

Citizens' Water Advisory Commission (CWAC) Agenda

Amended

March 12, 2024, 6:00 p.m.
Spinney Mountain Conference Room, SEAM/Hybrid

Microsoft Teams Link:
[Click here to join the meeting](#)
or
<https://shorturl.at/aoNW6>



Call in (audio only) - 720-388-8447
Phone Conference ID: 435 111 290#

Members: Janet Marlow - Chair, Richard “Dick” Eason -Vice Chair, Angie Binder, Jay Campbell, Tom Coker, Dennis Dechant, Daniel Widrich

- | | | |
|----|---|---------------------|
| 1. | Approval of Minutes – February 13, 2024 | Chair |
| 2. | Introductions/Public Invited to be Heard | Chair |
| 3. | Communications Update | Greg Baker |
| 4. | Large Water Purchase | Alex Davis |
| 5. | 2024 Business Services Proposals | Cat Olukotun |
| 6. | Legislative Update | Kathy Kitzmann |
| 7. | Technology Landscape | Melissa Grove |
| 8. | Confirm Next Meeting – Tuesday, April 9, 2024 | Chair |
| 9. | Adjourn | Chair |

Citizens' Water Advisory Commission (CWAC) Minutes
February 13, 2024, 6:00 p.m.
Spinney Mtn. Reservoir Room/Microsoft Teams

Members Present: Janet Marlow, Dick Eason, Daniel Widrich, Tom Coker, Dennis Dechant, Jay Campbell, Angie Binder (Teams)

Absent: None

Staff Present: Alex Gagliardi, Greg Baker, Marshall Brown, John Clark, Richard Vidmar, Kathleen Kitzman, Cat Olukotun, Shonnie Cline, Dean Bedford, Melina Bourdeau (Teams), Cheinette Van Wyk (Teams), Jessi Scott (Teams)

Visitors Present: John Dingess, Gregory Gibson

The meeting was called to order at 6:03PM.

1. Approval of January 9, 2024 Minutes

The January 9, 2024 minutes were approved.

2. Introductions/Public Invited to be Heard

John Dingess, appointed to Commission February 12, 2024 and his term begins March 2024.
Gregory Gibson, guest of Jay Campbell.

3. Communications Update

G. Baker shared that media is a little slow. More activity during the summer months.
J. Bender asked how the snowpack is.
G. Baker and M. Brown answered that we are currently doing well at this time.

4a. Quarterly Financial Report – Fourth Quarter 2023

C. Olukotun presented report to Commission. Combined operating revenues (Water, Sewer, and Stormwater) were 6.9 percent lower than planned and 4.7 percent lower than the fourth quarter of 2022. In 2023, Aurora Water implemented rate increases of 4.0 percent, 5.0 percent, and 3.5 percent to the water, sewer, and stormwater service respectively.

Combined development revenues were 40.7 percent higher than planned and 25 percent higher than the fourth quarter of 2022. In 2023, Aurora Water implemented a 6.0 percent average increase in water connection fees and a 6.3 percent average increase in sewer connection fees.

No increase was adopted for stormwater development fees. Development in the fourth quarter of 2023 increased substantially compared to the first three quarters of the year. This was primarily due to developers paying the fees at the end of the year to avoid the 2024 rate increase.

Total operating expenses, excluding debt service, were \$16.7 million or 9.9 percent lower than planned.

Purchased Vehicle and Equipment Replacement was lower than planned by \$2.9 million.

Total cash in the Water Fund decreased by \$38.1 million compared to the fourth quarter of 2022. In the Wastewater Fund, total cash increased by \$51.9 million compared to the fourth quarter of

2022. In the Water Fund, the decrease is due to capital spending. In the Wastewater Fund, the increase is due to debt issuance in early 2023.

The number of water connections through the fourth quarter of 2023 is 1,586, ending the year 2.2 percent higher compared to the same period in 2022. Total water connection fee revenues in the fourth quarter of 2023 are 19.5 percent higher than in the fourth quarter of 2022.

Total capital spending in the Water Fund through the fourth quarter was \$121.2 million, which was \$26.7 million less than planned.

Total capital spending in the Wastewater Fund through the fourth quarter was \$68.1 million, which is \$1.2 million less than the spending plan.

T. Coker asked if the drought surcharges last year worked as intended.

M. Brown explained that it generated additional income to help bridge the gap and helped lower usage, so they did work as intended.

T. Coker asked if the decision to shift away from using credit cards has helped revenue.

G. Baker and M. Brown answered that the data still needs to be analyzed and that we will see the benefit primarily in this first full year.

J. Campbell asked what is driving the increase in Tap fees.

M. Brown shared that it was an increase across the board and a lot of developers wanted to pay their fees before the fees increased.

4b. Capital Improvement Project of the Quarter – Eastern Aurora Utility Extension Pipeline

D. Bedford presented to the commission. The City of Aurora has been experiencing an increasing level of growth in the northeastern portion of Aurora which has created a need for utility services to expand and reach the area as well. Potable water service is required for the planned development in the region. This project is designed to deliver potable water to the northeast portion of Aurora. Additional upgrades to the existing distribution system in the future will eventually allow this pipeline to carry 20 million gallons a day.

The new pipeline consists of 8.5 miles of 30-inch diameter steel pipe. 17 butterfly valve vaults and isolation valves are included along the 8.5 miles of pipeline. Provisions for future connections and distribution pipes are also being included along the pipeline.

The new pipeline begins at approximately 1st Avenue and Powhatan Rd. The pipeline alignment takes it north and east where it crosses beneath both Interstate-70 and the Union Pacific Railroad tracks. Both of these crossings utilized boring methods to cross without disturbing the surface highway or tracks. From there the alignment turns east along E. 26th Avenue. At Watkins Rd. the pipeline turns north and east to cross Box Elder Drainageway and finally terminates at Imboden Rd. and 38th Avenue.

