

CITIZENS' WATER ADVISORY COMMITTEE (CWAC) AGENDA

January 14, 2020, 6:00 p.m.

Lowry Room, 3rd Floor, Aurora Municipal Center

Members: Don Langley-Chair, Angie Binder, Jay Campbell, Tom Coker,
Janet Marlow, Tom Tobiassen, Susan Turnquist

1. Elections – 2019 Chair and Vice-Chair	Chair	6:00 p.m.
2. Approval of Minutes – November 13, 2018	Chair	6:05 p.m.
3. Introductions/Public Invited to be Heard	Chair	6:10 p.m.
4. New/Old Business	Chair	6:15 p.m.
5. Communications Update	Greg Baker	6:20 p.m.
6. Project Ripple Effects	Dean Bedford	6:25 p.m.
7. Discuss CWAC Quarterly Report to WPC in January	Chair	7:00 p.m.
8. 2020 Volunteer Agreements	Greg Baker	7:05 p.m.
9. Review/Verification of 2018 Attendance Records	Greg Baker	7:10 p.m.
10. Review Follow-Up Questions Generated at this Meeting	Chair	7:15 p.m.
11. Confirm Next Meeting – Tuesday, February 11, 2020	Chair	7:20 p.m.
12. Adjourn	Chair	7:25 p.m.

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CITIZENS' WATER ADVISORY COMMITTEE (CWAC) MINUTES

November 12, 2019

Members Present: Don Langley (Chair), Janet Marlow (Vice Chair), Angie Binder, Jay Campbell, Susan Turnquist, Tom Coker

Excused Absence: Tom Tobiassen

Staff Present: Marshall Brown, Jo Ann Giddings, Sarah Young, Greg Baker, Tim York, Lauren Nance, Rory Franklin, Dara Sanders, Sandy Moore

Visitors Present: Jim Mitchell

The meeting was called to order at 6:10 p.m.

1. APPROVAL OF MINUTES – October 8, 2019

The motion to approve was made by Janet Marlow. The motion to approve was Seconded by Susan Turnquist. Tom Coker abstained from voting. The minutes were approved unanimously by voting members.

2. AGENDA TOPICS FROM THE COMMITTEE

There were no topics from the committee.

3. INTRODUCTIONS/PUBLIC INVITED TO BE HEARD

Jim Mitchell was welcomed back. Sandy Moore was introduced as the new Administrative Specialist who will be assisting CWAC with meetings.

4. COMMUNICATIONS UPDATE

Greg Baker mentioned a reporter with the Aspen Journalism Project had tour the proposed Whitney Reservoir with Aurora Water and Colorado Springs Utilities in October.

5. QUARTERLY FINANCIAL UPDATE

Jo Ann Giddings reviewed the 3rd quarter report with the committee. Jay Campbell noted that cash reserves were lower than in the previous report. J. Giddings stated that the reserves were still healthy. Don Langley inquired on the status of the South East Maintenance (SEAM) Facility. Sarah Young responded that the schematic design was being completed.

6. FALL SUPPLEMENTAL

Jo Ann Giddings reviewed the Fall Supplemental with the committee. The only item on this year's fall supplemental is a prepayment

7. BOX CREEK PROJECT

- Lauren Nance presented on Aurora Water's Box Creek Reservoir Project

8. 2020 REBATE CHANGES

-Tim York presented conservation rebate changes for 2020.

9. UNIVERSAL DEVELOPMENT ORDINANCE- CONSERVATION

- Tim York reviewed changes and updates to the UDO, specific to changes that impacted requirements for irrigatable turf. D. Langley asked how the development community has reacted to the new code. T. York responded that since it went into effect on Sept. 16, 2019, it was too early to gauge their reaction.

10. QUESTIONS FOR FOLLOW UP

- None

11. 2020 APPLICATION AND INTERVIEW PROCESS

-There are 3 known vacancies the committee is seeking to fill.
-Tom Tobiassen and Tom Coker are up for reappointment.
-Recruiting is being advertised through NextDoor, News Aurora, and a social media campaign.
-Greg Baker distributed interview questions to the committee members who will be conducting the interviews.
-Interviews are scheduled for December 10, 2019.
-Greg B. will send committee members applications from interested candidates.

12. REMINDER- CHAIR/VICE CHAIR ELECTION IN JANUARY

-Elections will be held at the first meeting in 2020.
-Don Langley stated intent to step down from the chairman position.

13. DATES FOR 2020 CWAC MEETINGS

-The Committee reviewed the proposed dates for 2020 CWAC Meetings.
-There was a question posed as to whether the committee will have opportunity to visit Rocky Ford in 2020.
-An orientation will be held in March for new committee members. Expect two days back to back.

14. ADJOURN

-Tom Coker motioned to adjourn. Meeting adjourned at 8:02pm.

Don Langley, Chair
Citizens' Water Advisory Committee

Submitted by: Dara Sanders
Administrative Specialist, Aurora Water

ADOPTED: _____


MEMORANDUM



City of Aurora

Worth Discovering • auroragov.org

To: Citizens' Water Advisory Committee

Through: Marshall P. Brown, Director, Aurora Water 
Sarah Young, Deputy Director for Planning & Engineering

From: Dean Bedford, Principal Engineer, Aurora Water

Date: January 14, 2020

Subject: Project Ripple Effects - Aurora Reservoir Pump Station Upgrades

Purpose:

Aurora Water started upgrading the Aurora Reservoir Pump Station (ARPS) in 2018. The purpose of the project is to increase the flexibility, reliability, and capacity of the ARPS. Construction continued through the whole of 2019. During this period another issue was identified, and it was the condition of Rampart Delivery System (RDS) pipeline located within the Denver Tech Center (DTC). This presentation will illustrate the flexibility that allowed the ARPS project to stay on track even when effected by a wildcard like the repair of the RDS.

