

Citizens' Water Advisory Commission (CWAC) Agenda

February 13, 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 – January 9, 2024 Chair
2. Introductions/Public Invited to be Heard Chair
3. Communications Update Greg Baker
4. Consent items
 - a) 4th Quarter 2022 Financial Update Gail Thrasher
 - b) Project of the Quarter Dean Bedford
5. Legislative Update Kathy Kitzmann
6. Wild Horse Reservoir Project Rich Vidmar/Lauren Maggert/
John Clark
7. Confirm Next Meeting – Tuesday, March 12, 2024 Chair
8. Adjourn Chair

**Citizens’ Water Advisory Commission (CWAC) Minutes
January 9, 2024, 6:00 p.m.
Spinney Mtn. Reservoir Room/Microsoft Teams**

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

Absent: None

Staff Present: Alex Gagliardi, Greg Baker, Rory Franklin, Marshall Brown, Earl Wilkinson, Shonnie Cline, Sherry Scaggiari, Melina Bourdeau (Teams)

Visitors Present: None

The meeting was called to order at 6:04PM.

1. Elections – 2024 Chair and Vice-Chair

Janet Marlow was nominated for Chair by Tom Coker. All voted aye.
Dick Eason was nominated for Vice-Chair by Janet Marlow. All voted aye.

2. Approval of October 10, 2023 Minutes

The October 10, 2023 minutes were approved.

3. Introductions/Public Invited to be Heard

Rick Shecter (Visitor), Water chemist and worked in industrial treatment, involved in regenerative agriculture, focusing on urban settings and increasing water infiltration. Listening today to learn more about policies Aurora Water is currently following.

4. New/Old Business

5. Communications Update

Greg Baker informed commission that after interviews last month, a letter was drafted and sent to City Council. It will be in study session on January 22nd and then go to regular session on February 12th. Appointments start on February 15th. The commercial position is still open. G. Baker recently heard interest from the sustainability coordinator for Aurora Public School and they may apply.

Shonnie Cline, new Manager of Public Relations gave brief introduction and history to the commission.

6. Lead Service Line Program

Earl Wilkinson, Rory Franklin and S Cline took part in the presentation. Aurora Water has initiated a program to create an inventory of the material type of all water service lines as required by the federal Lead and Copper Rule Revisions (LCRR) and Colorado state

requirements (11.17, Regulation 11). As part of the LCRR and Regulation 11.17, all water systems are also required to develop and implement a plan for removing and replacing water service lines made of lead or galvanized steel (GRR) if they have ever been connected downstream of lead pipe. The history of lead and galvanized pipes was presented as well as their usage. Commission was briefed on many of the effects of lead in the system to children and adults. A timeline of oversight and regulation was provided including future EPA rules. Aurora Water began taking proactive steps to identify lead and GRR water service lines in 2017 by initiating a water service line investigation pilot program. Based on the water service line investigations in 2017 and in the fall of 2023, it is expected that up to 30% of the service lines constructed prior to 1954 will require replacement. Aurora Water will continue conducting water service line investigations throughout 2024 and 2025, or until all the material type of all water service lines can confidently be categorized. Aurora Water has already conducted some water service line replacements in 2023 where street repaving projects are due to take place in early 2024. Aurora Water will be applying for State Revolving Funds (SRF) that have been set aside for lead and GRR water service line replacements in June 2024 with anticipated receipt of funding in late 2024 or early 2025.

T. Coker asked if the Rampart line has lead.

Marshall Brown answered no, lead was not as common in the larger lines at that time.

Dick Eason asked only galvanized only if it's impacted by lead.

E. Wilkinson answered yes but, only if we have good records and can prove there was no lead upstream, we're going to have to assume it was impacted by lead. With the age of the galvanized pipe and the soil conditions, we would just assume get it out. Chances are a majority of it could be impacted by lead.

Dennis Dechant asked what the problem with copper was.

E. Wilkinson explained more research needs to be done with the lead solder.

Sherry Scaggiari added that copper can leach if you don't have proper corrosion control.

D. Dechant asked when we let homeowners know they have a problem.

S. Cline explained that going forward intentions are to let homeowners know the same day they are to be pot holed. Dual notifications will be rolled out with a mailer and door hanger.

R. Franklin explained additional communications will come in the future.

S. Cline also relayed that we will need help from the homeowners to let us know if they have lead pipes.

T. Coker asked where our budget came from.

M. Brown informed council of the \$10 million that council approved. Hopes are we will not need to use this as federal money will be applied for.

Daniel Widrich asked if lead lines are ever abandoned.

S. Cline answered that yes, lines have been abandoned. Often they are abandoned to avoid obstacles to disposal.

D. Dechant asked if there is incentive to not replace areas of turf disturbed by the project.

S. Cline, G. Baker and E. Wilkinson explained nothing official but possibly through rebates or other channels.

6. Review Follow-Up Questions

None.

7. Confirm Next Meeting

The next meeting on February 13, 2024 was confirmed.

8. Adjourn

The meeting was adjourned at 7:35PM.

Janet Marlow, Chair
Citizens' Water Advisory Committee

Adopted: _____



To: Citizens' Water Advisory Commission

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

From: Catherine Olukotun, Deputy Director Water Financial Administration

Date: February 13, 2024

Subject: Quarterly Financial Report – Fourth Quarter 2023

SUMMARY

Combined operating revenues (Water, Sewer, and Stormwater) in the fourth quarter of 2023 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 (Water, Sewer, and Stormwater) in the fourth quarter of 2023 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.

Expenditures

Total operating expenses (Water, Sewer, and Stormwater combined), excluding debt service, in the fourth quarter of 2023 were \$16.7 million or 9.9 percent lower than planned. This accounts for a \$7.5 million Pueblo Water lease agreement that was signed in December 2022 after the budget was approved.

- Personal Services expenditures were lower by \$0.8 million, primarily attributed to vacancy savings resulting from a competitive labor market.
- Supplies and Services were lower than planned by \$12.6 million. The decrease is driven primarily by the accounts of Professional Services, Purchased Water/Storage and Utilities.
 - Professional Services spending was \$6.8 million lower than planned. This is primarily due to the Environmental Services Lead Service Line (LSL) replacement project being moved over to capital. The \$3.0 million budget for the LSL project will be a technical move from Operating to Capital during the 2024 Spring Supplemental process.
 - Purchased Water/Storage came in \$1.8 million lower than planned due to the timing of payments for the Fryingpan-Arkansas Project agreement.
 - Utilities were \$3.9 million less than plan primarily for Homestake and Pumping.

Purchased Vehicle and Equipment Replacement was lower than planned by \$2.9 million. This is being primarily driven by supply chain shortages causing delays.

Revenues and expenditures for the fourth quarter of 2023 are shown in the table below:

Water, Sewer, and Stormwater as of End of Fourth Quarter					
Item	YTD Plan	2023	2022	Q4 2023 vs YTD Plan	Year Over Year Difference
Operating Revenue	\$231,825,171	\$216,813,666	\$226,736,594	(\$15,011,505)	(\$9,922,928)
Development Revenue	65,326,836	91,890,253	73,536,359	26,563,417	18,353,894
Bond Proceeds and Transfers	45,000,000	45,469,805	0	469,805	45,469,805
Interest Income	4,295,724	9,398,415	4,856,313	5,102,691	4,542,102
Total Revenue	\$346,447,731	\$363,572,139	\$305,129,266	\$17,124,408	\$58,442,873
Operating Expense	(\$168,461,119)	(\$151,806,325)	(\$136,634,459)	(\$16,654,794)	\$15,171,867
Capital Projects	(217,199,068)	(189,244,593)	(211,925,016)	(27,954,475)	(22,680,422)
Debt Service	(38,440,320)	(38,693,170)	(35,779,233)	252,850	2,913,937
Total Expense	(\$424,100,507)	(\$379,744,088)	(\$384,338,708)	(\$44,356,419)	(\$4,594,618)
Net Revenue & Expense	(\$77,652,776)	(\$16,171,949)	(\$79,209,442)	(\$27,232,011)	\$53,848,255

Statements showing the budget to actual results and the year-to-year comparison can be found at the end of this memo on pages 8 and 9. Capital details can be found on pages 6 and 7.