This effort also included an active corrosion protection installation in order to protect the steel pipeline from corroding in the future.

T. Coker asked what the source of this water is.

D. Bedford explained that this is Zone 4 and is primarily a blend coming from Binney, the AR train and the South Platte train.

D. Widrich asked if this will be the main pipeline for that area.

D. Bedford answered that it will be major, but not the only major pipeline in that area.

5. Legislative Update

K. Kitzmann provided an update on recent legislation to the commission. The Second Regular Session of the Seventy-fourth General Assembly convened on January 10th and is scheduled to

adjourn on May 8th. Aurora Water is tracking several bills this session, a few that are being followed closely were shared with the commission.

HB24-1062 - Warrants for Metro Sewage Disposal Districts, is flying through the legislature and Aurora does support. This streamlines much of what Metro Water Recovery does. This bill will provide the two metropolitan sewage disposal districts (special districts that provide regional wastewater services) in Colorado with independent administrative warrant authority, authorizing them to work quickly and directly with the court system, when necessary, to enter a business that may pose a danger to public health and/or the environment.

T. Coker asked what there is to prevent this group from going too far.

S. Cline answered that Metro is regulated by the Feds and constrained.

SB24-005 - Prohibit Landscaping Practices for Water Conservation. Aurora has an ordinance that goes a little bit further so we support this bill.

SB24-127 - Regulate Dredged & Fill Material State Waters, will be controversial. SB 127 restores protections to state waters that the Army Corps 404 Permit Program provided prior to the Sackett decision by the US Supreme Court – fills the gap. The Sackett decision declared “significant nexus” test unlawful; this bill proposes clear lines of jurisdiction to make it clear for the public and to be constitutional. There will be two versions of this bill competing in the legislature. Many details need to still be worked out, among them would this reside with Colorado Department of Public Health & Environment or Department of Natural Resources.

A. Binder asked if this could be funded through fees.

G. Baker responded that CDPHE is always looking at that and K. Kitzmann thinks it will be funded by fees.

Aurora is advocating for the extension of the Upper Colorado River Endangered Fish Program.

J. Dingess asked if the Colorado Water Congress is still a robust force.

K. Kitzmann answered that it is in state affairs but there have been a lot of changes in the last several years. Because they have grown so diverse it is harder to take a position, creating subcommittees has helped with that.

6. Wild Horse Reservoir Project

J. Clark and R. Vidmar provided a project update to the commission. In May 2011, Aurora Water began investigating the Wild Horse reservoir site near the Town of Hartsel. The site was predominantly owned by Hartsel Springs Ranch with some private inholdings and three parcels of federal land owned by the Bureau of Land Management (BLM). The original reservoir concept would have been approximately 32,000 acre-feet in volume and included a main dam in the canyon and a saddle dam on the western side. In 2016, Aurora Water purchased the Hartsel Springs Ranch land holdings in the area.

In 2018, Aurora Water determined that the dam heights could be raised and the topography could support a reservoir of up to 96,000 acre-feet. Aurora Water initiated additional geotechnical studies of the site. This study found that the southern end of the reservoir site was part of an inland seabed and foundation conditions may be less suitable for a dam. In 2020, Aurora Water initiated additional feasibility studies to develop a reservoir configuration that could be constructed given the geology on the site. It was determined that a layout that includes a dam that closes off the southern end of the site is feasible. Within this layout, the dam heights were raised to the maximum potential, and the resulting storage volume is estimated to be around 92,000 acre-feet.

To advance the project, Aurora Water has the 30% design phase underway. Aurora Water has conducted more detailed geotechnical investigations which will include about 22,000 linear feet of drilling site-wide. Trenching to visually inspect the soil and rock stratifications will be

performed this summer, along with advanced geophysical assessments including gravity and seismic surveys.

The permitting of the project has also advanced in the last year. Aurora Water has applied for a right-of-way on the federal lands needed to build the reservoir. In addition, the city has executed a collection agreement with the BLM which will allow the BLM to fund staff for the project review. Aurora Water has engaged with the BLM and their 3rd party contractor to issue a Notice of Intent and formally begin the Environmental Impact Statement (EIS) process.

Aurora Water recently selected a firm to provide design assistance to the engineering team (TetraTech) under a Construction Manager/General Contractor (CM/GC) model. Contract negotiations are underway with the final contract being taken to council for review and approval soon.

D. Dechant asked if there will be a hydroelectric facility there.

J. Clark answered that is yet to be determined. It is something that is being considered but would bring in an additional federal agency so it could be added supplementally.

J. Dingess asked how much more land needs to be acquired.

R. Vidmar answered we still need to acquire about 2200 more acres. Most of that are smaller, five acre parcels.

D. Widrich asked if there are plans to open this for recreational use.

R. Vidmar shared that there will be some sort of recreation but not exactly sure what yet.

7. Review Follow-Up Questions

None.

8. Confirm Next Meeting

The next meeting on March 12, 2024 was confirmed.

9. Adjourn

The meeting was adjourned at 8:04PM.

Janet Marlow, Chair
Citizens' Water Advisory Committee

Adopted: _____

MEMORANDUM



City of Aurora

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TO: Citizens' Water Advisory Commission

THROUGH: Marshall P. Brown, General Manager, Aurora Water

FROM: Alexandra Davis, Assistant General Manager of Water Supply and Demand,
Aurora Water

DATE: March 12, 2024

SUBJECT: Large water purchase

City Council will consider an agreement for a large water and property purchase at the March 11 regular meeting. Aurora Water staff will update the Commission on this unique purchase.

Action Required

No action is required. Informational item only.