Background

The RDS is the primary source of raw mountain water to the City of Aurora. The delivery system is composed of multiple parts and smaller subsystems including: pipelines, pump stations, reservoir, valves and intake structures. The RDS transports raw mountain water to the City through two parallel pipes a 40-inch diameter and a 54-inch diameter. These two pipelines travel approximately 22 miles to bring raw mountain water to the water treatment plants and to Aurora Reservoir. The RDS has interties, valve vaults, blow-offs and airvacs. The RDS is capable of delivering 72 MGD to the City, which can be divided between the two treatment plants and the reservoir.

The ARPS is used to pump the raw mountain water that is not used by the treatment plants and delivers it to the Aurora Reservoir. The ARPS was in the middle of a major upgrade to its operational flexibility when a project was identified that caused a major ripple in the schedule and timing of the ARPS upgrade. The project in question was the installation of the acoustic fiber optic cable (AFO) that would help Aurora Water monitor the condition of the 54-inch diameter pipeline located within the DTC.

The AFO installation quickly indicated that there was deteriorating condition within portions of the pipeline. The decision was made to isolate the portion of the RDS that was suspect and replace the deteriorating pipe. The isolation of the effected section of the RDS utilized the interties to push raw water around the effected pipe. The isolation of the section drastically reduced the delivery capacity of the RDS from 72 MGD down to about 25 MGD. The effect of reducing the delivery capacity of the RDS meant that the City was much more reliant on the water stored in the Aurora Reservoir.

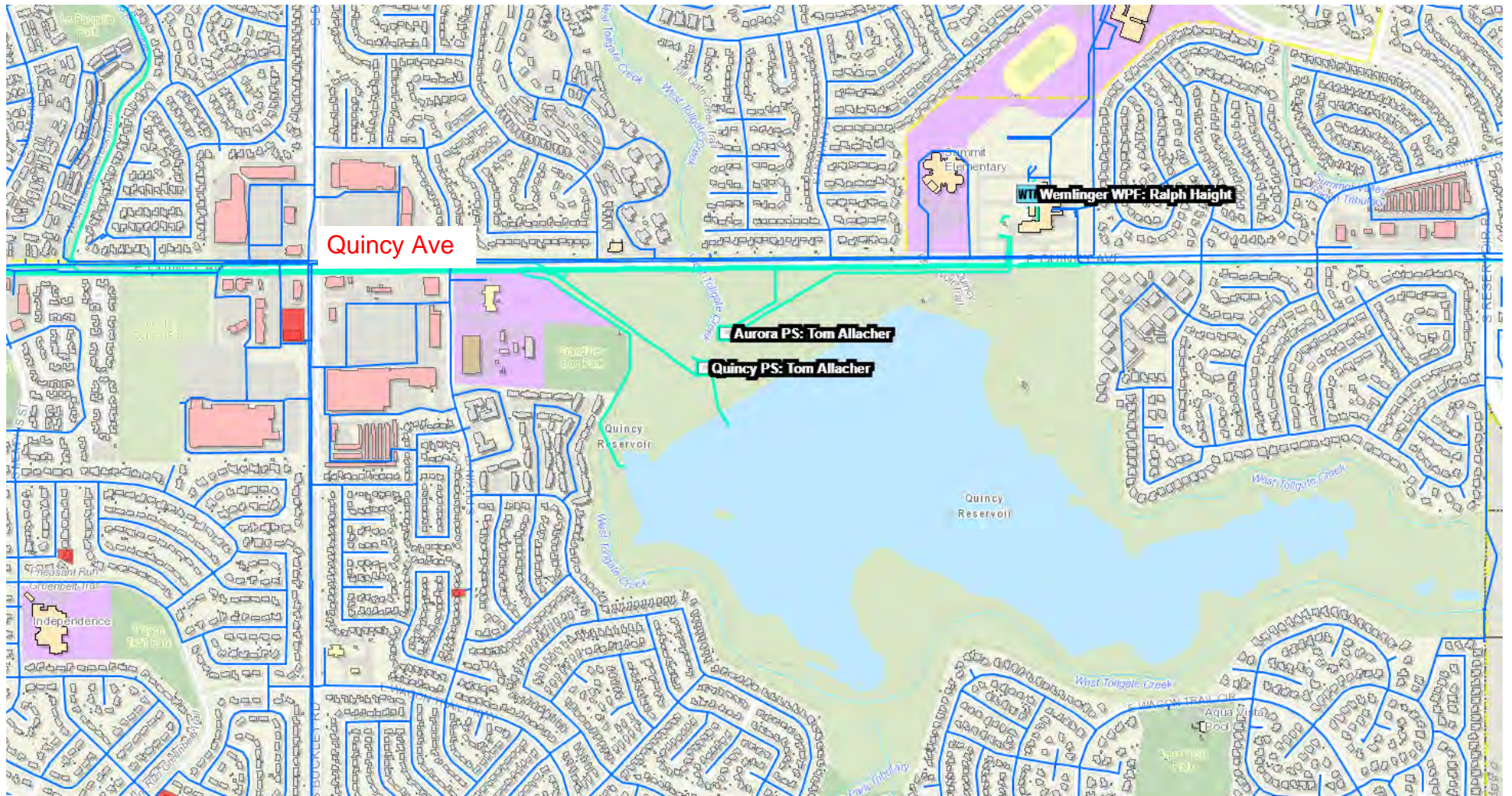
This presentation will describe and explore the ripple effect that these smaller projects can have on longer duration projects due largely to the interconnectedness of the raw water system.