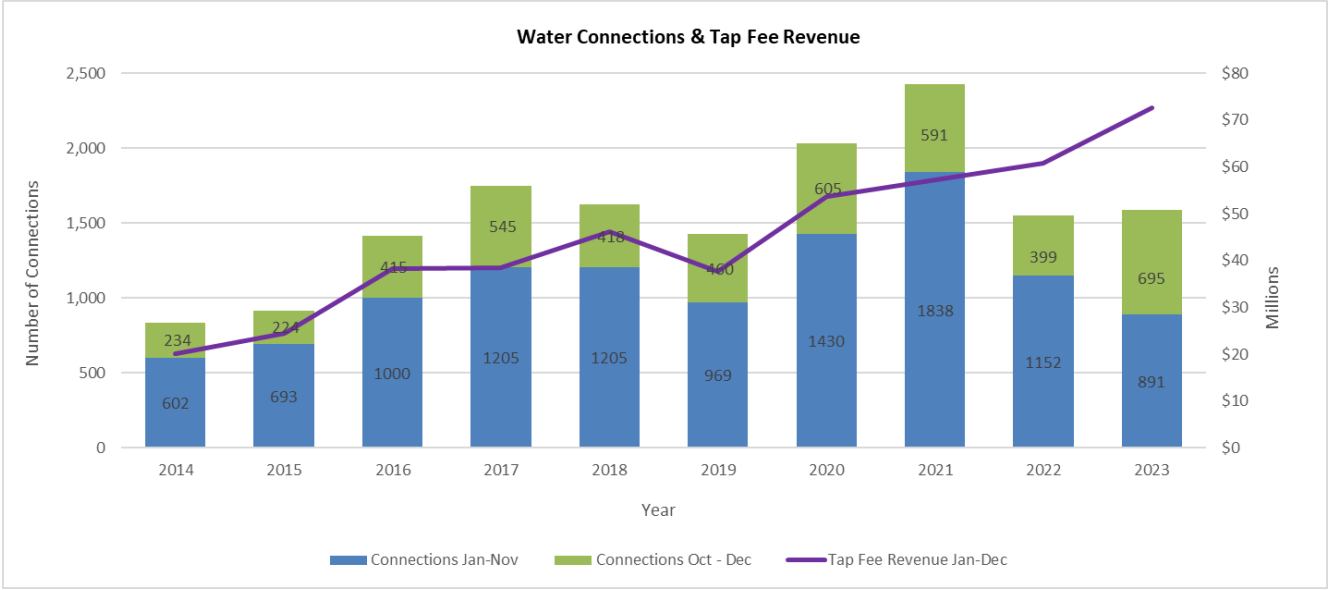
Cash Balances

Reserves and cash balances are shown in the table below. 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.

	Water	Wastewater
Total Cash	\$234.5M	\$140.2M
Reserve & Commitment Type		
Debt Service Policy Reserve (next fiscal year debt payment)	\$28.9M	\$10.4M
Operating Reserve (25% of adopted operating budget excl debt service)	\$21.9M	\$16.4M
Water Resources Reserve (\$20 Million)	\$20.0M	
Capital Reserve (0.5% of Net Fixed assets)	\$10.5M	\$3.7M
Capital and Operating Encumbrances	\$113.9M	\$35.8M
Net Restricted Bond Proceeds for Projects	\$0.9M	\$-0.5M
Pass-Thru Commitments (METRO and CC Basin)		\$13.1M
WISE Liability to Denver Water	\$5.0M	
Total Reserves and Commitments	\$201.1M	\$78.9M
Cash after Reserves & Commitments	\$33.4M	\$61.2M

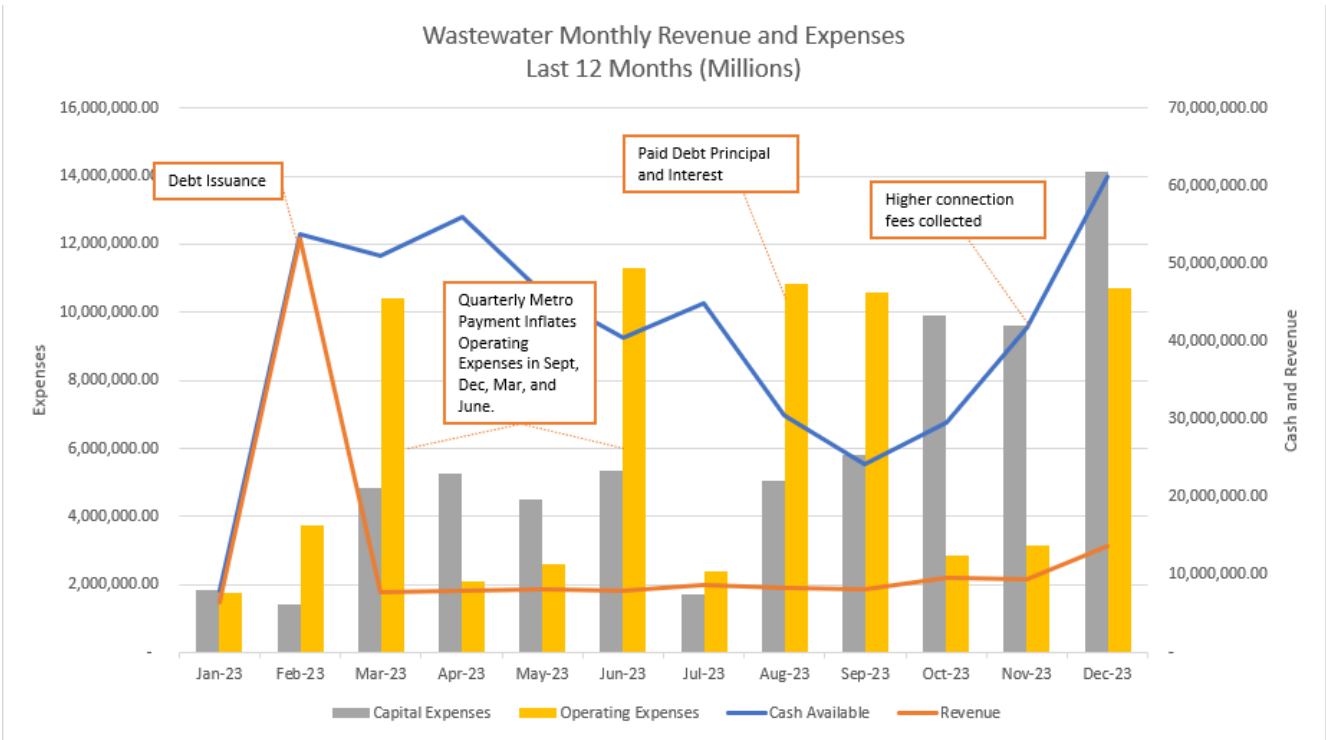
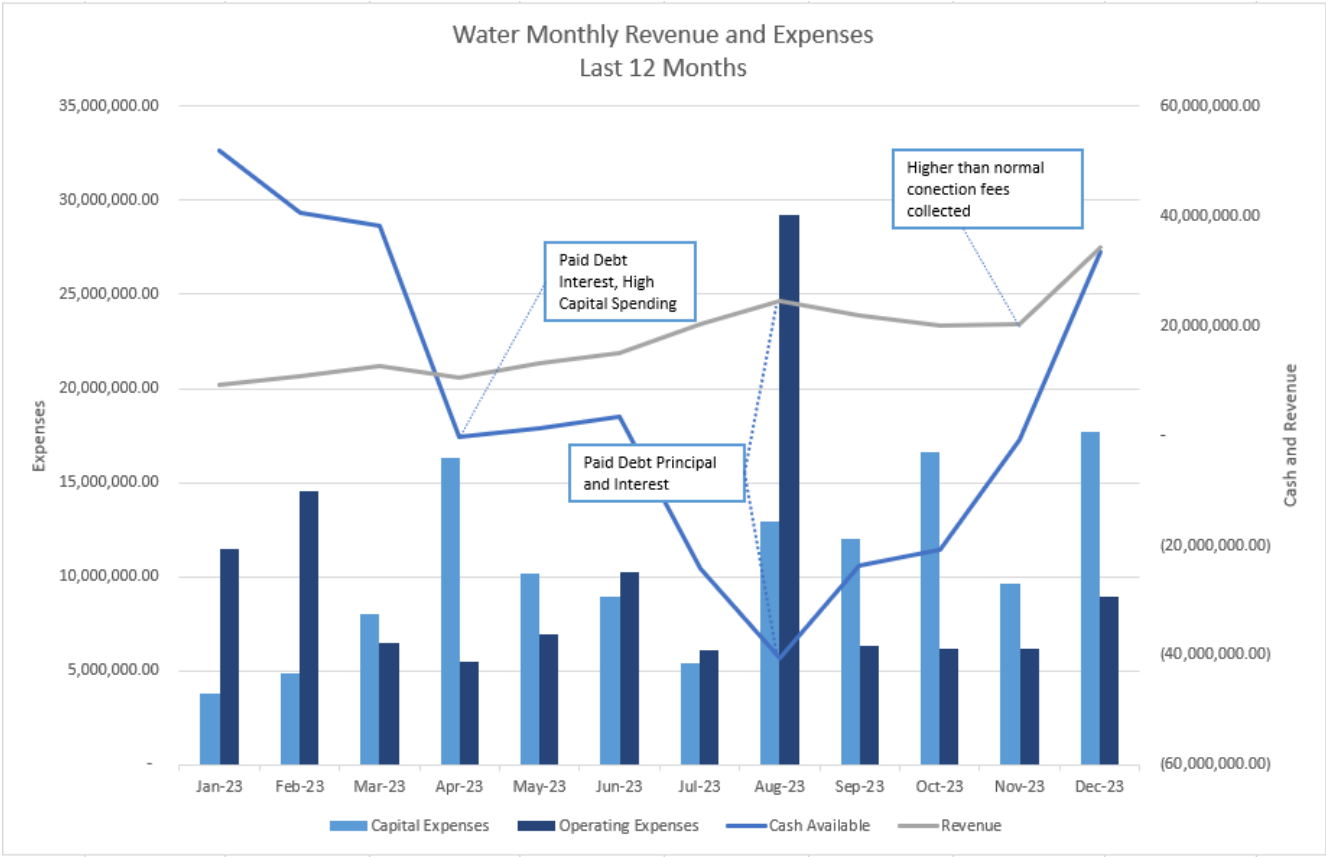
Water Connections

