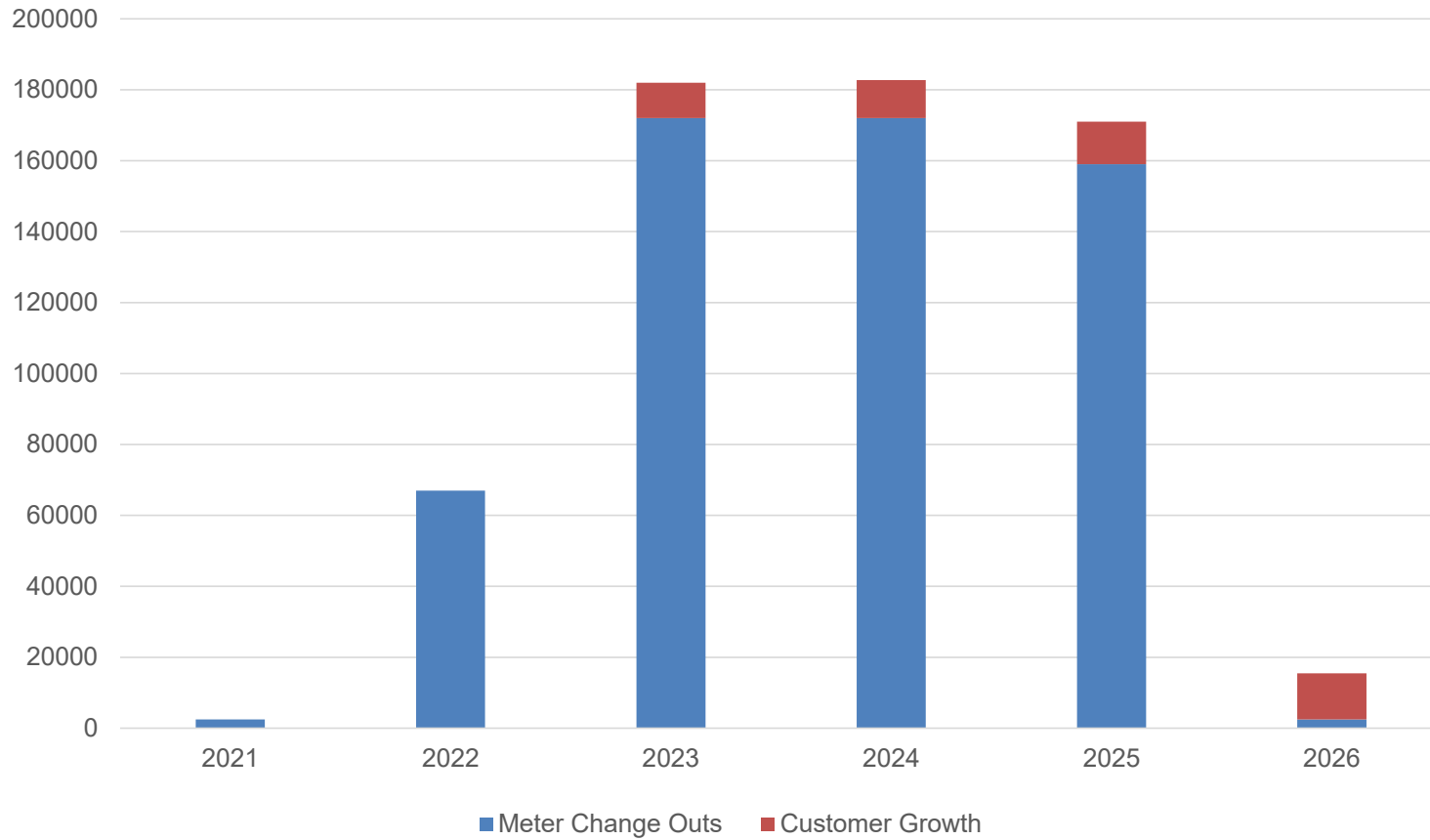
- Using existing energy utility data network
- Selection of newer meter technology; efficiency
- Will empower customers to manage their water usage