Question:

Informational item only. No action required

Attachment: Aurora Reservoir Pump Station Site Map

cc: File copy



Quincy Ave

W1 Wemlinger WPF: Ralph Haight

Aurora PS: Tom Allacher

Quincy PS: Tom Allacher

Aurora Reservoir Pump Station and Surroundings



Project Ripple Effects

or

Discovering the Interconnectedness of
Aurora's Raw Water System

Dean Bedford, Principal Engineer
Planning and Engineering

Agenda

- Introduction to Main Players/Systems
- Background of Projects
- Year-long Dance of the Projects
- Gems and Items to Remember

MAIN PLAYERS/SYSTEMS

- Rampart Delivery System
 - Main supply for City – 75 MGD, typically
 - 22 miles of 54" and 40" diameter parallel pipelines
- Aurora Reservoir Pump Station
 - Pumps water to Aurora Reservoir
 - Large 800 hp pumps in need of updating
- Aurora Reservoir
 - Primary in-City Reservoir
 - Capacity of 31,679 AF ~ 10,300,000,000 gallons

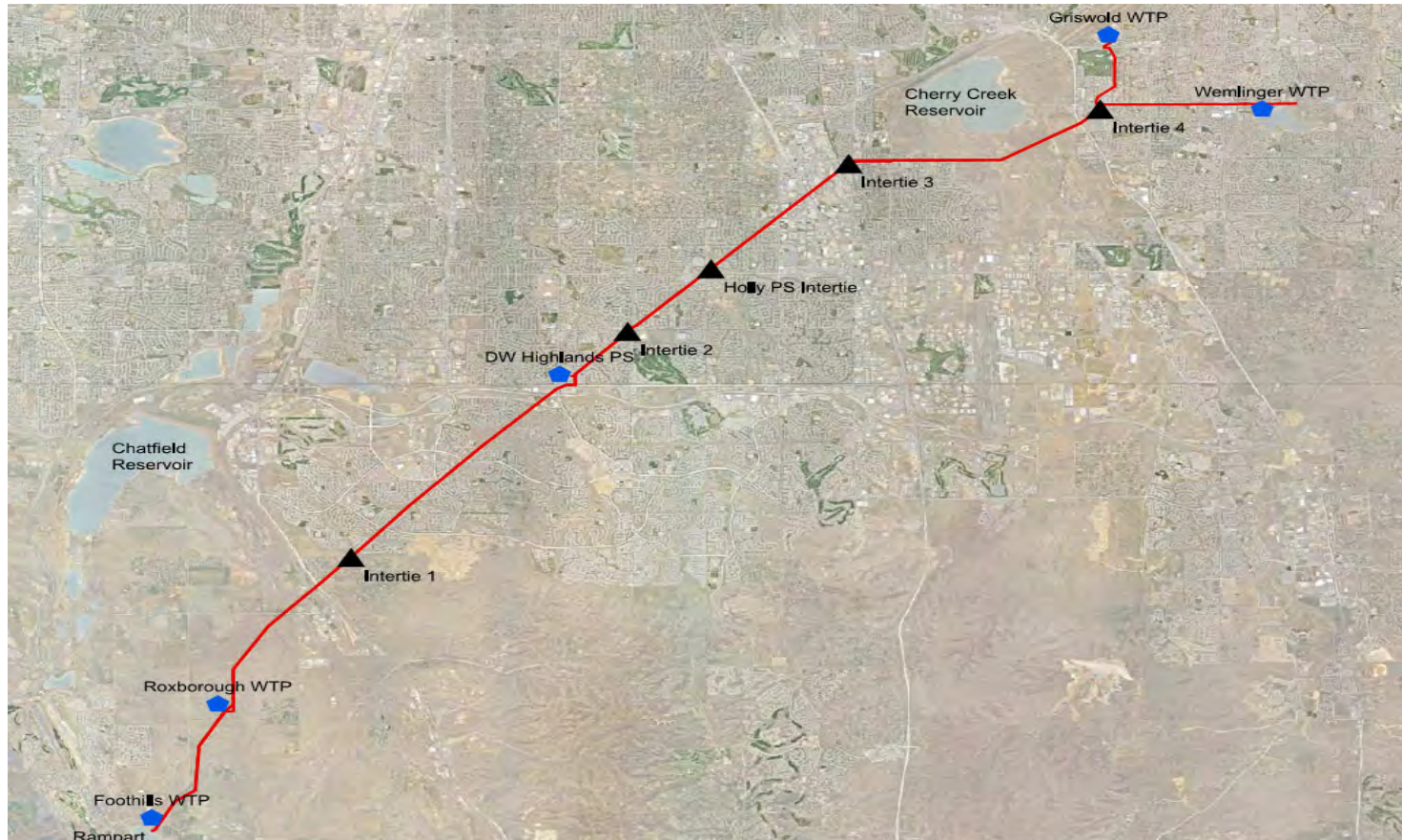


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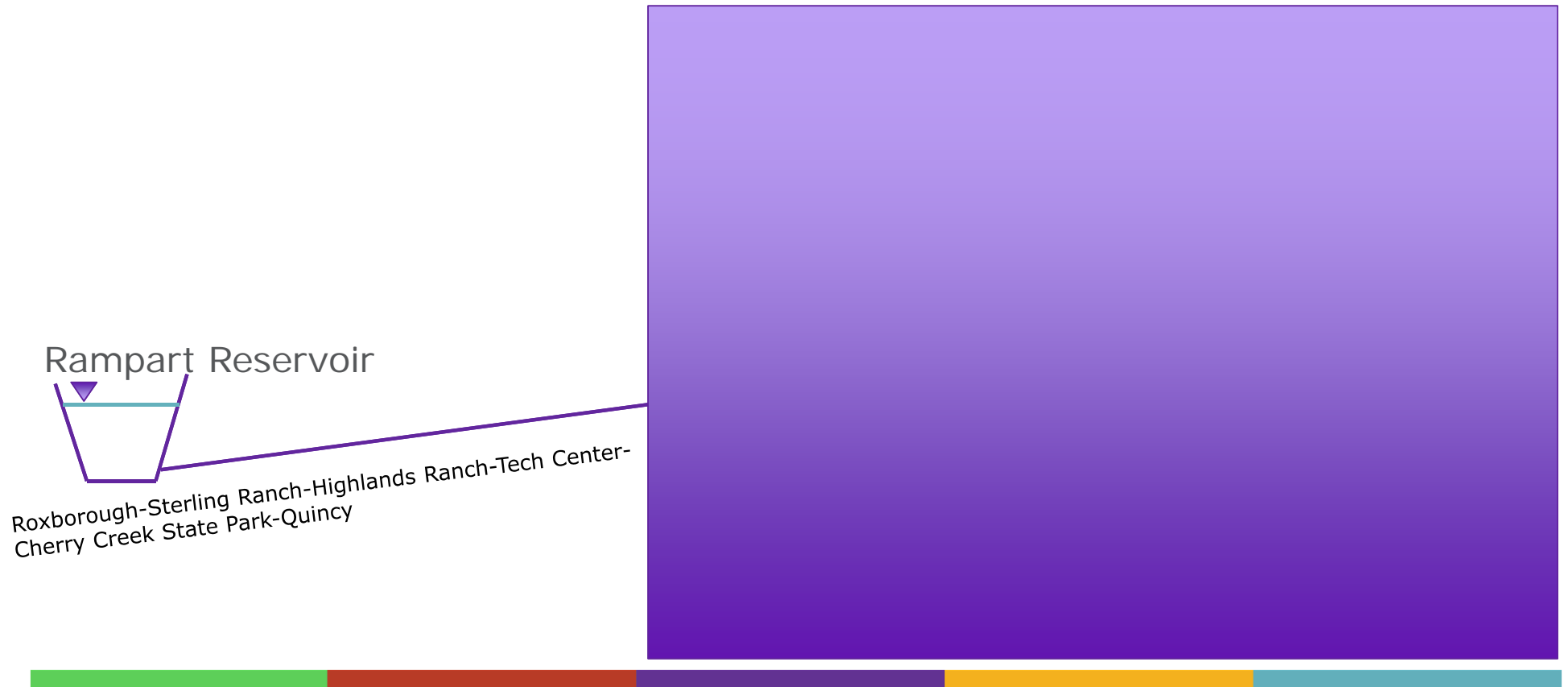
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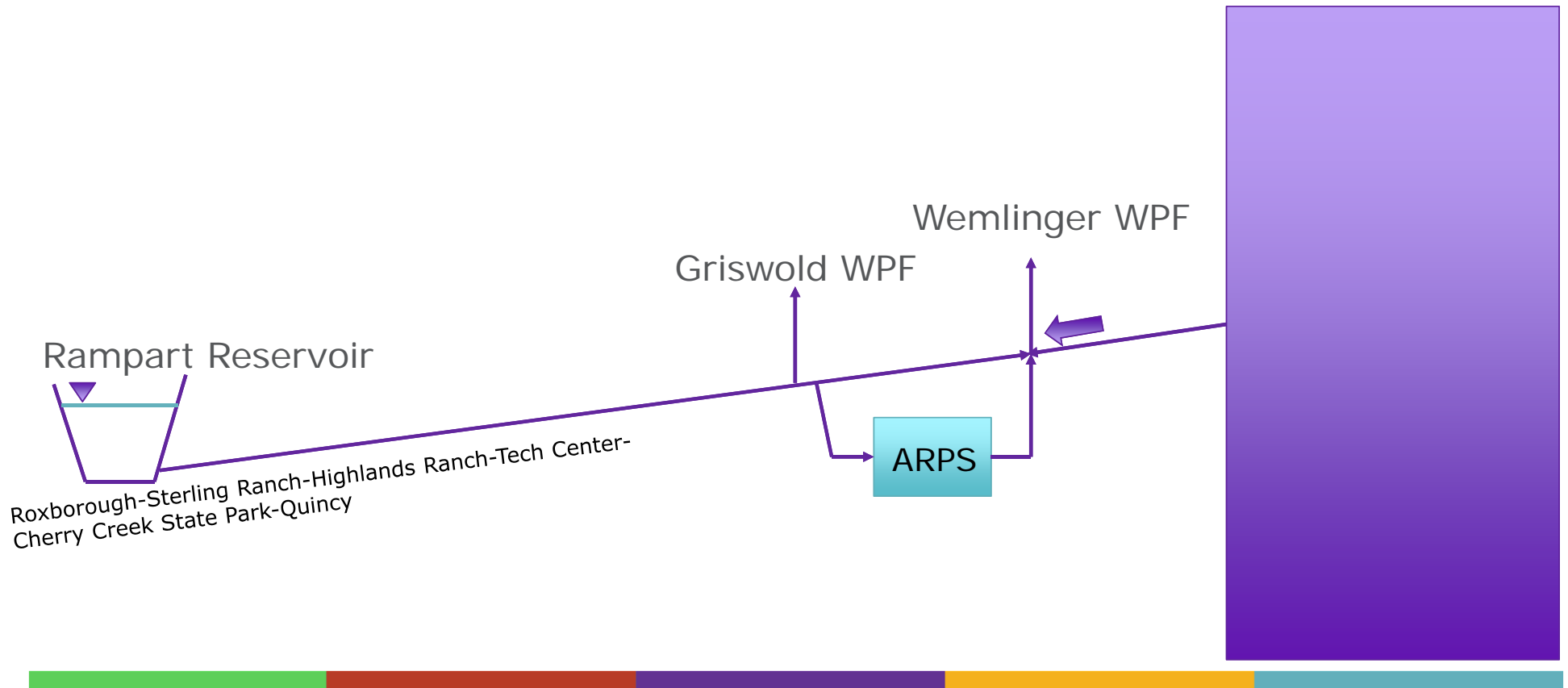
RDS ROUTE