TO: Citizens’ Water Advisory Commission

FROM: Marshall P. Brown, General Manager, Aurora Water
Greg Baker, Deputy Director Internal/External Relations, Aurora Water

THROUGH: Catherine Olukotun, Deputy Director of Business Services

DATE: March 12, 2024

SUBJECT: 2024 Business Services Proposals

For effect in 2025, Aurora Water is proposing a series of changes related to:

- Multi-Family Water & Sewer connection fees
- Multi-Family Class Changes
- Implementing Water Allocations

These proposed changes are to continue to better serve our customers, align with Aurora’s mission and vision, and to provide more transparency regarding our rates and fees process.

Action Required

No action is required. Informational item only.

AURORA WATER 2024 Proposals

Catherine Olukotun



1

PROPOSALS SUMMARY

- 2025 Multi-Family Water & Sewer connection fee study
- Multi-Family Class Study
- Implementing Water Allocations
- Ordinance Change



2

2025 MULTI-FAMILY WATER & SEWER CONNECTION FEE STUDY

- Analysis of available multi-family class water usage data to determine if water and sewer connection fee is still appropriate.
- Last study was done in 2013 and Aurora Water is required to review data at least every ten years.



3

MULTI-FAMILY CLASS STUDY

- Research and Analysis to determine if having one multi-family class is still best practice for Aurora.
- Analysis of other municipalities with different multi-family classes to understand benefits and pitfalls.
- If a change is recommended, determining a realistic approach to implementation.



4

2025 PERMANENT WATER ALLOCATIONS

- Aurora has determined that having water allocations for all multi-family, commercial, and irrigation accounts is necessary.
- Aurora has conducted a study of water usage and connection charges for all these accounts and will recommend permanent allocations to be set for all accounts starting in 2025.
- Aurora will move away from tiered water pricing for multi-family, commercial and irrigation accounts and will only allow "buy-up" options and capital recovery fee charges for exceeding allocations.



5

ORDINANCE CHANGES

- Based on the changes outlined above, Aurora Water is expecting Ordinance changes to Division 3- Rates and Charges
- Section 138-221
- Section 138-223



6

THANK YOU

Catherine Olukotun

720-859-4317

Colukotu@auroragov.org



MEMORANDUM



City of Aurora

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TO: Citizens' Water Advisory Commission

THROUGH: Marshall P. Brown, General Manager, Aurora Water
Greg Baker, Deputy Director Internal/External Relations, Aurora Water

FROM: Kathy Kitzmann, Aurora Water Intergovernmental Affairs Principal

DATE: March 12, 2024

SUBJECT: 2024 State Legislative Review

The Second Regular Session of the Seventy-fourth General Assembly convened on January 10th and is scheduled to adjourn on May 8th. Staff will update the Commission throughout the session on bills that Aurora Water is monitoring.

Action Required

No action is required. Informational item only.



TO: Citizens’ Water Advisory Commission

THROUGH: Marshall P. Brown, General Manager, Aurora Water

FROM: Sarah Young, Aurora Water Assistant General Manager – Planning and Engineering (for Melissa Grove, Aurora Water Technology Manager)

DATE: 02/27/2024

SUBJECT: Aurora Water Technology Updates

Aurora Water strives to enhance services, improve efficiency and address critical challenges (i.e. succession planning) with the implementation of technology. In this presentation, we explore the key aspects of Aurora Water’s digital journey, provide examples of Aurora Water is leading the way in the utility industry, explain that digital is the new standard, and look at what is coming.

More specifically, the presentation includes information regarding the following elements:

- Paper map book to digital map transformation
- Use of pipe assessment technologies
- Digital workflows and enhanced mapping applications
- Cloud based CCTV and CIS solutions
- Artificial intelligence uses
- 3D facility models
- Business intelligence
- Real time and remote asset monitoring
- Technology for regulatory compliance
- Asset inspections
- EMMS System
- Drone implementation and uses

Aurora Water Technology Landscape

Melissa Grove - Business Systems Administrator

March 12th, 2024



1

Agenda



DIGITAL JOURNEY



AURORA WATER
LEADING THE WAY!



STANDARD =
DIGITAL



WHAT'S NEXT

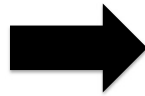
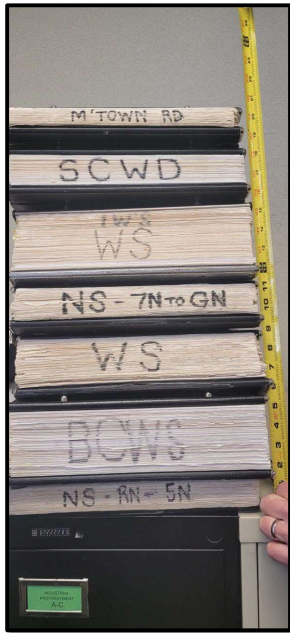