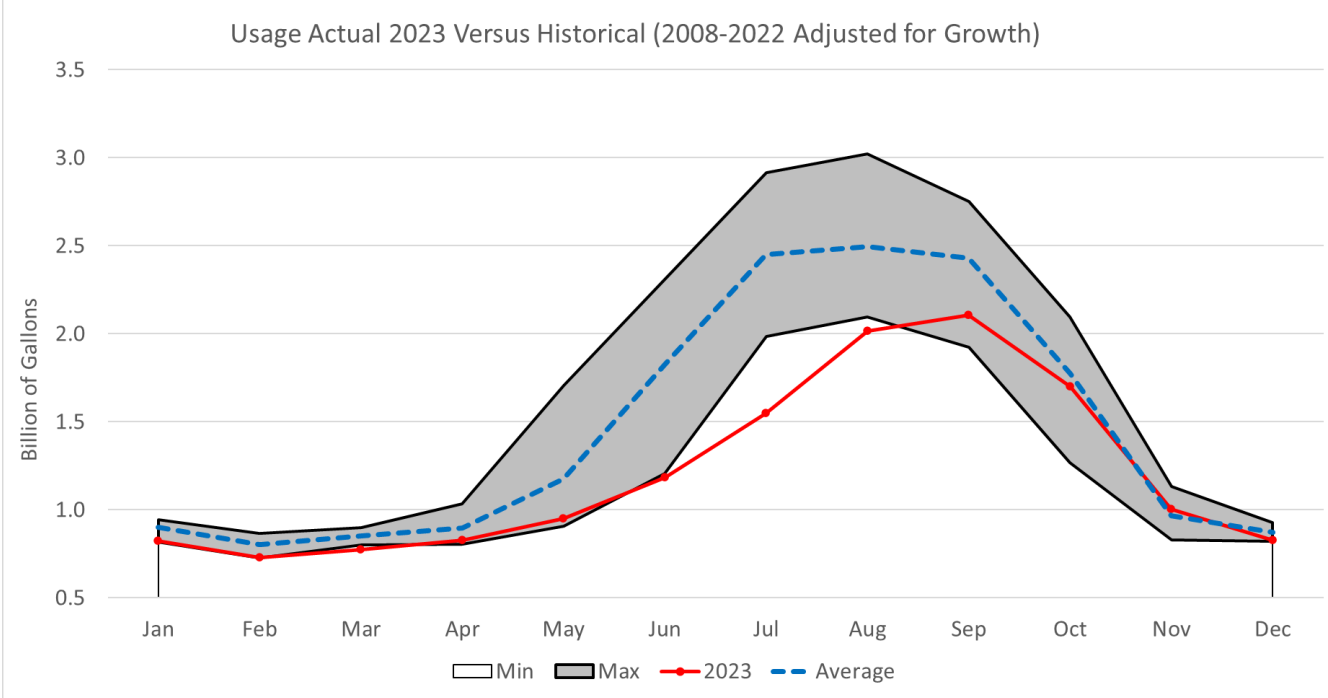
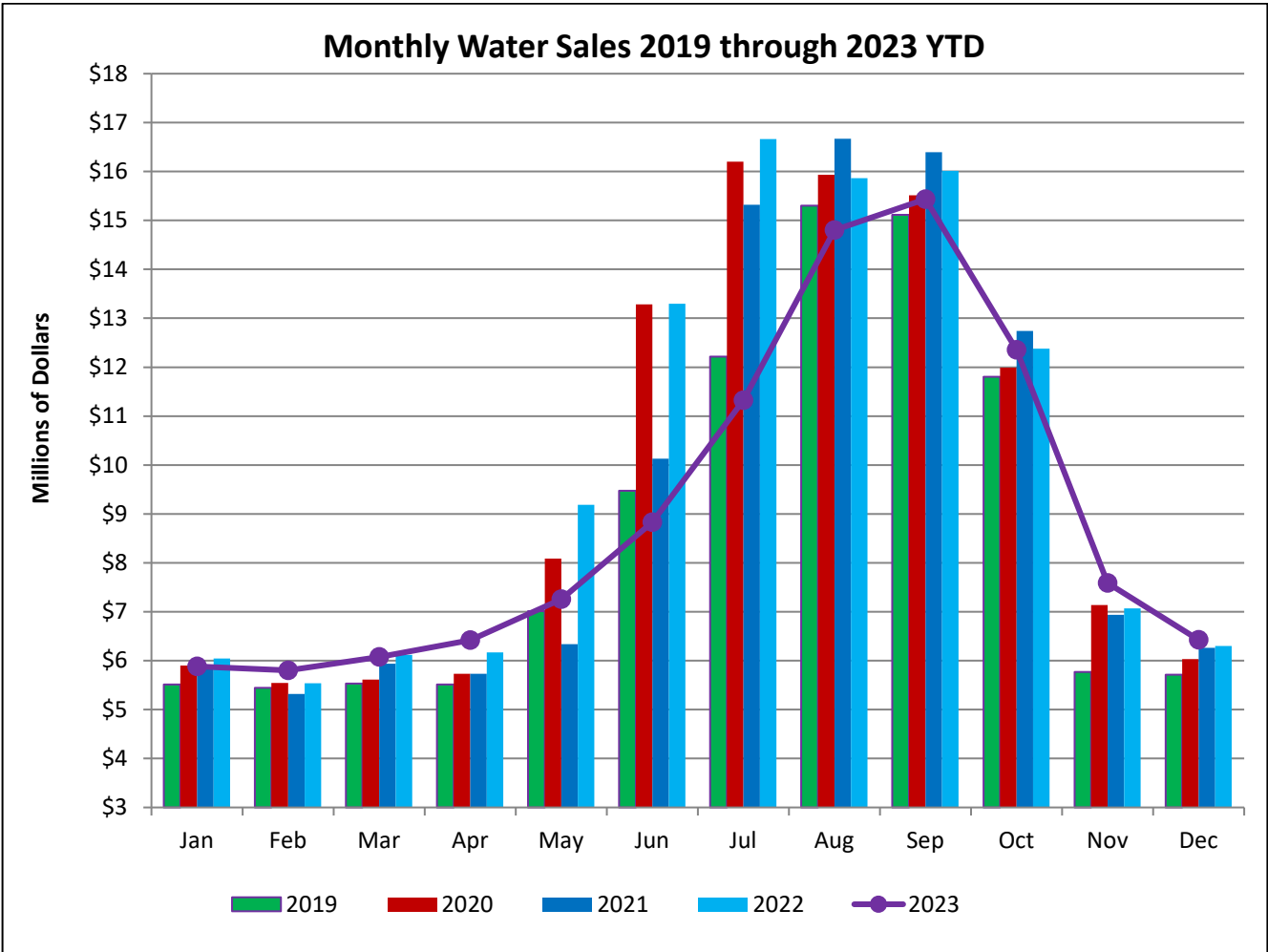
The total number of water connections (single-family, commercial, irrigation and multi-family) and the corresponding Water Connection Fee revenue for 2014-2023 are shown on the graph below. The number of water connections through the fourth quarter of 2023 is 1,586, ending the year 2.2 percent higher 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. This is primarily due to a sharp increase in connection fees at the end of the year as developers anticipate the 2024 rate increases.



2023 Revenue, Expenses and Cash Flow

The following graphs present a summary of the last 12 months of monthly revenues, expenses, and cash flow.