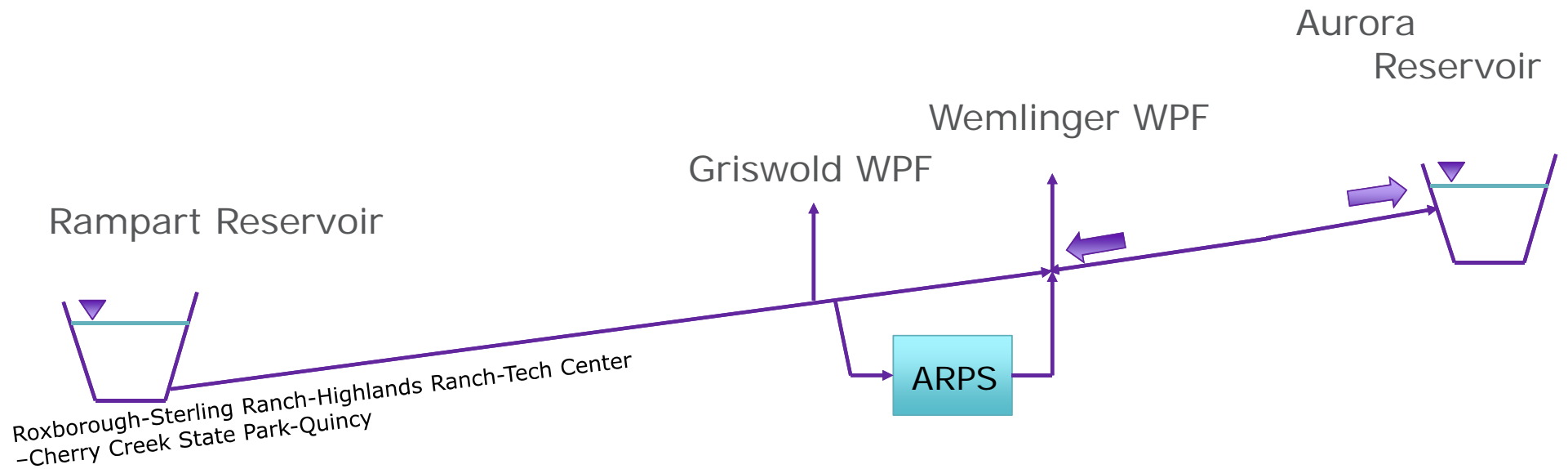
Layout of the Rampart Delivery System



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Project to Update Aurora Reservoir PS

Upgrades and Improvements

- Replace 5 old pumps with new pumps
- Replace constant speed motors with variable drive
- Reduce incoming voltage from 4160v to 480v
- Update controls for SCADA monitoring and control
- Separate electrical equipment from hydraulic equipment with a dedicated electrical room

Constraints

- Minimize or eliminate excessive shut-downs
- Maintain raw water flow for the treatment plants during construction
- Initial schedule called for 18-month construction
- Replacement of 5 pumps over a 6-month period
 - April 2019 – October 2019

ARPS Construction Project

Building Construction



Equipment and Pump installation



MAIN PLAYERS/SYSTEMS

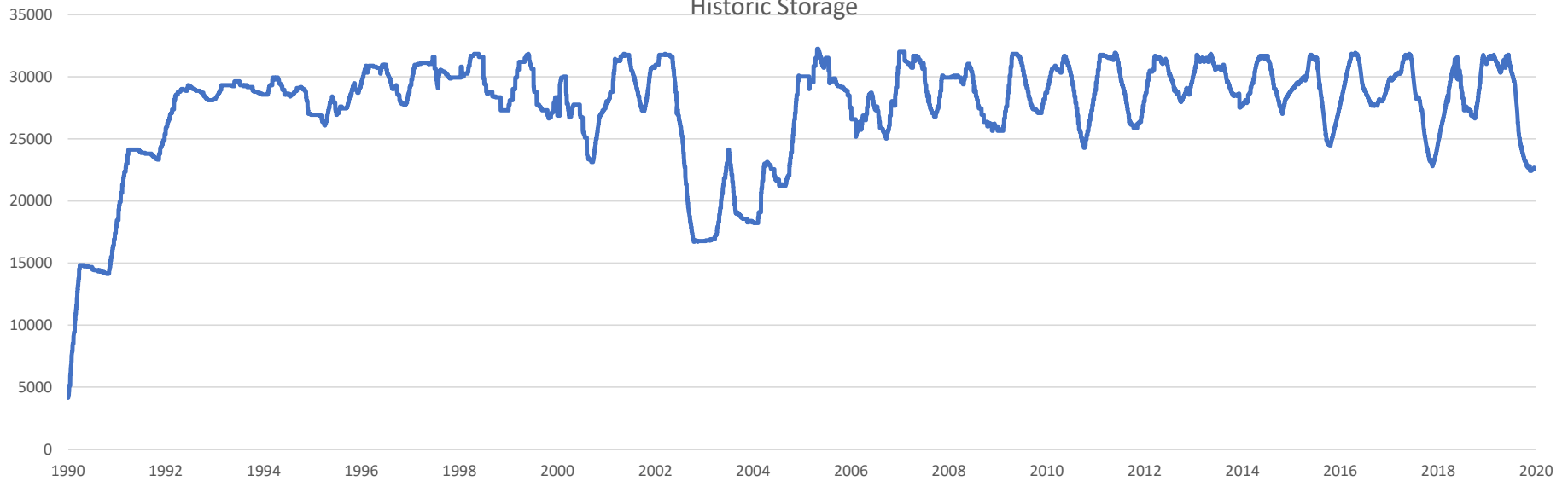
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Aurora Reservoir

- Located east of E470 and south of Quincy Ave.
- Primary storage facility for Raw Water
- Approximately 31.6 AF of storage capacity ~10.3 Billion gallons