# CONNECTH<sub>2</sub>O



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# 600,000 Meters Over Four Years



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# Pilot Demonstrated Savings for Customers

Schedule a Move    Contact Us

---

**BALANCE DUE**

**\$0.00**

Last Payment: **\$35.77** paid on 5/26/2021

**Current Charges Due: 6/7/2021**  
Any unpaid previous balance is due NOW  
[View current bill for details](#)

**VIEW CURRENT BILL**

---

**Current Bill Highlights**

Domestic Water Service Charge	\$15.49
Water Supply Fee	\$5.73
Edwards Aquifer Authority Fee	\$1.16
Sewer Service Charge	\$19.17
State-Imposed TCEQ Fee	\$0.27

---

**DAILY USAGE** FOR MOST RECENT BILL    Service Address: 108 FAIRFAX

Gallons

04/27 04/29 05/01 05/03 05/05 05/07 05/09 05/11 05/13 05/15

Total Usage    Daily Usage

**MONTHLY USAGE**

**USAGE**    Service Address: 108 FAIRFAX

5/2021  
Monthly View by Day

04/01/2021 - 05/31/2021  
Specific Date Range

Last Bill Usage  
5/15/2020 - 6/16/2020

Usage Since Last Bill  
6/16/2020 - 6/21/2021

300  
280  
260  
240  
220  
200  
180  
160  
140  
120  
100  
80  
60  
40

1st 3rd 5th 7th 9th 11th 13th 15th 17th 19th 21st 23rd 25th 27th 29th 31st

Total Usage    4660.9 gallons  
Water Used This Month

Peak Point    282.9 gallons  
Highest Day this Timeframe

**CONNECT H2O**  
Find Out More

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# Smart Covers; Tracking Sewer Overflows

**Problem:** Finding sewer issues early to prevent overflows

**Solution:**

- Largest adopter of smart covers with 500 in the field
- Devices “babysit” the sewer flow and send alarms to alert staff when action is needed