Overall Capital Plan

Capital Projects Spending as of 12/31/2023

Program	Working Budget*	YTD Spending Plan	YTD Actual Spend	Encumbered**
<u>Water CIP</u>				
Operations & General Management	27,674,024	21,228,282	19,996,480	2,889,184
Pumping	10,749,849	5,052,517	340,279	2,335,695
SOS Other	65,673,548	14,983,351	14,616,217	24,725,540
SOS Storage	49,275,262	41,023,889	12,793,023	10,964,273
SOS Water	50,584,402	24,111,163	22,357,584	7,935,860
Transmission & Distribution	53,238,230	26,607,717	26,171,802	26,888,277
Treatment	82,063,164	14,896,760	24,889,803	30,664,565
Water Total	339,258,479	147,903,679	\$121,165,188	106,403,394
<u>Sewer CIP</u>				
Collection	91,731,100	44,453,550	48,812,634	37,602,616
Operations & General Management	18,257,858	9,553,952	10,620,424	3,394,814
Sewer Total	\$109,988,958	\$54,007,502	\$59,433,058	40,997,430
<u>Stormwater CIP</u>				
Stormwater	25,812,489	12,657,442	4,888,160	2,413,029
Operations & General Management	3,898,861	2,630,445	3,758,187	131,737
Stormwater Total	29,711,350	\$15,287,887	\$8,646,347	\$2,544,766
Wastewater Total	139,700,308	\$69,295,389	\$68,079,405	\$43,542,196
Water & Wastewater Total	478,958,787	\$217,199,068	\$189,244,593	\$149,945,590

*Working budget includes adopted budget, carry forward, transfers, lapsed appropriations, and supplementals.

**Encumbered amounts are PO contracts that may carry multiple years.

Capital Projects Spending

Total capital spending in the Water Fund through the fourth quarter was \$121.2 million, which was \$26.7 million less than planned. Water Rights Opportunistic purchases in 2023 were \$4.0 million more than planned year-to-date due to the MineWater advanced payment agreement in October. The Environmental Review, Reservoir Dam, and Conveyances Pipeline projects for Wild Horse combined were \$13.0 million less than planned due to continued delays in land acquisition and the drilling program in 2023. The Griswold Solids Handling System Improvements project was \$11.6 million more than planned due to the earlier than anticipated wall completion of basins 1 and 2. Leak testing and repairs for the basins are currently underway along with electrical and mechanical installation for the new fiber and communication lines. The Eastern Aurora Utility Extension Pipeline is \$5.5 more than planned due to higher than planned material procurement in the fourth quarter of 2023. The Pipeline is nearly 48 percent done and planned for completion by the end of the second quarter of 2024. The Eagle River Project was

\$8.9 million less than planned at the end of the fourth quarter due to all projects being pushed out to 2026. The Rampart Delivery System Expansion project was \$2.7 million less than planned in the fourth quarter due to delays in fabrication and delivery of electrical and instrumentation components. As a result, design during construction has been pushed out to March 2024. The 36-inch Gun Club Pipeline from E. 56th Avenue to E. 64th Avenue is \$2.4 million less than planned in the fourth quarter due to delays during the pre-construction process primarily with the steel pipeline fabrication. Delivery of the steel pipe is scheduled in the first quarter of 2024. Many of the projects in the Water Fund are encumbered for a total of \$106.4 million.

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. In the Collection program, expenditures for the First Creek Interceptor Segments 1B-1D were \$17.7 million higher than planned at the end of the fourth quarter. At High Point Blvd and Argonne, the crew for Bid Package 1 encountered unmarked gas, electric, and fiber optic lines during the fourth quarter work at the new meter structure vault and had to relocate the lines south of 64th and Argonne. The crew for Bid Package 2 has completed the microtunnel and are currently working to install the carrier pipe and backfill the shafts. The launch shaft is almost installed at the Green Valley Ranch Blvd tunnel. Construction for the SC2 & SC5 Sanitary Sewer Upgrade is \$5.2 million less than planned year-to-date. Construction for SC2 is still delayed with remobilization scheduled for early summer of 2024. In the Stormwater program, EC05 Havana Park & Del Mar Parkway was \$2.2 million less than planned due to delays in the plans approval process the previous quarter. The bid opening is scheduled for January 2024. Many of the projects in the Wastewater Fund (sewer & stormwater) are encumbered for a total amount of \$43.5 million.

2023 Financial Comparison

The following table presents a comparison of budget to revenues and expenses through the fourth quarter for the year 2023.

WATER as of 12/31/2023				
Revenues & Expenses	Working Budget*	YTD Plan	YTD Actual (Accrual Basis)	% Actual to Plan
Operating Revenue	\$148,412,780	\$148,412,780	\$132,511,838	-11%
Development Revenue	55,830,696	55,830,696	75,473,302	35%
Interest Income	2,953,044	2,953,044	5,747,645	95%
Total Revenue	\$207,196,520	\$207,196,520	\$213,732,785	3%
Operating Expense	(\$101,027,822)	(\$101,027,822)	(\$89,215,892)	-12%
Capital Projects	(339,258,479)	(147,903,679)	(121,165,188)	-18%
Debt Service	(28,648,657)	(28,648,657)	(28,865,025)	1%
Total Expense	(\$468,934,958)	(\$277,580,158)	(\$239,246,105)	-14%
Net Revenue & Expense	(\$261,738,438)	(\$70,383,638)	(\$25,513,320)	
SEWER as of 12/31/2023				
Operating Revenue	\$56,895,225	\$56,895,225	\$56,854,142	0%
Development Revenue	6,996,140	6,996,140	12,486,643	78%
Bond Proceeds and Transfers	45,000,000	45,000,000	45,469,805	1%
Interest Income	777,680	777,680	2,464,092	217%
Total Revenue	\$109,669,045	\$109,669,045	\$117,274,682	7%
Operating Expense	(\$50,497,346)	(\$50,497,346)	(\$49,638,474)	-2%
Capital Projects	(109,988,958)	(54,007,502)	(59,433,058)	10%
Debt Service	(7,370,480)	(7,370,480)	(5,017,503)	-32%
Total Expense	(\$167,856,784)	(\$111,875,328)	(\$114,089,035)	2%
Net Revenue & Expense	(\$58,187,739)	(\$2,206,283)	\$3,185,647	
STORMWATER as of 12/31/2023				
Operating Revenue	\$26,517,166	\$26,517,166	\$27,447,686	4%
Development Revenue	2,500,000	2,500,000	3,930,308	57%
Interest Income	565,000	565,000	1,186,678	110%
Total Revenue	\$29,582,166	\$29,582,166	\$32,564,672	10%
Operating Expense	(\$16,935,951)	(\$16,935,951)	(\$12,951,959)	-24%
Capital Projects	(29,711,350)	(15,287,887)	(8,646,347)	-43%
Debt Service	(2,421,183)	(2,421,183)	(4,810,642)	99%
Total Expense	(\$49,068,484)	(\$34,645,021)	(\$26,408,948)	-24%
Net Revenue & Expense	(\$19,486,318)	(\$5,062,855)	\$6,155,724	

*Working budget includes adopted budget, carry forward, transfers, lapsed appropriations, and supplementals.

Year-to-date Comparison to Prior Year (Water, Sewer, and Stormwater)

The following table presents a comparison of revenues and expenses through the fourth quarter for the years 2023 and 2022.

WATER Fourth Quarter Comparison			
Revenues & Expenses	2023	2022	% Change
Operating Revenue	\$132,511,838	\$147,571,156	-10%
Development Revenue	75,473,302	61,828,083	22%
Bond Proceeds and Transfers	0	0	0%
Interest Income	5,747,645	3,340,721	72%
Total Revenue	\$213,732,785	\$212,739,960	0%
Operating Expense	(\$89,215,892)	(\$77,675,725)	15%
Capital Projects	(121,165,188)	(157,348,001)	-23%
Debt Service	(28,865,025)	(\$27,277,535)	6%
Total Expense	(\$239,246,105)	(\$262,301,261)	-9%
Net Revenue & Expense	(\$25,513,320)	(\$49,561,301)	
SEWER Fourth Quarter Comparison			
Operating Revenue	\$56,854,142	\$53,713,855	6%
Development Revenue	12,486,643	8,830,079	41%
Bond Proceeds and Transfers	45,469,805	0	0%
Interest Income	2,464,092	961,880	156%
Total Revenue	\$117,274,682	\$63,505,814	85%
Operating Expense	(\$49,638,474)	(\$46,722,436)	6%
Capital Projects	(59,433,058)	(35,205,338)	69%
Debt Service	(5,017,503)	(\$3,971,302)	26%
Total Expense	(\$114,089,035)	(\$85,899,076)	33%
Net Revenue & Expense	\$3,185,647	(\$22,393,262)	
STORMWATER Fourth Quarter Comparison			
Operating Revenue	\$27,447,686	\$25,451,583	8%
Development Revenue	3,930,308	2,878,197	37%
Bond Proceeds and Transfers	0	0	0%
Interest Income	1,186,678	553,712	114%
Total Revenue	\$32,564,672	\$28,883,492	13%
Operating Expense	(\$12,951,959)	(\$12,236,298)	6%
Capital Projects	(8,646,347)	(19,371,677)	-55%
Debt Service	(4,810,642)	(\$4,530,396)	6%
Total Expense	(\$26,408,948)	(\$36,138,371)	-27%
Net Revenue & Expense	\$6,155,724	(\$7,254,879)	

Capital Improvement Project of the Quarter Eastern Aurora Utility Extension Pipeline

Background

The City of Aurora (Aurora) has been experiencing an increasing level of growth in the northeastern portion of Aurora. This increase in growth 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.