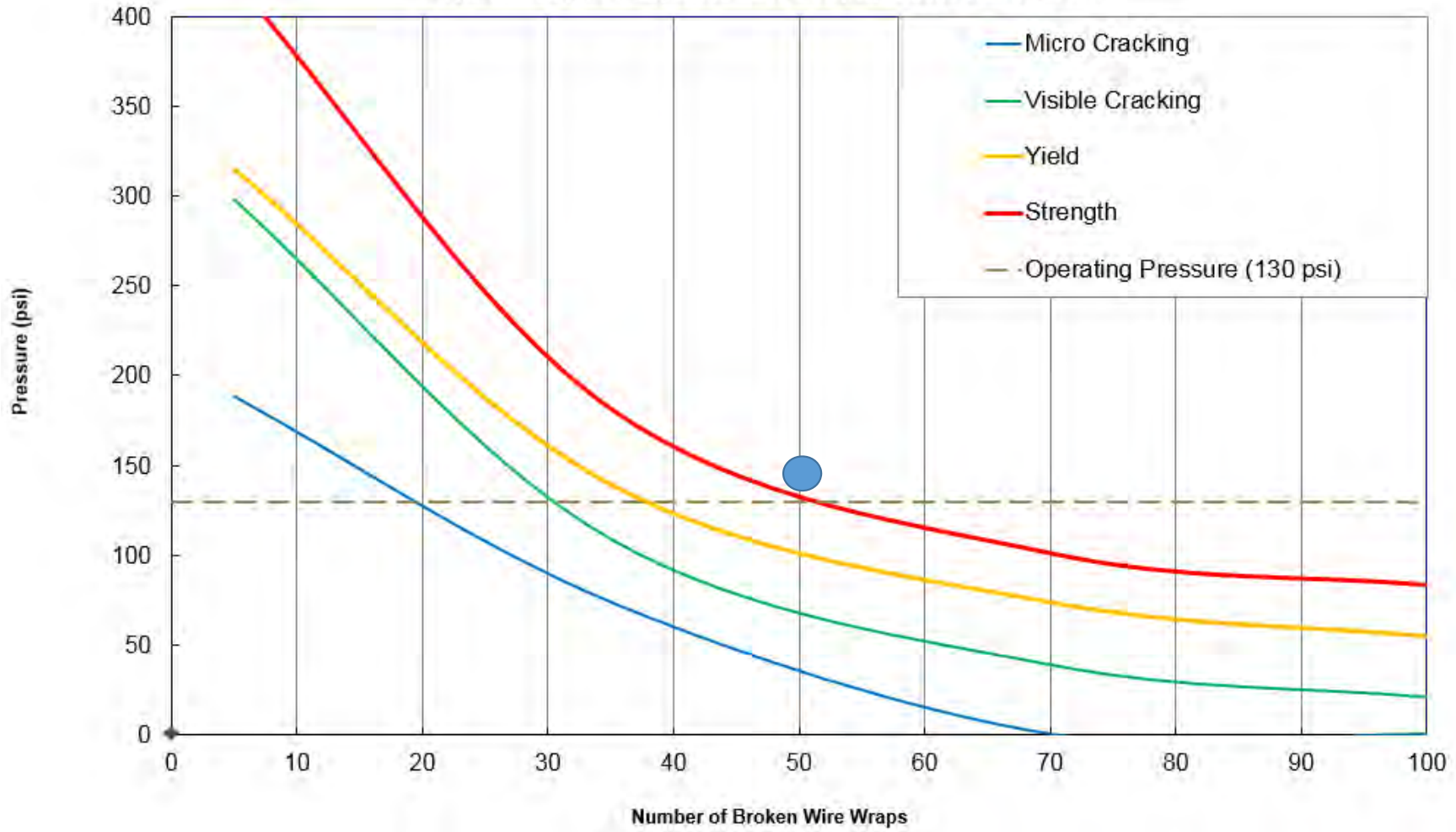
Aurora Reservoir
Historic Storage



New Dance Partner Enters the Picture

- 5 miles of Prestressed Concrete Cylinder Pipe (PCCP) traversing the Denver Technological Center
- PCCP has a catastrophic failure mode that is unacceptable
- Continuous monitoring of pipe condition to address issues
- In March of 2019 acoustic fiber optic (AFO) cable was installed, enhancing the monitoring of the pipe
- End of July 2019 monitoring of pipe has determined that a portion of the RDS required isolation using interties

City of Aurora
Rampart Line Phase III - Class 200-8, 54-inch ECP - Gage 6 wire
Operational plus Surge Pressure: 235 psi; 8 feet of Earth Cover



