



**A CONTINUED MEETING OF  
THE CITY COUNCIL  
*June 9, 2025, 12:00 Noon*  
Library Community Room**

**AGENDA**

**A. CALL TO ORDER**

**\*\*\*THE FOLLOWING ITEM IS CONSIDERED AN ACTION ITEM:**

1. Water Comprehensive Plan/Rate Study Presentation – Kyle Marine Water Department Director
2. Council Q &A

**B. ADJOURNMENT**

## CITY COUNCIL STAFF REPORT

**DATE:** June 9, 2025

**FROM:** Kyle Marine, Water Department Director

**SUBJECT:** Water Rates and Capitalization Fees

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**DECISION POINT:** Council should provide feedback to Staff regarding the implementation of the Rate and Capitalization Fee Study.

**HISTORY:** As the City continues to grow, water usage and availability remain at the forefront of system development and expansion. The Water Comprehensive Plan estimates average growth rates and schedules new production and storage facilities accordingly. However, irrigation requirements are difficult to quantify, so timelines must remain flexible to accommodate fluctuations in economic conditions, system demand, and construction timing. Over the past several years, Administration and Water Department staff have discussed rising concerns about increasing water usage, particularly related to irrigation use and green spaces. Facilities used for peak irrigation often sit idle two-thirds of the year. Prior rate studies implemented stepped rate structures to curb irrigation use and promote more efficient practices, but those measures have not effectively reduced consumption. Irrigation accounts for nearly 75% of summer water production, running from mid-to-late May through September. While we currently meet overall daily demands, peak hourly irrigation loads in the early morning exceed our system's instantaneous pumping capacity, drawing heavily on our 8-million-gallon storage capacity. With continued growth, we are required to install new infrastructure and upgrade distribution systems to meet current and future demand. Historically, the Water Department has managed capital improvements without taking on debt. However, the significant rise in construction costs over the last several years has outpaced our capitalization fees, requiring a re-evaluation of our funding model for upcoming projects.

**FINANCIAL ANALYSIS:** Constructing public water infrastructure is becoming significantly more expensive. A new well costs approximately \$2.5 to \$3.5 million and takes 3 to 5 years to bring online and drinking water storage ranges between \$5 to \$9 per gallon, meaning a 1-million-gallon tank may cost \$5 to \$9 million, depending on site-specific conditions. Acquiring new sites is also increasingly difficult unless integrated with new developments like Coeur Terre. A loan for a \$6.7 million drinking water tank is likely unavoidable. The tank pad design is currently in progress, and the \$6.7 million cost will require taking out a \$4–5 million loan in 2026 to help fund this tank. Detailed cash flow and payout timelines for these debt scenarios are included in the attached spreadsheet.

In response to these increasing demands, we are proposing a water rate increase annually for the next five years. This action would:

- Provide stable revenue for both operations and capital projects.
- Offset the need for deeper cuts or deferred infrastructure investments.
- Allow us to maintain service reliability while supporting growth.