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DIGITAL JOURNEY

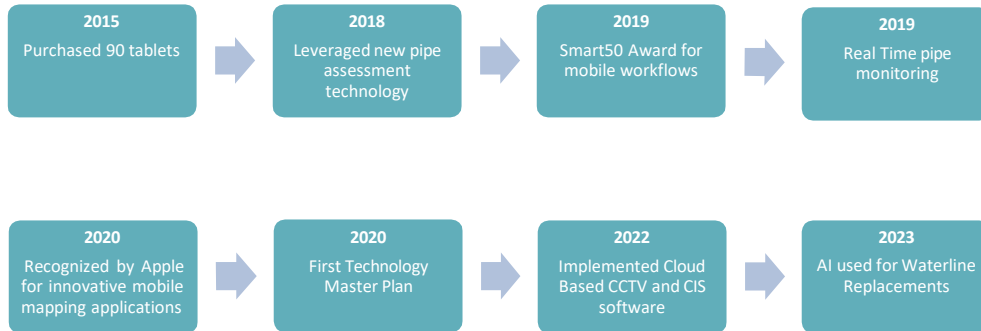


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4

Digital Journey Highlights



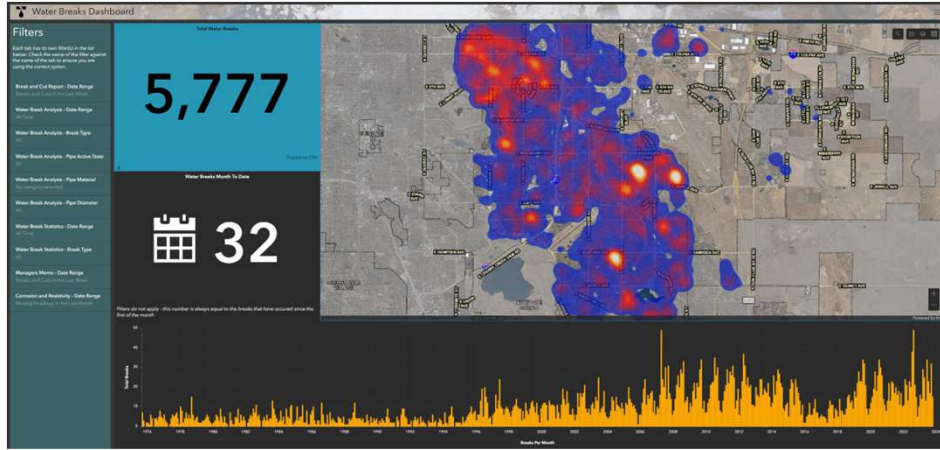
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AURORA WATER LEADING THE WAY!



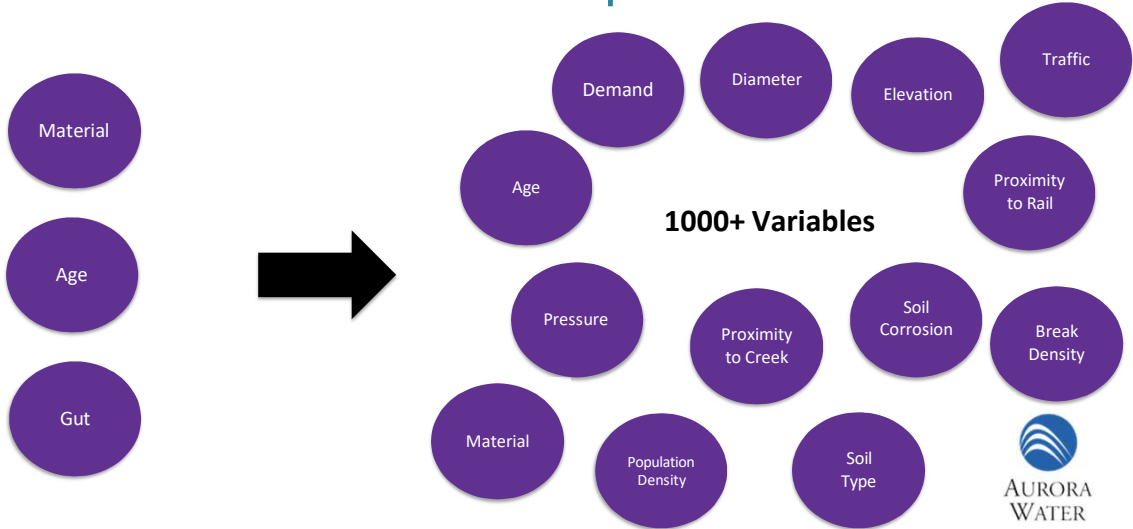
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AI Water Line Replacement



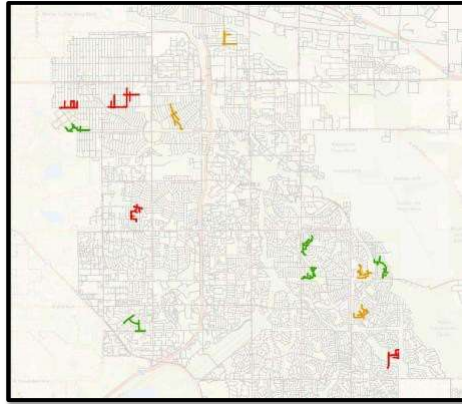
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AI Water Line Replacement



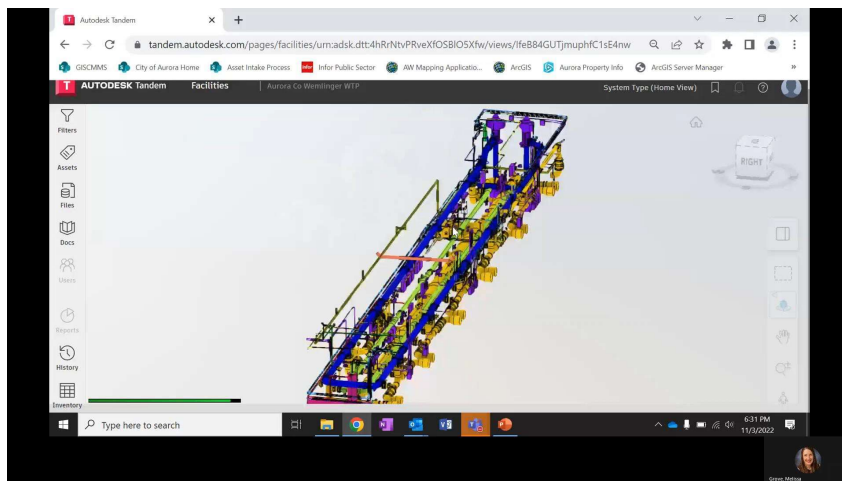
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AI Water Line Replacement