See map below. The current pipeline and alignment will be able to deliver 20 million gallons of potable water per day. In addition, this pipeline will allow for the Front Range Airport, which currently operates on groundwater wells, to connect to the City’s water system directly.

Additional upgrades to the existing distribution system in the future will eventually allow this pipeline to carry 20 million gallons a day.

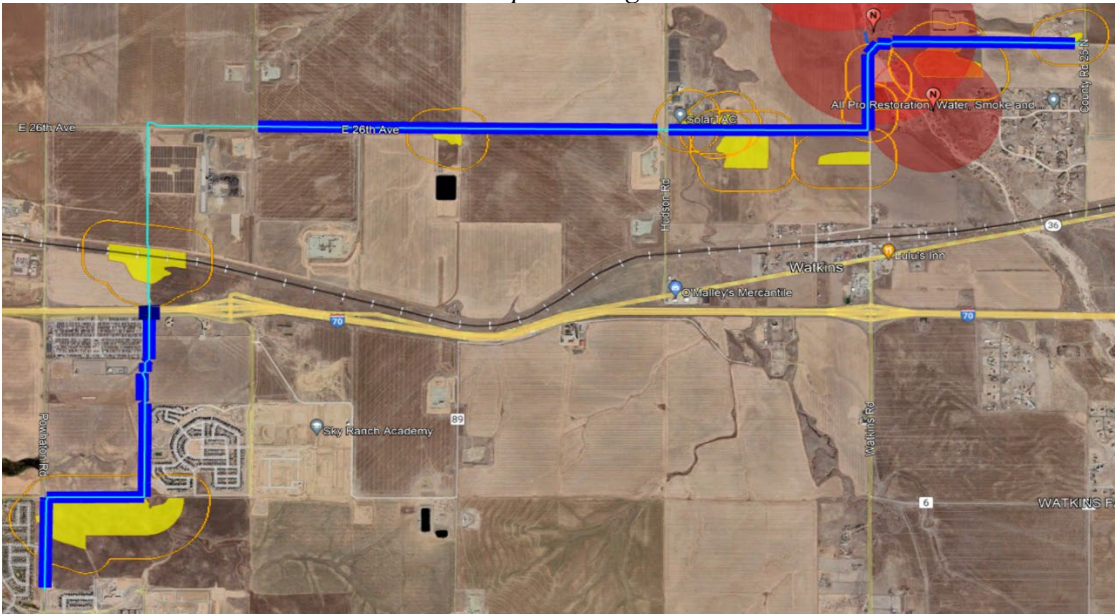
Scope of Work

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.

As shown in the map below, 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 Drainagway 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.

EAUE Pipeline Alignment



MEMORANDUM



City of Aurora

Worth Discovering • auroragov.org

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: February 13, 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
 Alexandra Davis, Assistant General Manager, Water Supply & Demand, Aurora Water

From: Richard Vidmar, Water Resources Manager, Water Supply & Demand
 Lauren Maggert, Water Resources Project Manager, Water Supply & Demand
 John Clark, Principal Engineer, Planning & Engineering

Date: February 13, 2024

Subject: Wild Horse Project

Purpose:

This presentation to the Citizens’ Water Advisory Commission provides an update on the Wild Horse Project.

Background:

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 area of Colorado has very complex geology which included inland seabeds and substantial volcanic activity in geologic history. 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.

Current Project Status:

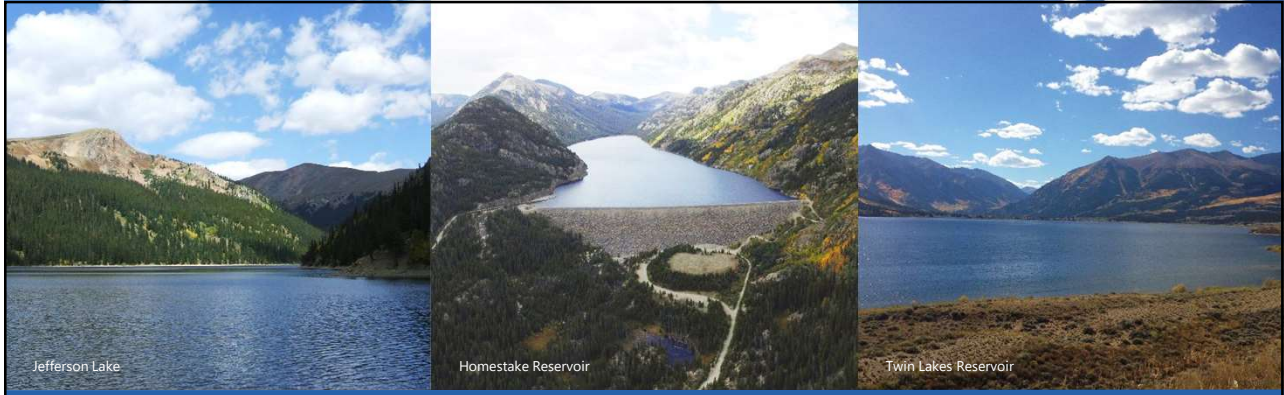
To advance the project, Aurora Water has the 30% design phase underway. Aurora Water has conducted more detailed geotechnical investigations which will include about 22,000 linear feet of drilling site-wide. Trenching to visually inspect the soil and rock stratifications will be performed this summer,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

Question:

Informational item only. No action required.



Wild Horse Reservoir Project Update

Citizens Water Advisory Commission
February 13, 2024

John Clark, PE – Planning & Engineering, Aurora Water
Lauren Maggert, PE – Water Supply & Demand, Aurora Water
Richard Vidmar, PE – Water Supply & Demand, Aurora Water



1

Agenda

- I. Project History**
- II. System Connection & Impacts**
- III. Proposed Pipeline & Reservoir Specifications**
- IV. NEPA & Permitting Process Overview**
- V. Engineering Process Overview**
- VI. Financial Impacts**
- VII. Questions**

www.wildhosereservoir.org



2

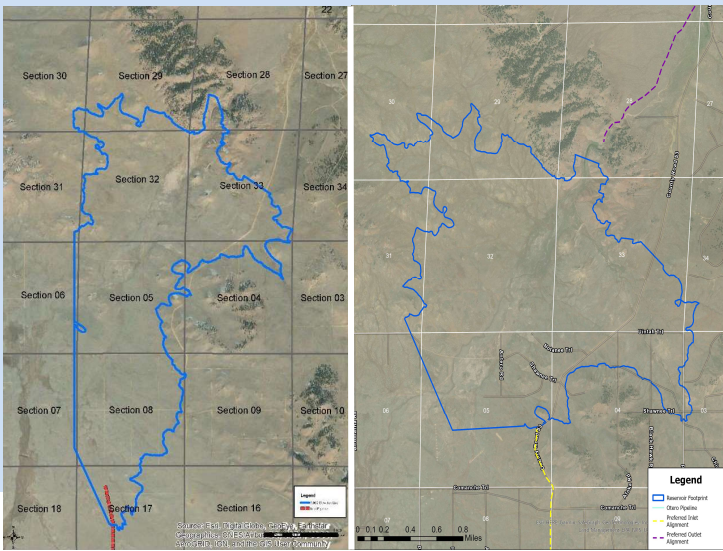
Project History

- Initial land acquisition of 2,400 acres-2016
 - Original configuration was 32,000 acre-feet
- Determination that volume could be expanded to approximately 96,000 acre-feet-2019
- Geotechnical investigation found soluble soils on southern end
- Additional geotechnical investigation-2021 - 2023
 - Reconfigured reservoir footprint to 93,000 acre-feet locating dams on better geology
 - Advancing 30% design