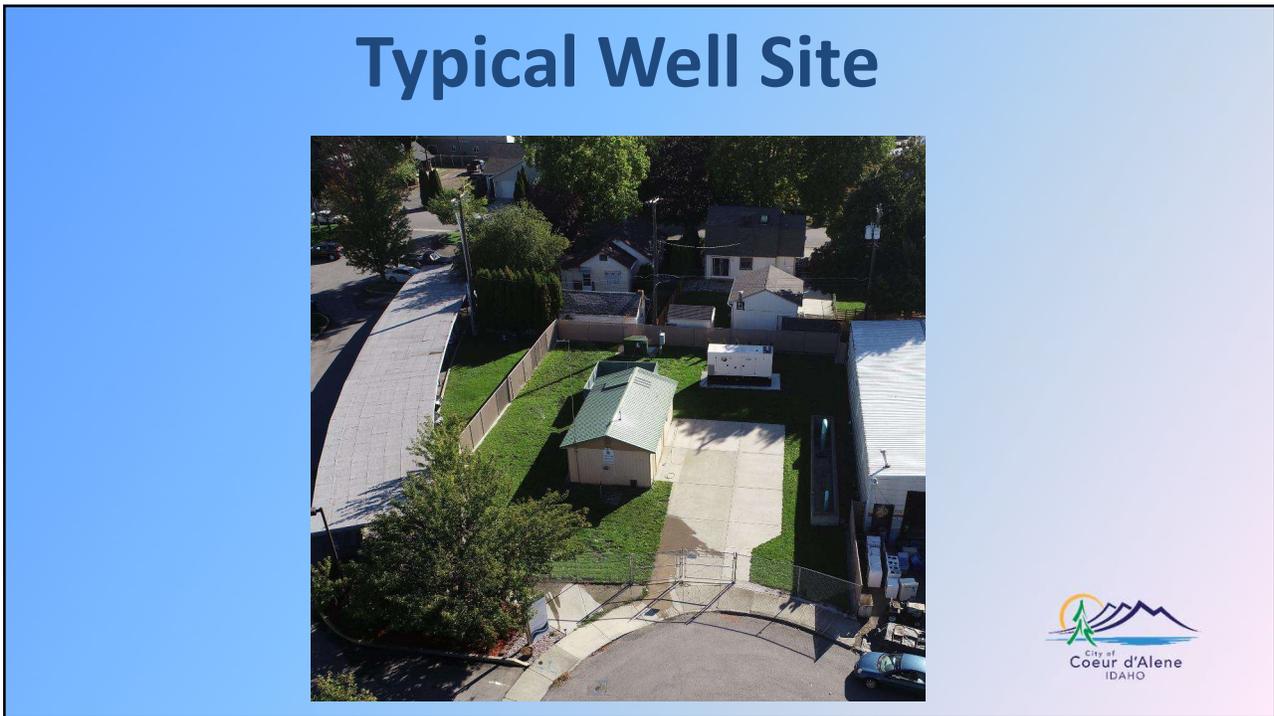
The Water Department worked with FCS to develop three financial scenarios showing the required capital cost, reductions in capital improvement projects, and projected rate increases associated with each option.

**PERFORMANCE ANALYSIS:** The most pressing issue is that current water rates are not sufficient to cover long-term infrastructure replacement costs. For example, a typical single-family dwelling currently pays a base rate of approximately \$11 per month. Considering the 50 to 75-year life expectancy of a standard 1” service line, the revenue generated over its lifespan will not be enough to cover the cost of replacing that service line once it fails. This does not include the cost of replacing the associated water mains. Usage-based charges help fund ongoing system needs such as well maintenance, reservoir operations, water main replacements, meter replacement, energy costs, and other essential maintenance activities. However, these revenues are increasingly strained by additional infrastructure demands, requiring dedicated wells to meet excessive irrigation use. Turf grass alone requires a minimum of 1 inch of water per week, or about 27,500 gallons per acre, just to remain green. Unfortunately, most irrigation systems are only 30% to 40% efficient, leading to significant waste due to inefficient design, mismatched sprinkler heads, system leaks, and evaporation from daytime watering. As infrastructure and operational costs continue to rise, the current funding model is not sustainable. The system cannot continue to sustain itself or expand without either significant upgrades to infrastructure or major changes in customer usage behavior, particularly in reducing inefficient irrigation.

**DECISION POINT / RECOMMENDATION:** Council should provide staff feedback regarding fee scenarios to be included in the July 15, 2025, fee public hearing, with an effective date of August 1, 2025.



1



2

## Some of the hand tools we use.



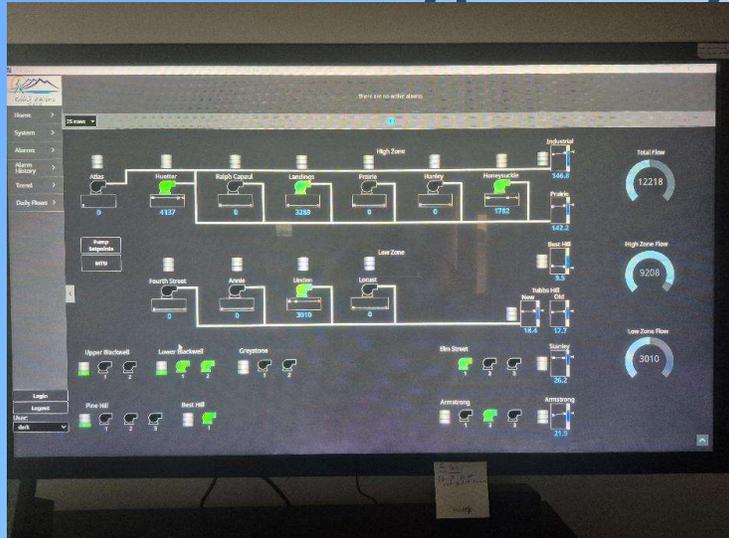
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## Some of the equipment we use.