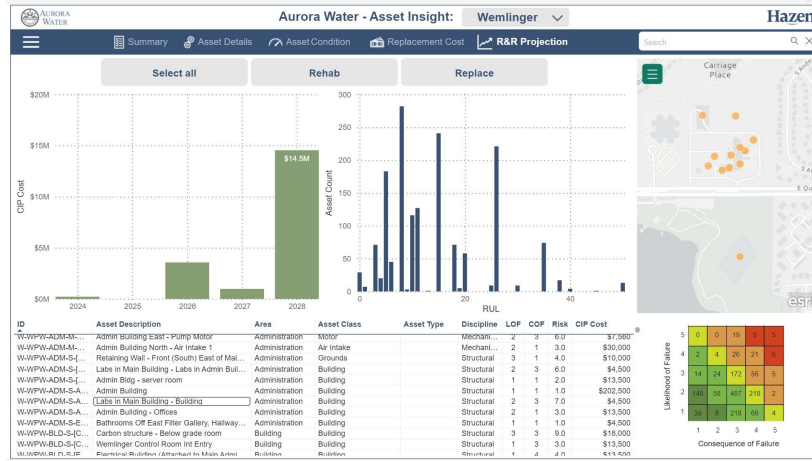
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3D Operations Focused Facility Models



10

Business Intelligence

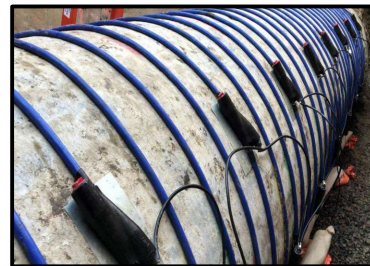
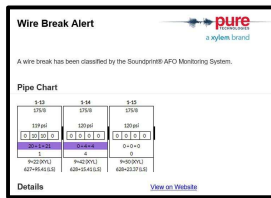


11

Real Time Monitoring

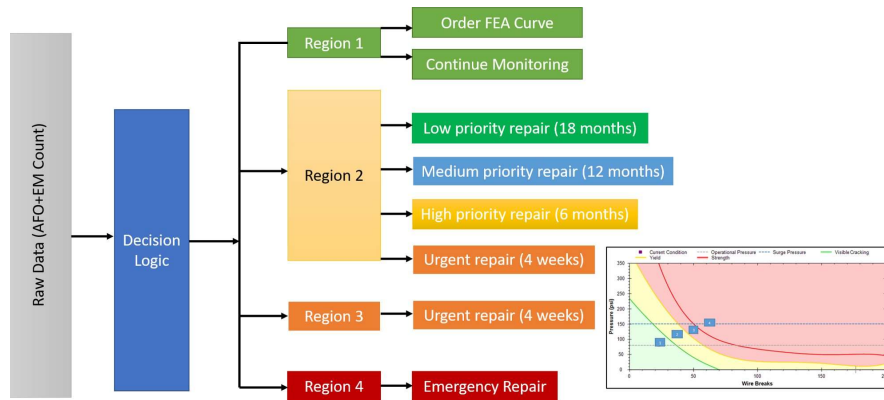
Prestressed Concrete Cylinder Pipe (PCCP) – Raw Water

- **2019** – Real Time Acoustic Fiber Optics (AFO) monitoring was installed in the 4 miles of the highest probability of failure PCCP raw water pipelines
- **2020** – In-house decision management program created for the PCCP pipelines that allows us:
 - Real time decision management based on the AFO data and structural curve
 - Failure projection for timing management
 - Risk reduction with spare parts