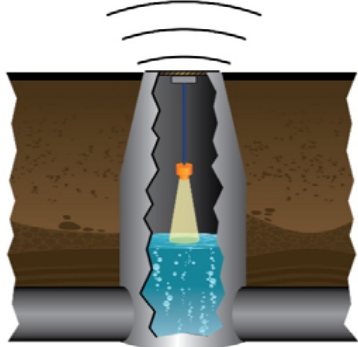




# SmartCover Innovation: Internet of Things for Sewers



DoD Backed Iridium®  
Satellite Network



SmartCover® Sensors

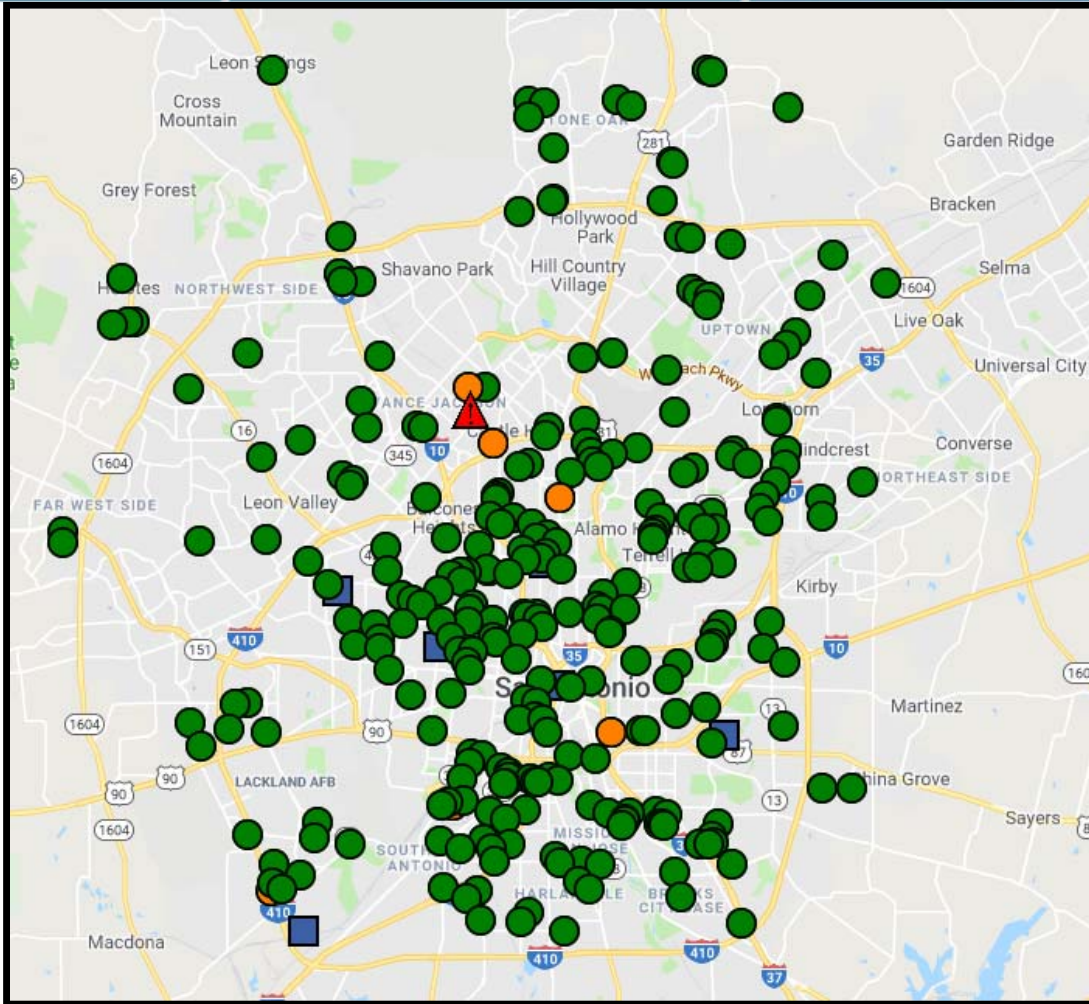


Real-Time Decision Support

- Rugged, robust sensors
- Military grade communications
- Real-time data analysis
- Reliable decision support
  - Roll a truck?
  - Clean a pipe?
  - Emergency repair?
  - Or... Relax, all clear

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## Smart Cover Webpage

- Operators can see potential problem sites
- Focus deployment where a problem is developing

**Result: Reduced cleaning efforts 94%**

# Financial Results

SSOs Saved	
Spills Saved between 2009 - 2019	2,581
Estimated Average Cost/Spill	\$5,000
Gross Savings from SSOs Saved	\$12,905,000
SmartCover Program Cost 2009- 2019	\$3,640,000
Net Savings	\$9,265,000
Annual ROI	255%
<b>10 Year Estimated Net Savings to Date</b>	<b>\$9,265,000</b>

SAVINGS FROM REDUCED CLEANING	
Expected Cleanings	1,717
Actual Cleanings (78% Reduction)	372
Estimated Cost/Cleaning	\$500
Estimated All-In Cost of Expected Cleanings	\$858,500
Average Cost of SmartCover Program	\$289,960
Projected Average Net Savings	\$568,540
<b>10 Year Estimated Net Savings to Date</b>	<b>\$5,685,400</b>

**Total Estimated Savings \$14.9 M**

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# Conservation & Technology

What is “emerging” has changed a great deal



Then



Now

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# Strategies for Conservation Still the Same

We know WHAT works....the HOW we do it evolves

## Education



## Incentives



## Reasonable Regulation



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# Education: in person OR digital