4

# SCADA on a typical day.



Supervisory Control and Data Acquisition



5

# Summer use in the morning.



6

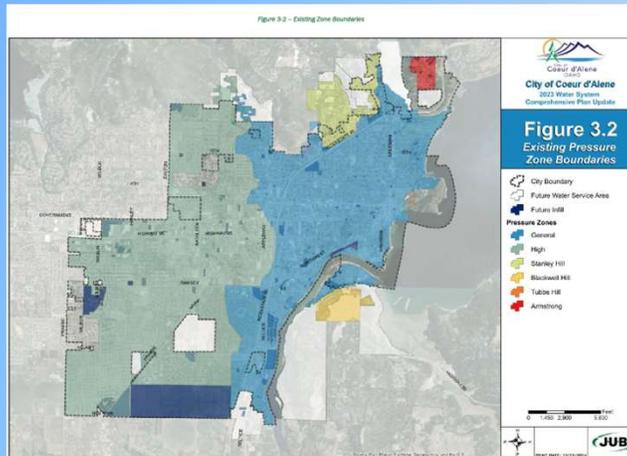
# 11 Wells

Well No.	Original Well Test		Present Pump & Motor	Pump Rated Capacity		Peak Operating Points			Auxiliary Power
	Flow (gpm)	Drawdown (feet)		Flow (gpm)	Head (feet)	Flow (gpm)	System Pressure (psi)	Well Drawdown (feet)	
1. Atlas	6,000	23.2	600 hp Worthington Model 15HM410-7, 7-stage deep well turbine	4,000	420	4,150	53	14.5	750 KW Diesel Generator
2. 4 <sup>th</sup> St.	3,500	20.1	400 hp Flowserve, 4 Stage Vertical Turbine	3,000	361	3,600	53	13.0	None
3. Hanley	6,000	5.75	800 hp Peerless deep well turbine pump	3,500	440	3,600	65	5.0	None
4. Honeysuckle	2,500	N/A	250 hp Goulds Model 14RJ-DWT, 5-stage deep well turbine	2,000	375	2,000	80	12	None
5. Linden	3,100	10.7	350 hp Flowserve 15EHM 4 Stage deep well turbine	3,000	360	3,200	65	13.5	600 kW diesel generator
6. Locust	3,700	5.9	350 hp Peerless Vertical Turbine 14HH 7 stage deep well turbine	3,200	337	2,800	55	4.0	None
7. Landings	3,500	14	500 hp Flowserve Model 15EHM/15HZ77, 5-stage deep well turbine	3,000	512	3,450	65	10	None
8. Prairie	4,000	1	500 hp Flowserve 16 ENL 6 stage deep well turbine	3,700	450	3,500	59	6.0	600 KW Diesel Generator
9. Annie	2,500	93	350 hp Peerless Model 16HVB, 5-stage deep well turbine	2,500	429	2,180	65	25.0	400 KW Diesel Generator
10. Ralph Capaul	4,000	-	600 hp Flowserve, 5 Stage Vertical Turbine	4,000	461	4,300	68	3.0	600 KW Diesel Generator
11. Huetter	4,000	-	800 hp Flowserve, Vertical Turbine	4,000	452	4,200	68	2.0	750 KW Diesel Generator
<b>Total</b>	<b>42,800</b>			<b>35,900</b>		<b>36,980</b>			



7

# 7 Different Pressure Zones



8

# 7 Booster Stations

Booster Station	Suction Pressure Zone	Discharge Pressure Zone	Operating Characteristics			Notes
			Pump No.	HP	Capacity (gpm)	
1 Elm Street	General	Stanley	1	20	200	230
			2	50	500	230
			3	20	200	230
2 Blackwell Hill - Lower Blackwell Hill - Upper	General	Blackwell	1	20	90	
			2	20	120	
			3	20		
			1 & 2	3	53.3	
3 Tubbs Hill	General	Tubbs Hill	1	1.5	30	158
			2	1.5	30	158
			3	1.5	30	158
4 Armstrong Park	General	Armstrong Park	1	50	220	560
			2	50	220	560
5 Best Hill	General (Best Hill Tank)	General	1	50	2,000	60