12

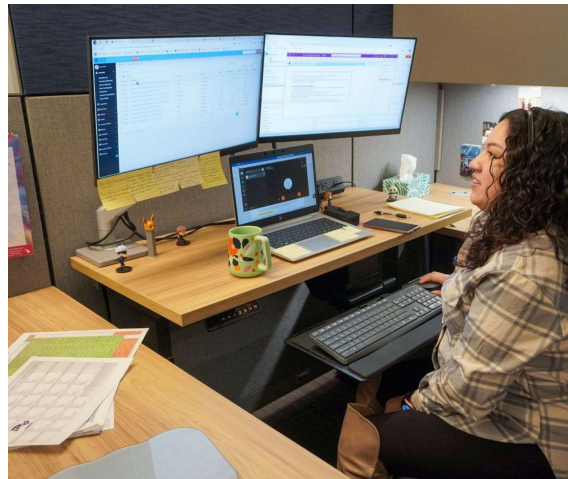
Real Time Monitoring



13

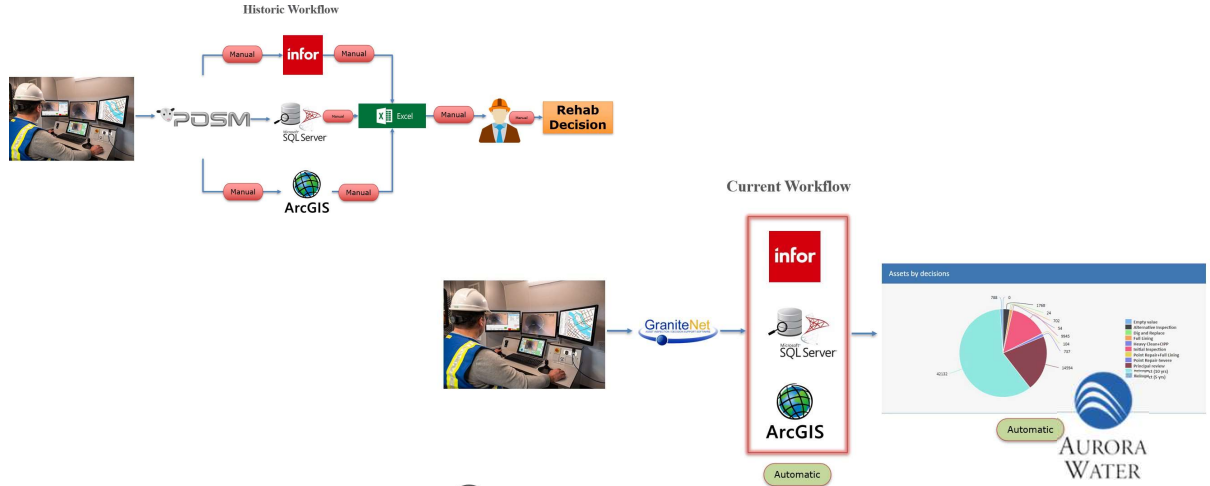
Modern Customer Information System

- Automated Processes
- Cloud based system
 - Less overhead
 - Always updating
- Easier user interface
 - Training new employees
 - Consistent customer experience
 - Easy to dispatch field staff
- Robust alert system
 - Safety
 - QC
- User friendly for Aurora Water customers
 - Payment portal
 - Contact Us
 - Forms available to fill out for customers
 - E-billing/autopay
- Contacted by dozens of peer utilities

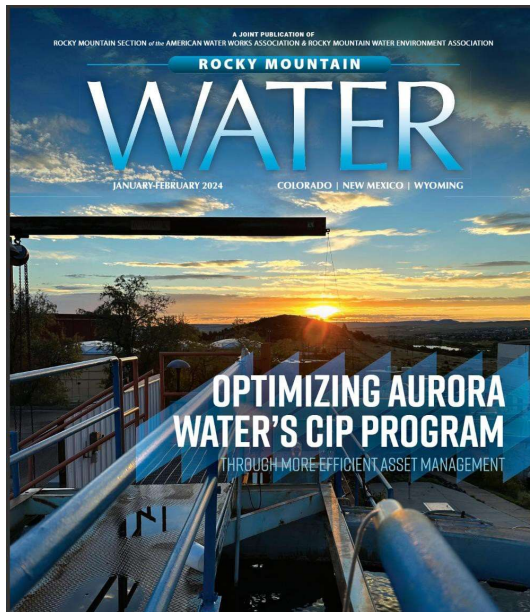


14

Wastewater Rehab Decision Automation



15



16

STANDARD = DIGITAL



17

Remote Monitoring for Cathodic Protection

Cathodic Protection – slows down metallic corrosion

Historic Method

- Drive to 28 sites every month
- If storm took rectifier out, pipe was exposed to higher corrosion for up to a month
- Drive out anytime required for projects



Today

- Monitored constantly (92% reduction in cost)
- Increased uptime
- Remove management for projects



Time	RS485 Power	DC Volts	DC Amps	Intermeter	Signal Strength	
17 Oct 2021 23:00	Power Present	4.10 V	4.35 A	Current On	-63.00 dB	Hide
02 Oct 2021 23:03					0.00 dB	Hide
02 Oct 2021 23:03	Power Present	4.04 V	4.28 A	Current On	-61.00 dB	Hide
02 Oct 2021 23:01	Power Present	4.04 V	4.28 A		-61.00 dB	Hide
17 Sep 2021 23:00	Power Present	4.04 V	4.26 A		-61.00 dB	Hide
02 Sep 2021 23:02	Power Present	4.10 V	4.38 A		-61.00 dB	Hide
18 Aug 2021 23:00	Power Present	4.13 V	4.50 A		-63.00 dB	Hide
13 Aug 2021 08:54	Power Present	4.13 V	5.01 A		-61.00 dB	Hide
12 Aug 2021 14:44	Power Present	2.05 V	0.00 A		-61.00 dB	Hide
12 Aug 2021 14:12	Power Present	2.05 V	0.00 A		-59.00 dB	Hide
12 Aug 2021 13:00	Power Failed	2.14 V	0.00 A		-59.00 dB	Hide

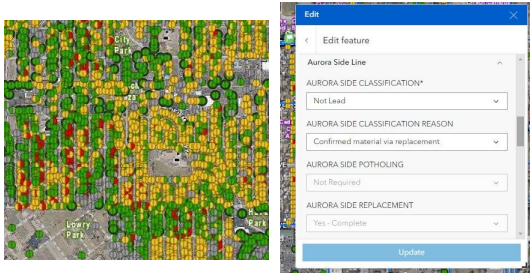


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EPA Lead and Copper Rule Compliance

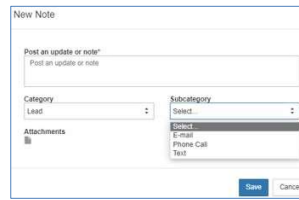
New GIS datasets for tracking service line assets and inventory

- Single source of truth to update based on dozens of potential sources
- Editing process optimized for mobile, web, and desktop users and automated where possible



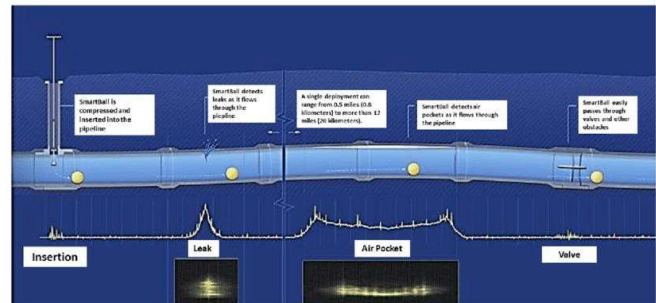
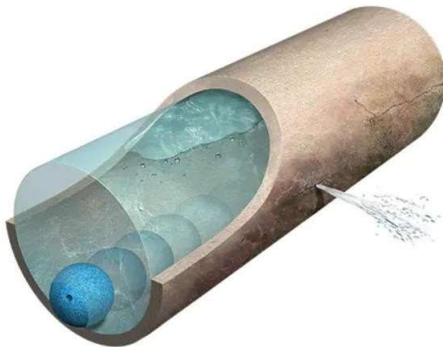
Leverage existing systems to track customer communication and reporting