www.wildhorsesreservoir.org

3



**Similar Capacity,
Smaller Footprint**



www.wildhorsesreservoir.org

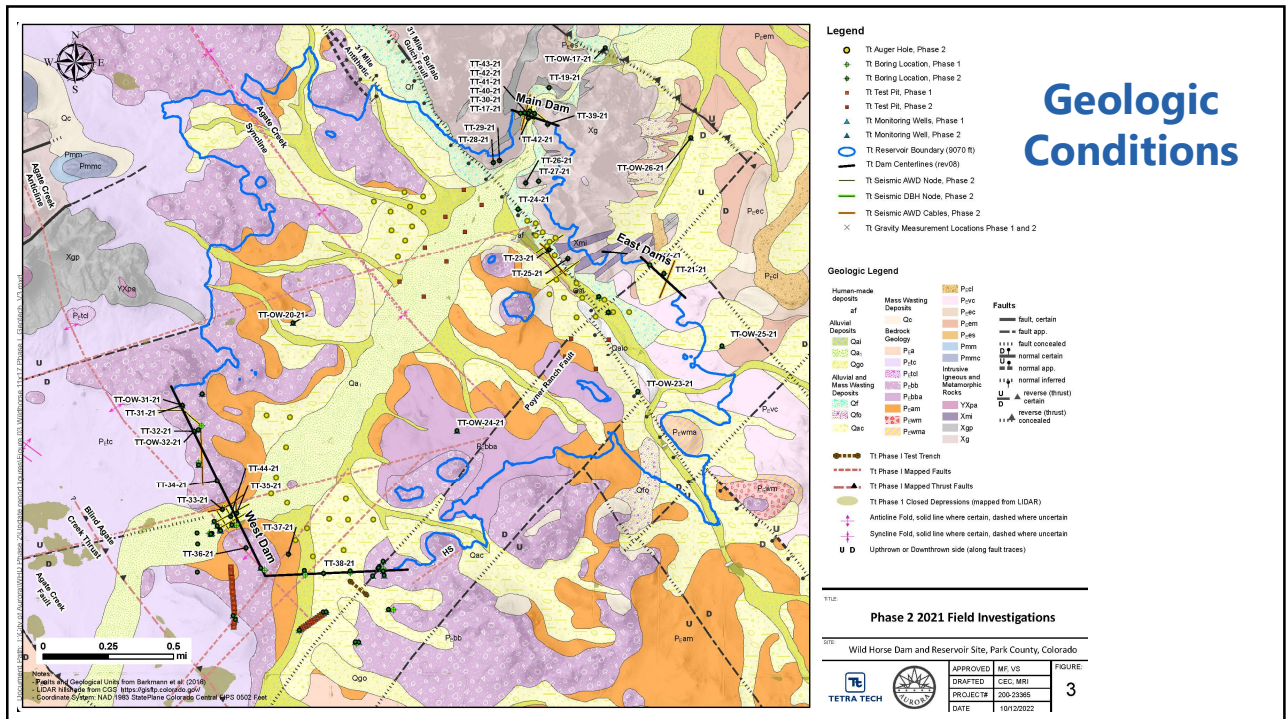
4



PROJECT HISTORY



5



6



Proposed Project Overview

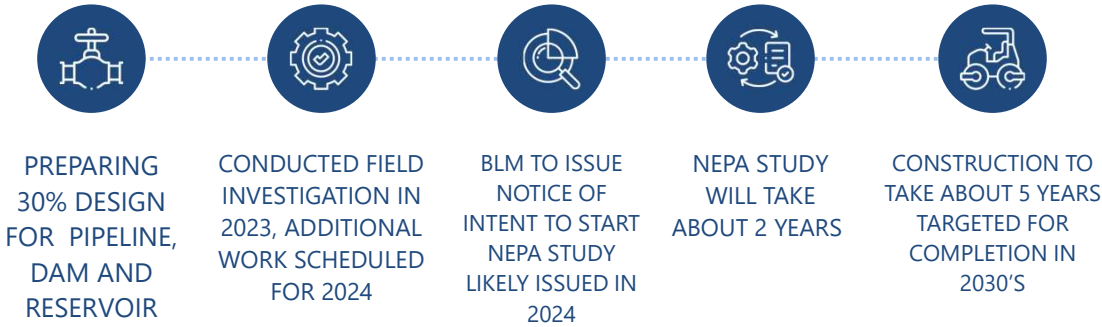
- Site is in Park County about 5 miles south of Hartsel, CO, 6 miles southwest of Spinney Mountain Reservoir
- Develop a reservoir with an active storage capacity of 93,000 acre-ft
- Four dams: Main Dam, East Dam 1, East Dam 2, and West Dam
- Ten to 13 miles of large diameter, steel transmission pipeline
- The primary source of water for the reservoir would be from the Otero Pipeline
- The intent of the CM/GC is for early contractor involvement to provide positive influence on design and facilitate efficient construction.