9

# 7 Tank Sites

*Table 3-3 - Summary of Existing Storage*

Storage Tank	Capacity (MG)	Operating Characteristics			
		Overflow Elevation (MSL)	Height (feet)	Pressure Zone	Type of Tank
1 Best Hill	2.0	2,355.35	31.85	General	Ground Level (steel)
2 Tubbs Hill	2.0	2,355.35	24	General	Ground Level (concrete)
	1.0	2,355.35	24	General	Ground Level (steel)
3 Prairie Standpipe	2.0 <sup>(a)</sup>	2,430.5	156.5	High	Standpipe (steel)
4 Industrial Standpipe	2.0 <sup>(a)</sup>	2,430.50	160	High	Standpipe (steel)
5 Stanley Hill	0.2	2,540.22	31	Stanley	Ground Level (steel)
6 Blackwell Hill	0.012	2,400 <sup>(a)</sup>	10	Blackwell	Ground Level (concrete)
7 Armstrong Park	0.16	2,882 <sup>(a)</sup>	32	Armstrong Park	Ground Level (steel)
<b>Total</b>	<b>9.2 <sup>(a)</sup></b>				



10

# 318 Miles of Pipe

Material	Pipe Length Diameter										Total (miles)
	< 6" (miles)	6" (miles)	8" (miles)	10" (miles)	12" (miles)	14" (miles)	16" (miles)	18" (miles)	20" (miles)	24" (miles)	
AC	5.1	49.9	24.6	2.2	19.5	0.6	1.1				103.0
Ductile	0.2	1.5	0.2		1.3	0.2	0.1	0.2	0.5	3.3	7.5
Galvanized	2.5										2.5
PVC	3.5	30.9	106.7	4.8	50.4		3.2	0.8			200.2
Steel	1.6	1.9	0.3		0.2						4.0
Other	0.6	0.2									0.8
<b>Total</b>	<b>13.54</b>	<b>84.4</b>	<b>112.3</b>	<b>7.0</b>	<b>71.3</b>	<b>0.8</b>	<b>4.4</b>	<b>1.0</b>	<b>0.5</b>	<b>3.3</b>	<b>318.0</b>



11

# \$900,000 in power cost a year to run the wells and boosters.



12

## 21,000 connections



**\$7,000 to \$10,000 to replace ¾” services. 75-year Life Expectancy.**



13

**4,473 services between 50 & 75 years**  
**2,270 services over 75 years**



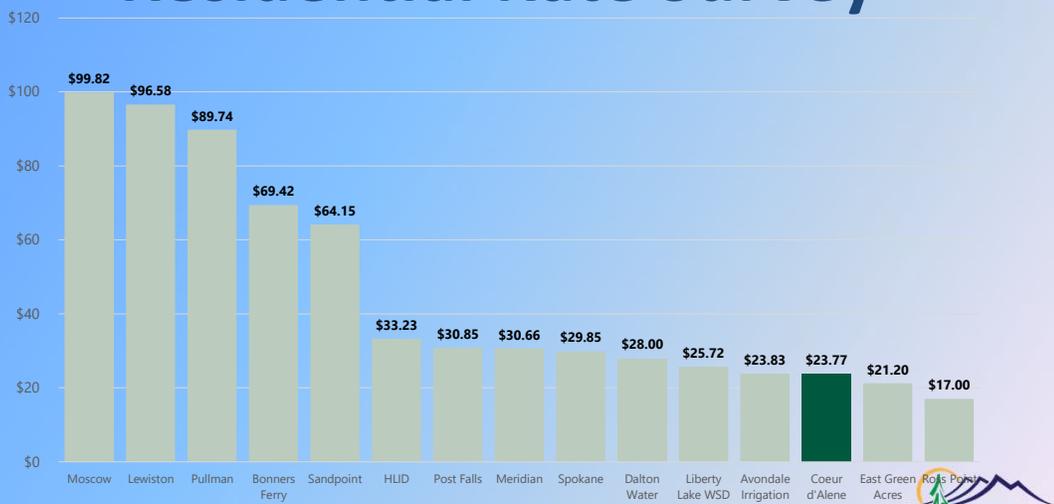
14

# Or more \$\$ for unexpected issues...



15

# Residential Rate Survey



Note: Assumes 3/4" meter and 12 kgals monthly



16

# Revenue Requirement Scenarios

- Scenario 1: Funding the full capital plan:

Sample Bill	Existing	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
<b>Proposed Increases</b>		<b>22.00%</b>	<b>22.00%</b>	<b>22.00%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>2.00%</b>	<b>0.00%</b>
Sample Residential Monthly Bill	\$23.77	\$29.00	\$35.38	\$43.16	\$44.03	\$44.91	\$45.80	\$46.72	\$46.72
\$ Difference		\$ 5.23	\$ 6.38	\$ 7.78	\$ 0.86	\$ 0.88	\$ 0.90	\$ 0.92	\$ -