- Track customer contacts and call center activity in existing CIS
- Extract to summarize and report using Metabase and Power BI



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Smarter Condition Assessments



Find Leaks



20

Smarter Condition Assessments

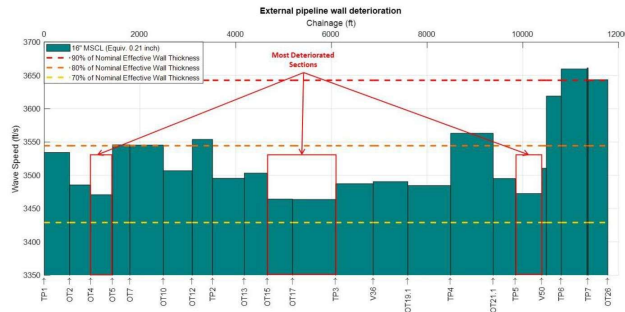
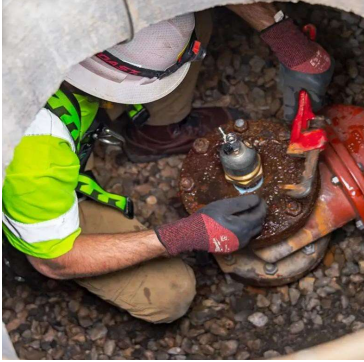


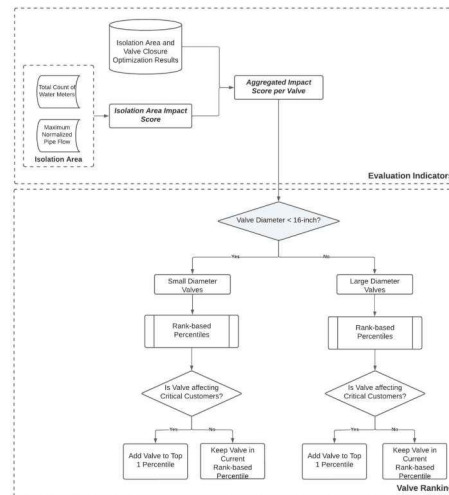
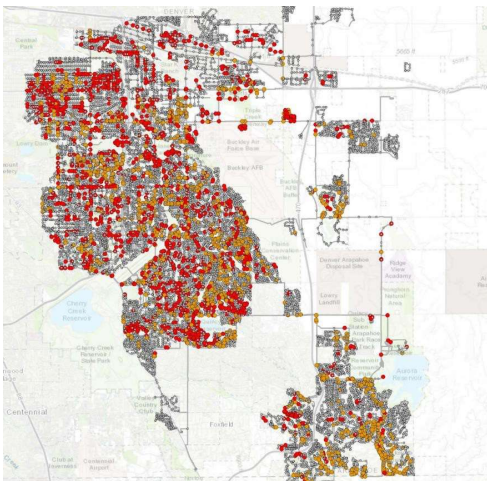
Figure 4.2: External pipeline wall deterioration for the Alameda Raw Water Line (Scenario 1 MSCL)

Find Pipe Deterioration



21

ML for Critical Valve Identification



22

Confined Space Forms

Hazards or potential hazards of confined space being entered

<input type="checkbox"/> Lack of Oxygen	<input type="checkbox"/> Combustible gases	<input type="checkbox"/> Combustible vapors
<input type="checkbox"/> Combustible Dusts	<input type="checkbox"/> Toxic gases	<input type="checkbox"/> Toxic Vapors
<input type="checkbox"/> Chemical contact	<input type="checkbox"/> Fire	<input type="checkbox"/> Obstacles
<input type="checkbox"/> Electrical hazards	<input type="checkbox"/> Mechanical Exposure	<input type="checkbox"/> Temperature
<input type="checkbox"/> Enigment	<input type="checkbox"/> Entrapment	<input type="checkbox"/> Skin contact
<input type="checkbox"/> Acid/caustic Environment	<input type="checkbox"/> Biohazard	
<input type="checkbox"/> Other Hazards		

Measures used to eliminate, isolate, or control confined space hazards

<input type="checkbox"/> Air monitoring	<input type="checkbox"/> Continuous?	<input type="checkbox"/> Ventilation
<input type="checkbox"/> Positive	<input type="checkbox"/> Negative	<input type="checkbox"/> Lockout/tag out



Confined Space Report

Submitted Time: February 21, 2024 1:03 AM

In the event of an emergency call 911. If you are outside the City of Aurora limits, be sure to contact the local rescue and emergency service prior to entry.

Date of Entry	February 21, 2024
Duration of Entry	60 minutes
Confined Space Location and/or Asset #	SEAM
Purpose of Entry	test

Hazards or potential hazards of confined space being entered		Measures used to eliminate, isolate, or control confined space hazards	
Lack of Oxygen	<input checked="" type="checkbox"/>	Electrical hazards	<input type="checkbox"/>
Combustible gases	<input type="checkbox"/>	Air monitoring	<input checked="" type="checkbox"/>
Combustible vapors	<input type="checkbox"/>	Ventilation	<input type="checkbox"/>
Combustible Dusts	<input type="checkbox"/>	Positive	<input type="checkbox"/>
Toxic gases	<input type="checkbox"/>	Negative	<input type="checkbox"/>
Toxic Vapors	<input type="checkbox"/>	Temperature	<input type="checkbox"/>
Chemical contact	<input type="checkbox"/>	Lockout/tag out	<input type="checkbox"/>
Fire	<input type="checkbox"/>	Block and Bleed	<input type="checkbox"/>
Obstacles	<input type="checkbox"/>	External Barricades	<input checked="" type="checkbox"/>
Enigment	<input type="checkbox"/>	Confined Space Identification	<input type="checkbox"/>
Entrapment	<input type="checkbox"/>	Fall Protection	<input type="checkbox"/>
Skin contact	<input type="checkbox"/>	Other Measures	<input type="checkbox"/>
Acid/caustic Environment	<input type="checkbox"/>	extra measures	<input type="checkbox"/>
Biohazard	<input type="checkbox"/>	addtl hazard	<input type="checkbox"/>
Other	<input type="checkbox"/>		