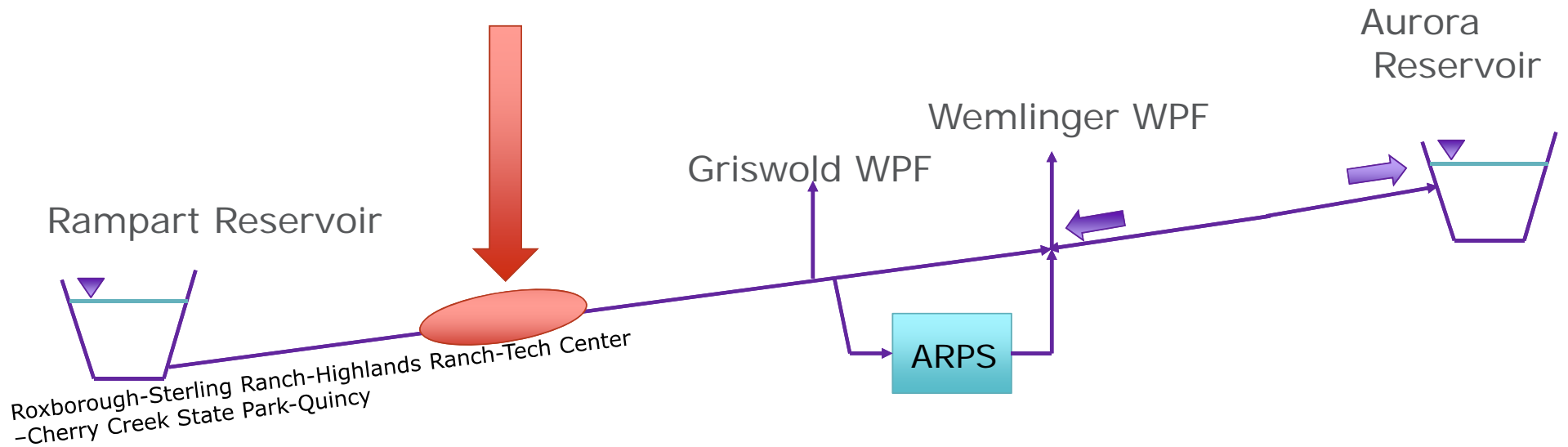
Pipe Class 200/8



Isolation of DTC in the Rampart Delivery System

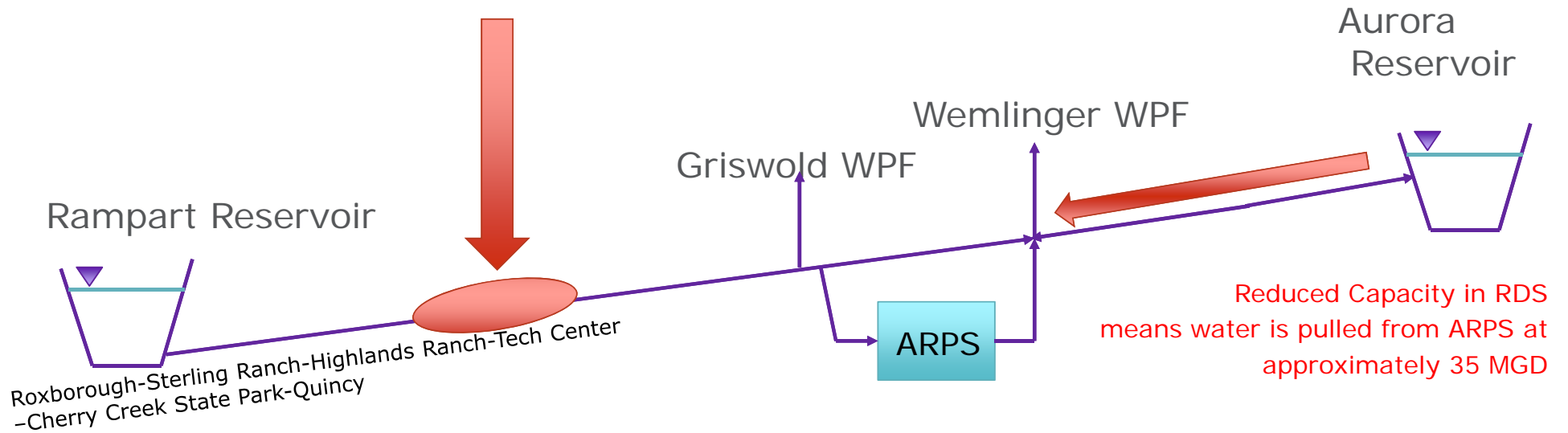
3 areas identified as vulnerable in DTC

Isolation reduces flow capacity from 72 MGD to approximately 25 MGD



Isolation of DTC in the Rampart Delivery System

3 areas identified as vulnerable in DTC
Isolation reduces flow capacity to approximately 25 MGD



Replacement of PCCP Pipeline

Removal – Old Pipe



Replacement - New Pipe



EFFECTS OF ISOLATION AND REDUCED CAPACITY

- Reduced Capacity of the RDS – Summer Demand can peak at 95 MGD
- Wemlinger WPF required to use Aurora Reservoir water – 35 MGD
- Pump Station unable to pump raw water to reservoir due to bi-directional pipe brining water from the reservoir
- Pump Station unable to isolate pump discharge valves when water coming from Aurora Reservoir.



SCHEDULE EFFECTS OF RDS ISOLATION AND REPAIR

- Unable to perform the 'rolling installation' of 5 pumps as there is not enough water to pump and test
- Pump station unable to fill Aurora Reservoir, sitting idle
- Contractor proposes to install all of the pumps in a 6-week period
- Once the RDS is back up, test pump controls for all 5 pumps at once.
- All the while the reservoir is getting lower & lower & lower



PCCP Repair and Completion

- Able to procure existing 54-inch diameter steel pipe and perform urgent replacement of approximately 450 liner feet of PCCP pipe in 2 phases.
- Phase 1 of the PCCP repair was done urgently to address immediate pipe condition concerns
- Phases allow the ARPS to minimally pump, 15 MGD, to the reservoir even while the RDS was isolated, thus offsetting the drawdown.
- Phase 2 was able to schedule in once the high demand season had tapered off in October, thus minimizing the draw down of the reservoir
- Phase 2, which included 2 different areas of concern, had the pipe work completed and the RDS back to normal operation in December

ARPS and Its Dance Partners

- All 5 pumps have been installed and SAT testing is schedule for first of January.
- The improvement to the ARPS will allow for increased flexibility during the high demand season to be better able to maintain levels in the Aurora Reservoir
- The fiber optic cable has been reinstalled into the RDS pipeline and we continue to monitor the condition of the pipe.
- In addition to these dance partners, there were others as well:
 - North Campus well field was down in September – October and this had effects on the water being drawn from Aurora Reservoir
 - Projects within Griswold WPF and Wemlinger WPF effect the demand on the RDS and thus the amount of water available to ARPS and the Reservoir

GEMS and ITEMS to REMEMBER

- Projects within Aurora Water's dynamic system never operate in isolation there is a ripple effect
- The flexibility that has been built into the Raw Water Delivery system allowed us to place the RDS on restricted capacity twice during the high demand season
- Even with upfront coordination and scheduling, projects can arise that were not accounted
- Coordination between various operation groups and capital projects is essential for success when the unaccounted for happens.
- Future projects will continue to increase the flexibility of the delivery system going forward
- Continued monitoring of the PCCP condition is essential to minimizing the chances for pipe failure

Thank you
Questions?