We reach more people on-line than we do in person

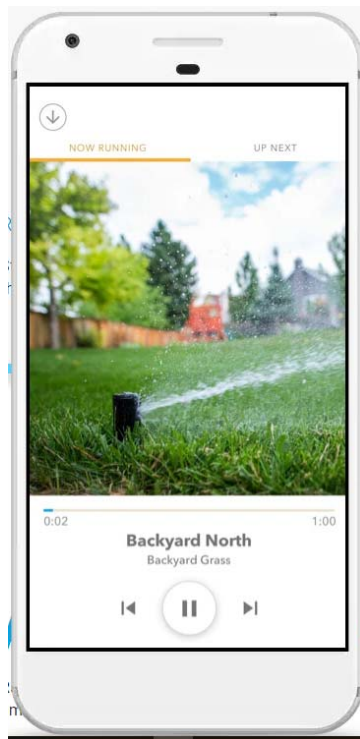
The screenshot shows the San Antonio Water System website. At the top, there is a navigation bar with links for 'GARDEN STYLE SAN ANTONIO', 'FIND A plant', 'GARDEN tips', 'WATERSAVER programs', 'GARDEN galleries', 'HOW-TO videos', and 'ASK garden geek'. Below this is a search bar and the San Antonio Water System logo. The main content area features a 'Dig in!' section with a photo of red berries and the title '12 NATIVE EVERGREEN SHRUBS FOR SAN ANTONIO LANDSCAPES'. To the right, there is a 'Year Round Watering Hours' section with 'CURRENT WATERING ADVICE' showing 'Lawn: 0' and 'Beds: 0' for both 'full sun' and 'shade'. Below that is a 'REWARDS & EVENTS CALENDAR' for November 2018, with the 13th highlighted. At the bottom left, there is a 'Find a PLANT' search bar.

- Webinars
- On-line event calendar
- Weekly E-newsletter
- Targeted digital education

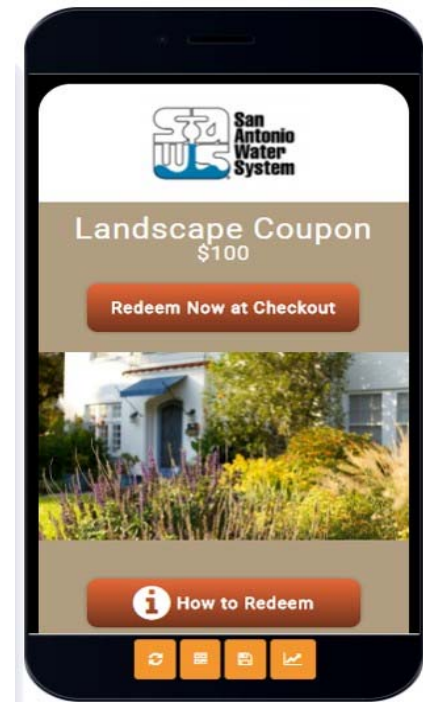
**Key:** During COVID lock-down digital options kept our education metrics high

# Digital Delivery of Conservation

App-Based  
Smart  
Irrigation  
Controllers



Incentive  
Coupons  
Come to  
Smart Phones



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## How Do We Cultivate Innovation?

- It's expected!
- Leadership Team Meeting presentations on great work
- Efficiency & Innovations Team available to assist

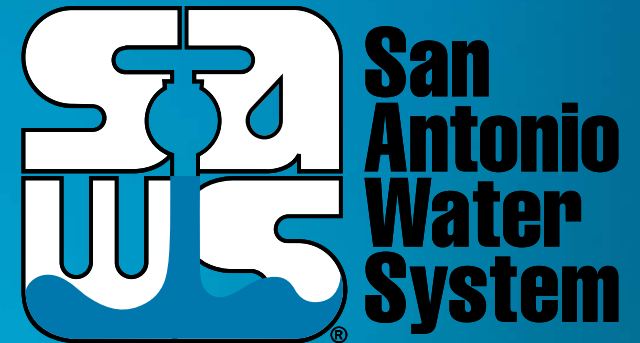
**Goal:** Find what helps us provide better service...while being cost-effective



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