Air test prior to entry	
Monitor Type	Gage
Model	2600



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Asset Inspections

Manhole Inspections
Dashboard and Web Editing Map

of Inspections within the last Week: 38
Inspections this Month: 75
Inspections Last Month: 43
% of Inspections Where Repair is Recommended: 25%

This Week's Inspections

- 07H-016 - December 19, 2022
- 07H-005 - December 19, 2022
- 07H-006 - December 19, 2022
- 05C-059 - December 19, 2022
- 05C-067 - December 19, 2022
- 05B-099 - December 19, 2022
- 06C-043 - December 16, 2022
- 06C-042 - December 16, 2022
- 06C-041 - December 16, 2022
- 06C-040 - December 16, 2022
- 06C-045 - December 16, 2022
- 06M-030 - December 16, 2022
- 06M-031 - December 16, 2022
- 06C-063 - December 16, 2022
- 22U-142 - December 16, 2022
- 06C-064 - December 16, 2022
- 06M-011 - December 16, 2022
- 06C-062 - December 16, 2022
- 22U-142 - December 16, 2022
- 06C-062 - December 16, 2022
- 06C-061 - December 16, 2022
- 06C-052 - December 16, 2022

Unit ID	Manhole Type	Complex	Utility Type	Manhole Location	Rim to Bottom of Channel	Inches	Rim to Grade	Inches	Steps	Step Material	Cover Size	Describe other cover size	Cover Type	Describe other cover type
07H-016	MH	177780	Wastewater	Dir	22	1	0	3	No		30		Aurora_Standard	

Manhole Inspection Form

Inspection Observations

Is liner present?
Please Select

Structural Damage
Select all that apply

<input type="checkbox"/> Frame	<input type="checkbox"/> Cover	<input type="checkbox"/> Rim	<input type="checkbox"/> Chimney
<input type="checkbox"/> Cone	<input type="checkbox"/> Barrel	<input type="checkbox"/> Bench	<input type="checkbox"/> Inset

Root Intrusion
 Yes No

Corrosion-H2S Damage
 Yes No

Water Infiltration



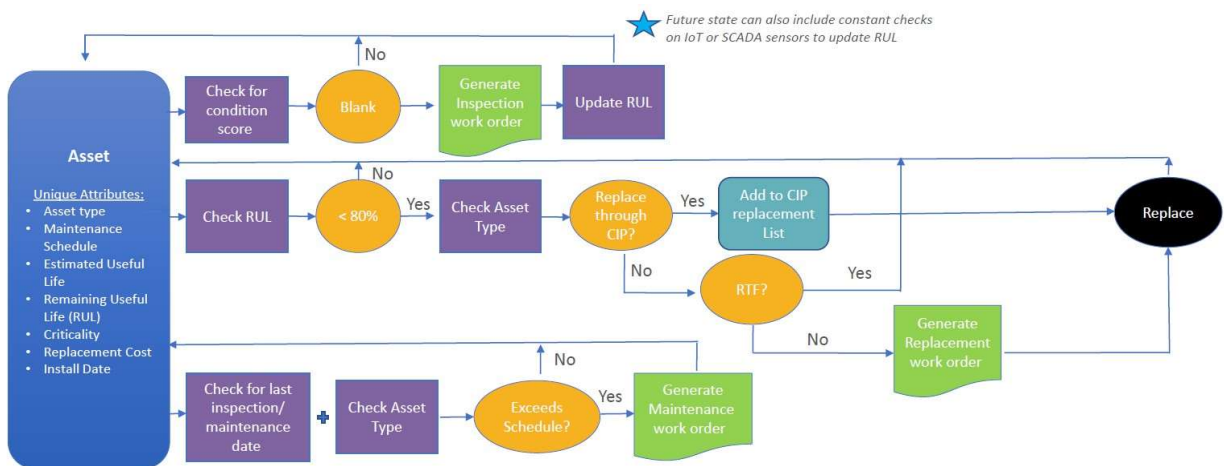
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WHAT'S NEXT?



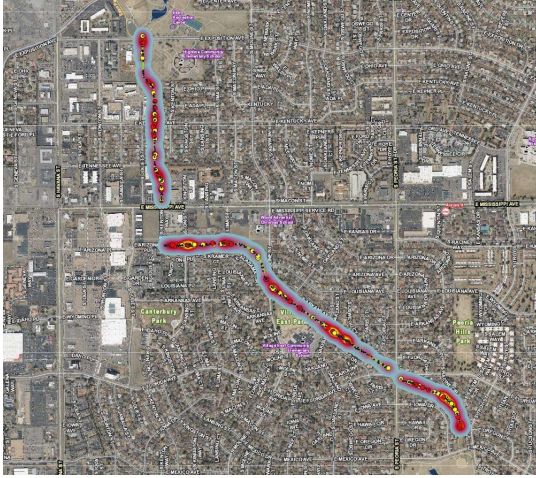
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Enterprise Asset Management Software



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Drone Inspection Pilot



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QR Codes



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AI Image Processing



Source: Ecopia and ULC Technologies

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QUESTIONS?



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