www.wildhorsesreservoir.org



7

Project Timeline



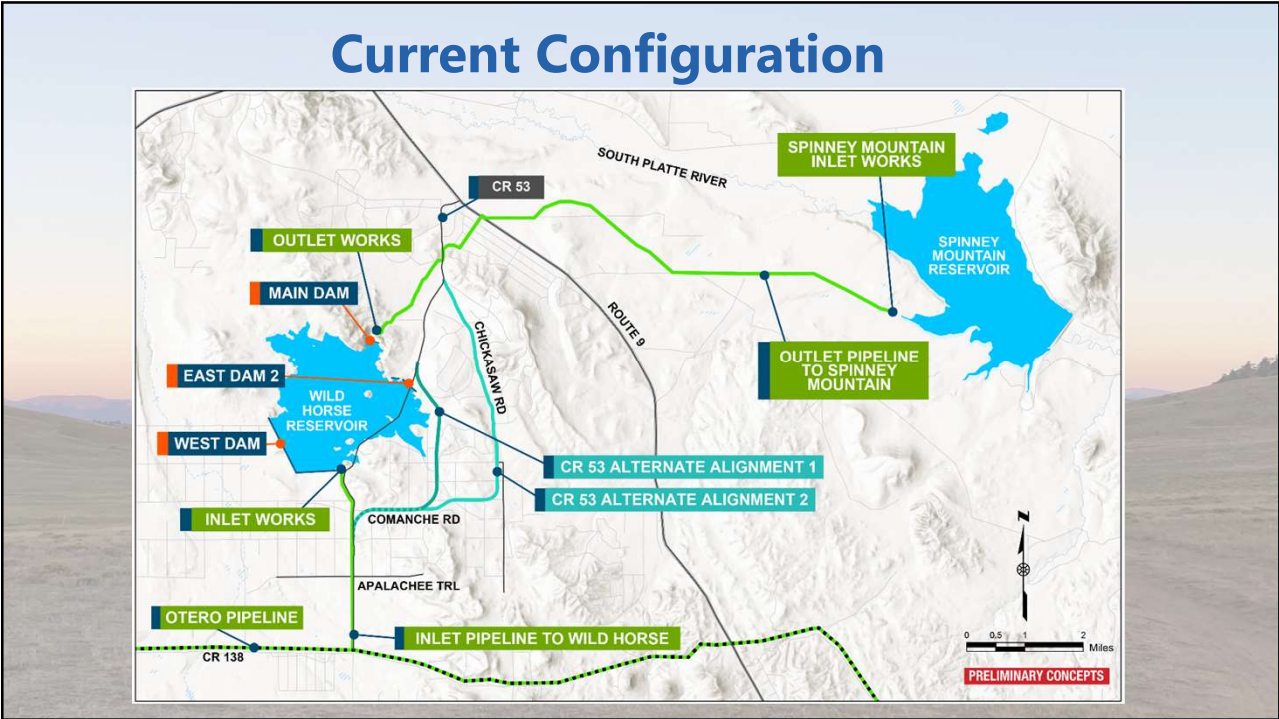
www.wildhorsesreservoir.org



8

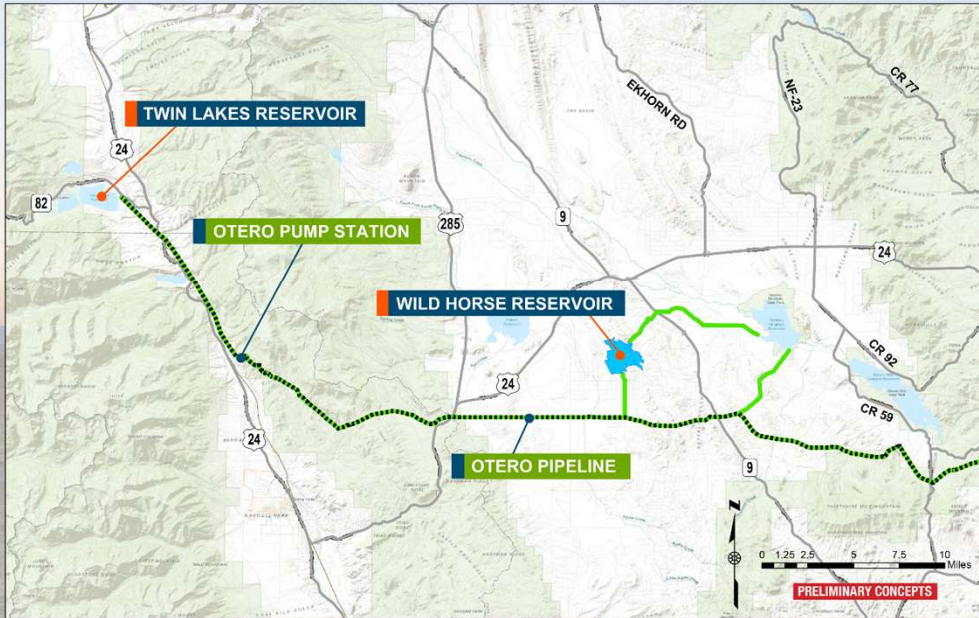


9



10

Current Configuration



11

PROPOSED PIPELINE & RESERVOIR SPECIFICATIONS



12

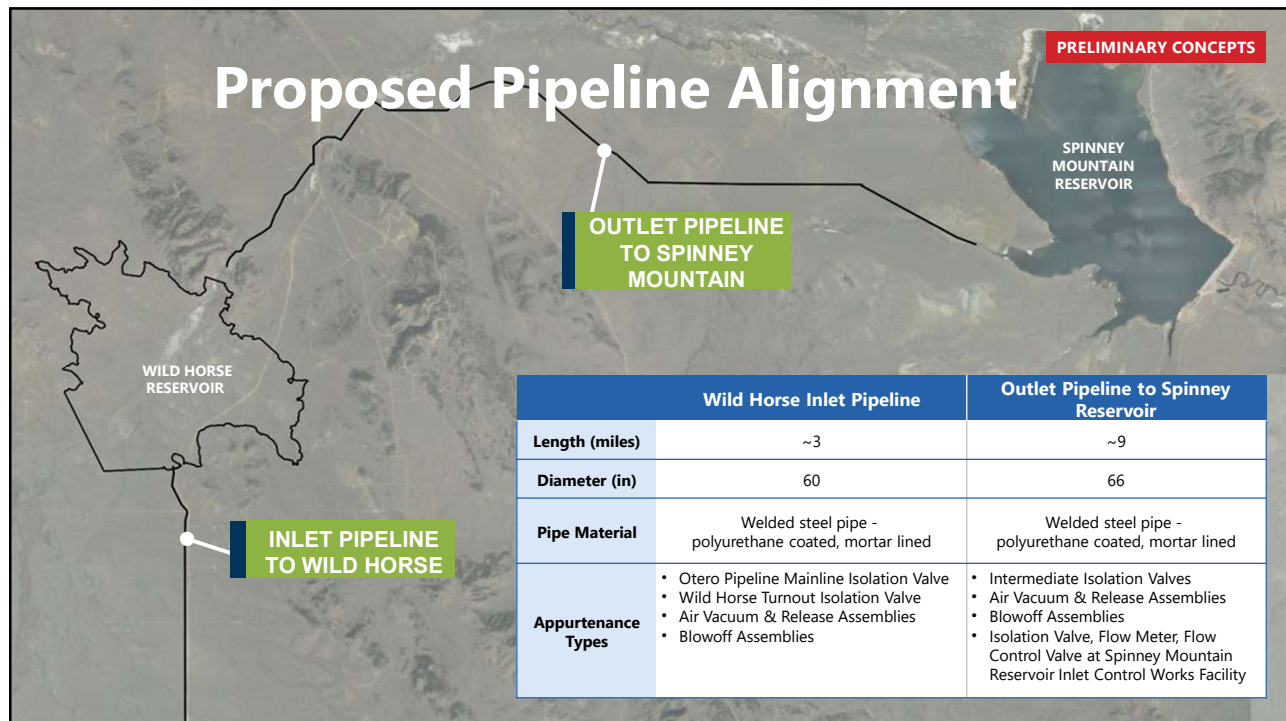
Conceptual Inlet / Outlet Works

- Inlet Works: Control valve house and ~2,500-foot-long inlet channel into the reservoir
- Outlet Works:
 - ~1,000 foot long, 78-to-96-inch dia. steel conduit either encased in RCC main dam directly, or encased in reinforced concrete in the embankment dam, or run through a ~10-foot x 10-foot tunnel
 - Reinforced concrete intake structure
 - Valve house



www.wildhorsereservoir.org

13



14

Conceptual Outlet Pipeline & Inlet Works at Spinney Mountain

- Outlet Pipeline:
 - Wild Horse Reservoir to Spinney Mountain Reservoir
 - Approximately 45,000 feet of pipeline
 - New 66-inch diameter steel pipe
 - Mortar-lined, Polyurethane-coated
 - Pipeline valves and appurtenances
- Spinney Mountain Reservoir Inlet Works:
 - Flow Control / Discharge Facility at termination to Spinney Mountain Reservoir
 - Outfall structure into the reservoir

www.wildhorsesreservoir.org



15

Conceptual Turnout & Inlet Pipeline

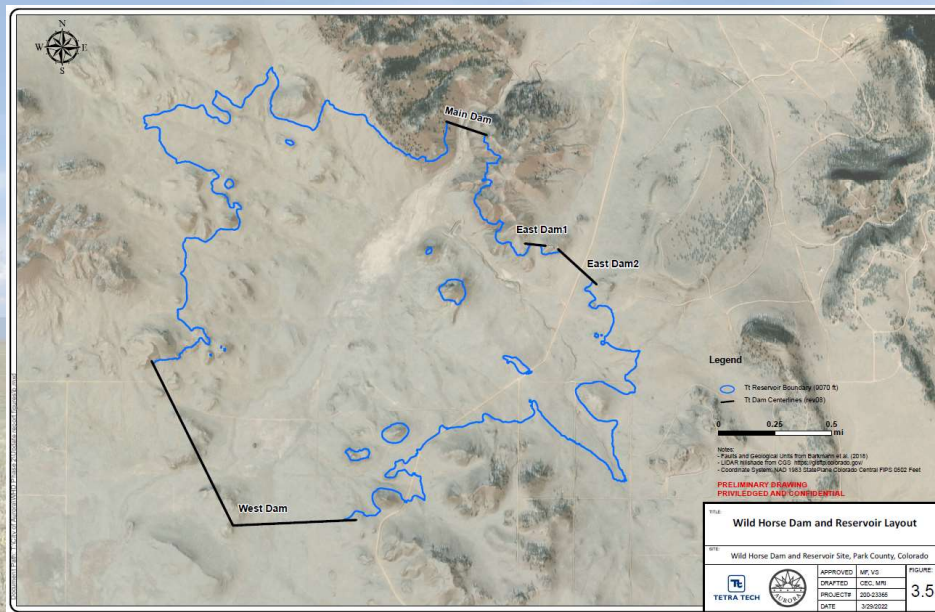
- Wild Horse Turnout:
 - Isolation valves and vaults at connection to Otero Pipeline (prestress pipeline)
- Inlet Pipeline:
 - Existing Otero Pipeline to the proposed Wild Horse Reservoir
 - Approximately 14,000 feet
 - 60-inch diameter steel pipe
 - Mortar-lined, Polyurethane-coated
 - Pipeline valves and appurtenances

www.wildhorsesreservoir.org




16

Wild Horse Reservoir Layout





17

Wild Horse Reservoir		Current Configuration
RESERVOIR FOOTPRINT		
Capacity (acre-foot)		93,000
Surface area (Acres)		1,674
Perimeter (miles)		13
DAM SPECIFICATIONS		
Dam Crest Elevation (ft)		9085
NWL & Spillway Elevation (ft)		9074
MAIN DAM		
Material		Zoned Rockfill/ RCC
Height (ft)		145
Length (ft)		975
EAST SADDLE DAM 1		
Material		Zoned Earthfill/ Rock Fill
Height (ft)		35
Length (ft)		750
EAST SADDLE DAM 2		
Material		Zoned Earthfill/ Rock Fill
Height (ft)		50
Length (ft)		1350
WEST DAM		
Material		Zoned Earthfill/ Rock Fill
Height (ft)		102
Length (ft)		7150



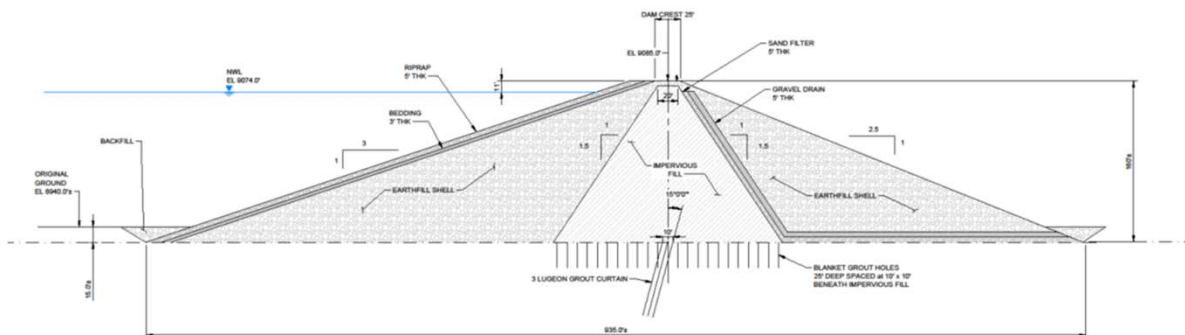
By the Numbers

www.wildhorsesreservoir.org

18

Conceptual Main Dam Configuration – Embankment



www.wildhorsereservoir.org



19

NEPA & PERMITTING PROCESS



20

Permitting



COUNTY

1041 & Other IGAs
Planning and zoning



STATE

Office of State Engineer Dam
Construction Permit

Other possible permitting
requirements:

- 122.2 Wildlife Mitigation Plan
- CDPHE Water Quality Permits
- Highway 9 crossing
- Possible amendment to Spinney Mountain State Parks Lease



Federal

NEPA process led by Bureau of
Land Management

- Section 7 consultation
- Section 106 (cultural resources)

www.wildhorereservoir.org



21

Permitting History

- Formally submitted Right of Way application to BLM-2022
- Cost recovery agreement signed with the BLM-2022
- MOU with BLM signed-2023
 - Defined process and roles and responsibilities during permitting process
 - Allowed Aurora to hire 3rd Party NEPA contractor
- BLM 3rd party NEPA hired 2023 (National Environmental Policy Act)

www.wildhorereservoir.org



22

Permitting

- NEPA process
 - Pre-NEPA activities
 - Environmental Impact Statement
- Goals and Objectives
 - Statement of justification for project
 - Focused on resilience, reliability and drought protection
- Preliminary alternatives screening
 - Possible projects that could meet goals and objective
- Raw water system model (CRAM) verification
 - Support goals and objectives
 - Stream flow analysis
- Baseline resources assessments – all alternatives
 - Cultural, hydrology, water quality, range, environmental justice, socioeconomic, geology, soils and minerals, air quality, noise, traffic and transportation, lands and realty, wetland, wildlife and vegetation
- Golden Eagle monitoring continuing

www.wildhorsesreservoir.org



23

Evaluation of Impacts

Wetlands

- No jurisdiction wetlands

Wildlife

- No federally endangered or threatened species

Vegetation

- High grassland, no forest removal

www.wildhorsesreservoir.org



24

2024 Work Plan



- Ongoing land acquisition
- Substantive geotechnical investigations
- Test quarry investigations
- Communications and messaging
- Pre-NEPA Process
- Modeling
- 30% Design of Facilities and NEPA Alternatives

25

www.wildhorsereservoir.org



25

ENGINEERING PROCESS OVERVIEW



26

30% Design — Underway

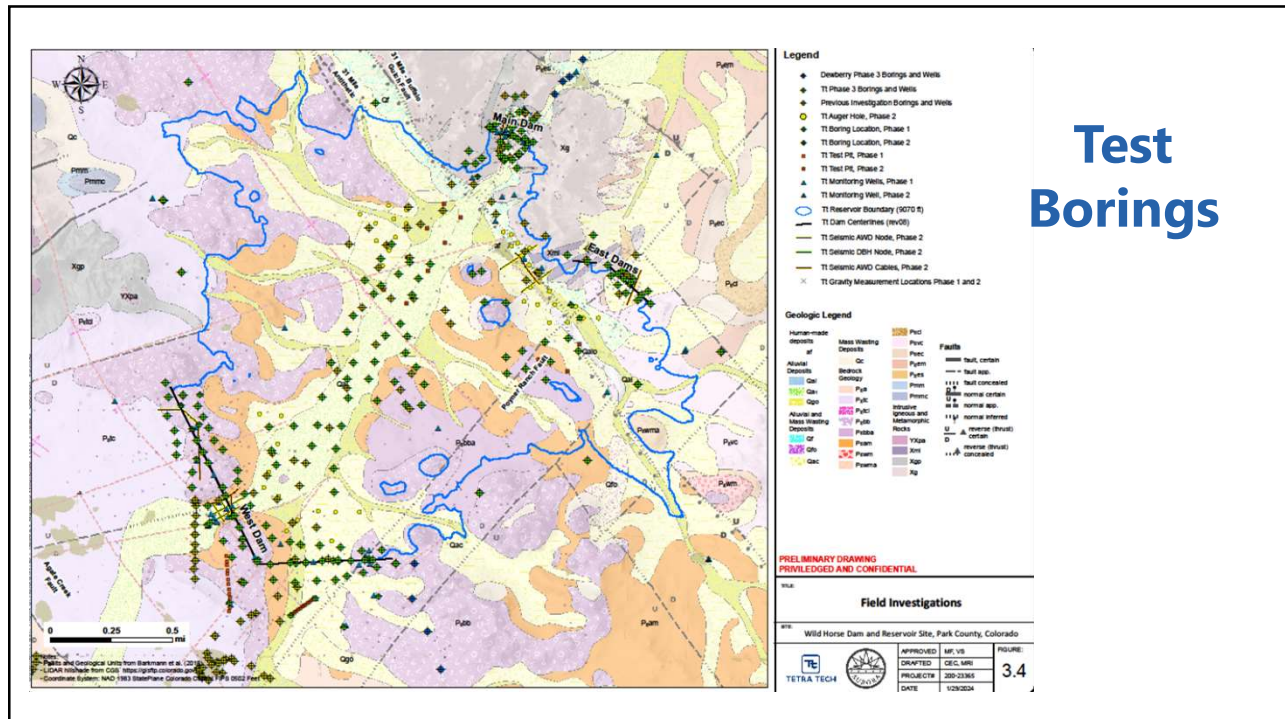


- 30% Design for pipeline, dam and reservoir
- CM/GC Contractor selected to provide design assistance to engineering team — City Council to review contract in April
- 2023 Field Investigation - Borehole locations and LOA documents for Geotechnical Investigations
 - 20,000 lf of drilling completed for Dams, Reservoir and Pipeline
 - 243 boreholes drilled along with 15 observation wells
 - Geophysical work completed
- 30% Design Work scheduled to be complete around mid-2024
- 2024 Field Investigation – Test Quarry locations and LOA documents for Geotechnical Investigations



www.wildhorsesreservoir.org

27



28



29

Financial

Wild Horse Reservoir Projected Costs

Overall Construction Estimate	\$700-800M
Construction Period (Approximate)	5 years
Annual Estimate	\$140-\$200M/year

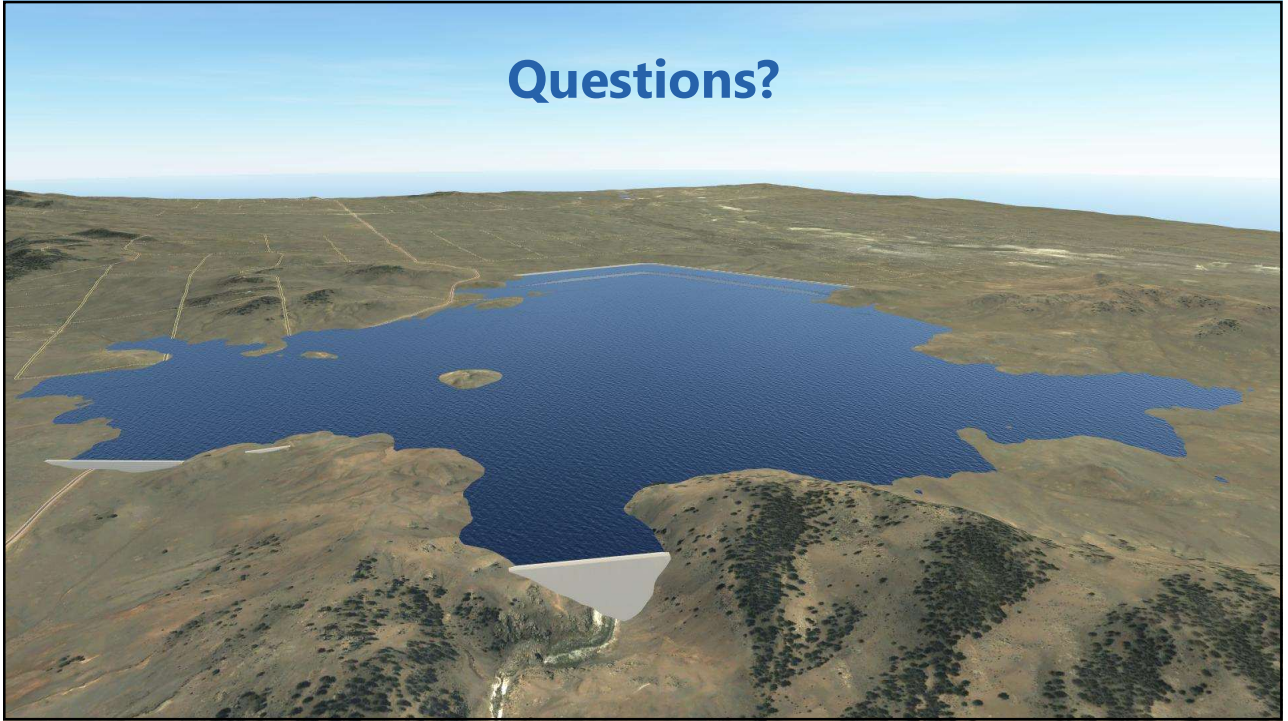
Funding is expected to be generated through a combination of:

- Federal Loan Programs
- Debt

www.wildhosereservoir.org

30

Questions?



31