CITIZENS' WATER ADVISORY COMMITTEE (CWAC) - ATTENDANCE RECORD

CWAC - 2019	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Don Langley - Chair	1	1	1	1	1	1	1	N/A	N/A	1	1	N/A	9/9
Janet Marlow - Vice Chair	1	1	1	1	1	1	1	N/A	N/A	1	1	N/A	9/9
Angie Binder	1	1	1	1	A	1	1	N/A	N/A	1	1	N/A	8/9
Jay Campbell - Comm. Rate Payor Member	1	1	1	1	A	1	1	N/A	N/A	1	1	N/A	8/9
Tom Coker	1	1	1	1	1	T	A	N/A	N/A	A	1	N/A	7/9
Duane Senn	1	1	1	A	1	T	1	N/A	N/A	N/M	N/M	N/M	5/7
Tom Tobiassen	1	1	1	1	1	1	A	N/A	N/A	A	A	N/A	6/9
Susan Turnquist	1	1	1	1	1	A	1	N/A	N/A	A	1	N/A	7/9
Alicia Gilley	1	1	1	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	N/M	3/3

1 = PRESENT

A = ABSENT-Excused

U = ABSENT-Unexcused

N/A = NO MEETING

N/M = EITHER NO LONGER A MEMBER or NOT YET A MEMBER

N/Q = No Quorum, Meeting Cancelled

T = Teleconference (or Skype)

* = Not a formal meeting (orientation, new member applicant interviews, etc.)

NOTE: Notation in **RED** indicates Member did not RSVP when required (required for quorum & food ordering purposes)

Months highlighted in **GRAY** were not regular public meetings

STAFF LIASON: Greg Baker, Manager of Aurora Water Public Relations

SUPPORT STAFF: Cathy Haddon, Administrative Technician, Aurora Water; Dara Sanders, Administration Process Specialist

VOLUNTEER AGREEMENT
This is a Release of Liability
Please read carefully before signing

I, _____, the undersigned volunteer for the City of Aurora,
(Name of the Volunteer)

understands that I am not an employee, agent or contractor for the City of Aurora.

I further understand that the City of Aurora will not provide me with any pay, compensation, monetary or otherwise, insurance, workers' compensation or any other benefit to which an employee may be entitled.

In exchange for the opportunity to participate as a volunteer I hereby release the City of Aurora, its employees, elected and appointed officials and any other representatives of the City of Aurora from any and all liability for any injury to me or damage to my property which may result from my participation in the capacity of a volunteer on behalf of the City of Aurora. This release shall be binding on me and any other persons making claim through me or on my behalf.

If I should be injured as a result of my volunteer activity and while in the course and scope of my volunteer activity, the City of Aurora agrees to pay up to \$1,000 for reasonable and necessary medical treatment of such injury. The payment for such medical treatment is by agreement and not pursuant to the Workers' Compensation Act nor should such payment be construed as an admission of liability on the part of the City of Aurora.

I hereby acknowledge that I have read, understood, and voluntarily agreed to the foregoing waiver and release agreement. This agreement supersedes any previous volunteer agreement entered by me with the City of Aurora.

Signature _____ Date _____

PARENTAL RELEASE

(Required if Volunteer is Under the Age of 18 years)

In addition to the above waiver and release, I, the undersigned parent/guardian of the above named volunteer who is under the age of 18 years, do for myself, for the other parent of the child and for and on behalf of my child volunteer hereby release and discharge the City of Aurora, its employees, elected or appointed officials and agents or representatives from and against any and all liability, claims or demands for bodily injury to the above named child or for damage to the property of the above named child as well as expenses including attorney's fees and court costs and any and all other liabilities of any nature whatsoever which may be incurred by the child volunteer or which may arise from the child volunteer's activities on behalf of the City of Aurora as stated above.

Notwithstanding the foregoing, the City of Aurora agrees to pay up to \$1,000 for reasonable and necessary medical treatment of any injury to a minor volunteer who is injured while in the course and scope of his or her volunteer activities on behalf of the City of Aurora. The payment for medical treatment is by agreement and is not pursuant to the Workers' Compensation Act nor should such payment be construed as an admission of liability on the part of the City of Aurora.

This agreement supersedes any previous volunteer agreement signed by me on behalf of my minor child with the City of Aurora.

Signature of parent or guardian if volunteer is under 18 years of age:

Parent/Guardian Signature _____ Date _____

Parent/Guardian Name (Please Print) _____

Street Address _____

City, State, Zip Code _____ Phone Number _____

2020 CWAC PRESENTATIONS

January

- *Election of CWAC Chairperson and Vice-Chairperson*
- *Discuss CWAC Quarterly Report to WPC in January*
- *Project Ripple Effects - Aurora Reservoir Pump Station Upgrades – Dean Bedford*

February

- *Recognition of Outgoing Member(s)*
- *Water Tour Dates*
- *Volunteer Agreements*
- *Quarterly Financial Report – Preliminary December 2020*

March – Orientation Meeting

- *Aurora Water Overview & Governance*
- *Financial Administration*
- *Planning & Engineering*

March – Orientation Meeting

- *Operations*
- *Water Resources*

April

- *CWAC Protocol and Procedures*
- *Annual Legislative Update*
- *Preliminary Water Availability for 2020*
- *Youth Water Festival Date - May 14, 2020*
- *Water Conservation – Previous Year Programs Review and New Year Program Changes/Additions*
- *Discuss CWAC Quarterly Report to WPC*

May

- *Quarterly Financial Report*
- *Legislative Update Continuation*

June

- *Tour of one of the Water Treatment Facilities*
- *Finalize CWAC Quarterly Report to WPC in July*

July

- *2021 Preliminary Budget*

August

- *Quarterly Financial Report*
- *Water Tour Details/Itinerary*

September

- *Water Tour Overview*
- *Finalize Presentation – B&C Special Study Session Budget Presentation*

October

November

- *Quarterly Financial Report*
- *Fall Supplemental*
- *Reminder - December Meeting is reserved for Applicant Interviews*
- *Reminder - Chair/Vice-Chair Election in January*
- *Tentative 2021 Meeting Dates/Times*

December

- *Reserved for CWAC Applicant Interviews*