Note: Assumes 3/4" meter and 12 kgals monthly

Funds the full \$84.3M capital plan

- Scenario 2: Funding a reduced capital plan:

Sample Bill	Existing	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
<b>Proposed Increases</b>		<b>8.60%</b>							
Sample Residential Monthly Bill	\$23.77	\$25.81	\$28.03	\$30.45	\$33.06	\$35.91	\$38.99	\$42.35	\$45.99
\$ Difference		\$ 2.04	\$ 2.22	\$ 2.41	\$ 2.62	\$ 2.84	\$ 3.09	\$ 3.35	\$ 3.64

Note: Assumes 3/4" meter and 12 kgals monthly

Removes \$16.0M in near-term capital costs (\$68.3M funded)



17

# Capitalization Fees – 3 Year Phase In Proposed

- Fee would be phased in to updated charge level by year 3, based on schedule below:

Meter Size	Existing	FY 2026	FY 2027	FY 2028	% Increase		
					FY 2026	FY 2027	FY 2028
3/4"	\$ 3,348	\$ 4,911	\$ 7,367	\$ 9,823	47%	50%	33%
1"	5,593	8,202	12,303	16,404	47%	50%	33%
1.5"	11,150	16,354	24,532	32,709	47%	50%	33%
2"	17,847	26,177	39,265	52,354	47%	50%	33%
3"	35,728	52,403	78,605	104,806	47%	50%	33%
4"	55,820	81,871	122,806	163,741	47%	50%	33%
6"	111,604	163,692	245,538	327,384	47%	50%	33%
8"	178,575	261,917	392,876	523,834	47%	50%	33%
10"	256,727	376,546	564,819	753,092	47%	50%	33%



18

# Cap Fees Pay for Growth



19

# It also pays for transmission mains.



20



## S2: Reduced Capital Plan - Risks

Cut Project	Year	Cost	Risk
Upper Zone Water Supply	FY 2026	\$2,240,000	Could slow city growth
New meters/hydrants/lines	FY 2026	\$400,000	Less maintenance now, bigger repairs later
Fixing miscellaneous system areas	FY 2026	\$500,000	More failures/higher cost in future
High Zone Transmission Main	FY 2027	\$3,370,000	Water pressure issues could continue
Repainting Prairie Standpipe	FY 2027	\$600,000	Tank lifespan will be shorter, more expensive later
New meters/hydrants/lines	FY 2027	\$330,000	Less maintenance now, bigger repairs later
Fixing miscellaneous system areas	FY 2027	\$400,000	More failures/higher cost in future
Pump waste rerouting	FY 2029	\$50,000	Could cause stormwater flooding
Water rights	FY 2029	\$55,000	Without a well built, won't be needed
High Zone Water Pipe	FY 2029	\$6,220,000	Could cause supply problems/water restrictions
New meters/hydrants/lines	FY 2029	\$175,000	Less maintenance now, bigger repairs later
Government Way Piping	FY 2030	\$1,670,000	I-90 bridge will need this at some point
<b>TOTAL</b>		<b>\$16,010,000</b>	



23

## 5- Year Capital plan-Risk detail 2026

- FY 2026 – Goal: Save \$3.6M
- Projects to Delay or Cut:
- Upper Zone Water Supply – \$2.24M (Project S-1)
  - *Impact if delayed:* Will slow down city growth due to insufficient ERUs for new homes and businesses.
- New Meters, Hydrants, and Service Lines – \$400K
  - *Impact if delayed:* Reduces maintenance now, but leads to higher repair costs later. This cuts the Water Department’s maintenance budget to \$100,000 in 2026.
- Miscellaneous System Repairs – \$500K
  - *Impact if delayed:* Our \$1.3M water main replacement budget will be reduced. Deferring this will result in more system failures and higher long-term costs.
- Total Savings Identified: \$3.14M  
 Shortfall: \$460K (some projects already underway and cannot be delayed)



24

## 5- Year Capital plan-Risk detail 2027

- FY 2027 – Goal: Save \$4.7M
- Projects to Delay or Cut:
- High Zone Transmission Main – \$3.37M (Project D-2)
  - *Impact if delayed:* Designed to improve pressure and flow in the north and northeast areas. Delaying will prolong existing pressure issues.
- Repainting Prairie Standpipe – \$600K
  - *Impact if delayed:* Reduces tank lifespan and increases risk of major future repairs.
- New Meters, Hydrants, and Service Lines – \$330K
  - *Impact if delayed:* Immediate budget savings, but reduces 2027 maintenance budget to \$170,000 and increases future repair costs.
- Miscellaneous System Repairs – \$400K
  - *Impact if delayed:* Reduces the \$1.3M water main replacement budget to \$900K. Increases risk of emergency failures.
- Total Savings Identified: \$4.7M



25

## 5- Year Capital plan-Risk detail 2029

- FY 2029 – Goal: Save \$6.5M
- Projects to Delay or Cut:
- Pump Waste Rerouting – \$50K
  - *Impact if delayed:* Waste from three wells continues entering the stormwater system, stressing the US-95 swale. May cause flooding or increased stormwater maintenance.
- Water Rights – \$55K
  - *Impact if delayed:* Water rights are only needed if new wells are added. If no new wells are funded, this can be postponed.
- High Zone Water Pipe – \$6.22M (Project D-3) also know as the 18” connector.
  - *Impact if delayed:* This choke point affects flow between Prairie and Industrial standpipes. Delaying may lead to supply issues or water restrictions.
- New Meters, Hydrants, and Service Lines – \$175K
  - *Impact if delayed:* Reduces maintenance budget to \$325,000 in 2029. Leads to more failures and repair costs long-term.
- Total Savings Identified: \$6.5M



26

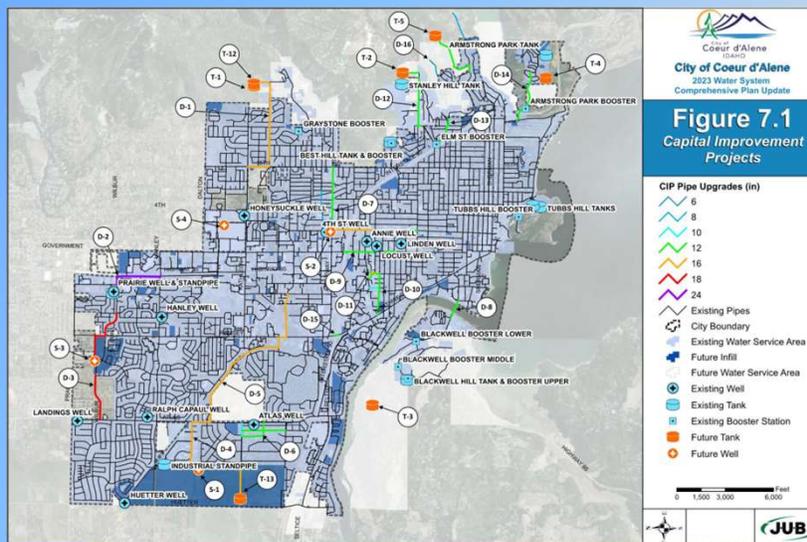
# 5- Year Capital plan-Risk detail 2030

- FY 2030 – Goal: Save \$1.5M
- Projects to Delay or Cut:
  - Government Way Piping – \$1.67M
    - *Impact if delayed:* This project supports I-90 upgrades through CDA. Delays could increase costs and risk water service issues. (Project follows ITD’s proposed timeline.)
- Total Savings Identified: \$1.67M  
Extra Funds Available: \$170K



27

# Capital Improvement Projects Map



28

# ERU

## What is an ERU (Equivalent Residential Unit)?

An ERU is a unit of measurement used to represent the average water demand of a typical single-family home with a standard meter. In our city, we calculate ERUs by averaging peak day water demand over the last five years, using data from existing customers and adjusting for meter size. This helps ensure fair allocation of water system capacity. DEQ limits how many ERUs we can sell based on what our current system can support, to protect long-term water availability and service reliability to existing customers.



29

- 8 of our system's core assets are over 50 years old.
- They've lasted this long thanks to rigorous maintenance and a dedicated staff who have worked hard to keep everything running smoothly.
- 3 well sites now need structural and cosmetic repairs. Without proper funding, these repairs will be delayed.
- 3 booster stations are approaching the end of their service life — we're already seeing performance issues with 2 of them.
- 2 storage tanks are also over 50 years old and will begin to fail without continued maintenance.
- To maintain safe, reliable service for our community, we must invest in these aging systems.



30

**Questions?**

