



City Council Agenda
Work Session
City Council Chambers, City Hall, 612 N. Main Street
January 30, 2023

- 1. 5:30 PM Call to Order**
- 2. Pledge Of Allegiance**
- 3. Work Session Discussion Topics:**
 - **Utility Rate Review Presentation**
 - **Secondary Water Source Discussion**
 - **Other**
- 4. Adjourn no later than 7:30 PM.**

Individuals with disabilities who require special assistance to take part in this meeting may contact one of the following at City Hall (605) 995-8420 at least 24 hours prior to the meeting with requests for assistance: Human Resources Officer or the City Administrator.

Water and Wastewater Rate Study

Council Workshop
January 30, 2023



Overview of the Presentation



Purpose of the Study



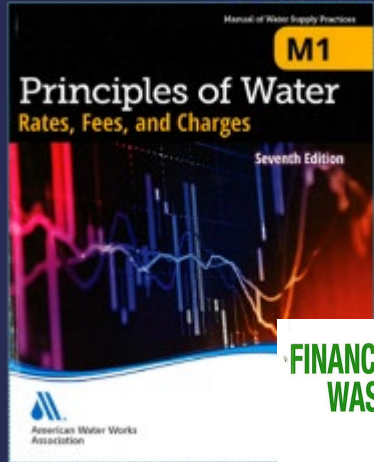
Overview of the Rate Study Process



Draft Water and Wastewater Results



Summary & Next Steps



**FINANCING AND CHARGES FOR
WASTEWATER SYSTEMS**



wef Manual of Practice No. 27
FOURTH EDITION

Rate Study Purpose

- Provide sufficient revenue to operate and maintain the City's water and wastewater infrastructure
- Develop equitable, cost-based rates to reflect usage and facility requirements
- Provide financial planning:
 - Adequate renewal and replacement funding
 - Maintain target minimum reserves
 - Meet debt coverage requirements
- Use generally accepted methodologies tailored to the City's systems and customer characteristics

Cost-Based Rates

Revenue Requirement

Compares the revenue of the utility to the expenses to evaluate the level of overall rates



Cost of Service

Distributes the revenue requirement between the customer classes of service



Rate Design

Design rates for each class of service to meet the revenue needs of the utility, along the cost of service results and other rate design goals and objectives

Revenue Requirement



Revenue Requirement Overview

Compares utility revenues to expenses

- Determines the level of rate revenue adjustment necessary

Uses prudent financial planning criteria

- Adequate funding of renewal and replacements
- Maintaining sufficient ending reserve balances

Reviews a specific time period

- Typically five-to-ten-year period
- Rate Setting is often 2 – 5 years

Utilities is analyzed on a “stand-alone basis”

- No transfer from other City funds
- Rates need to support operations and capital

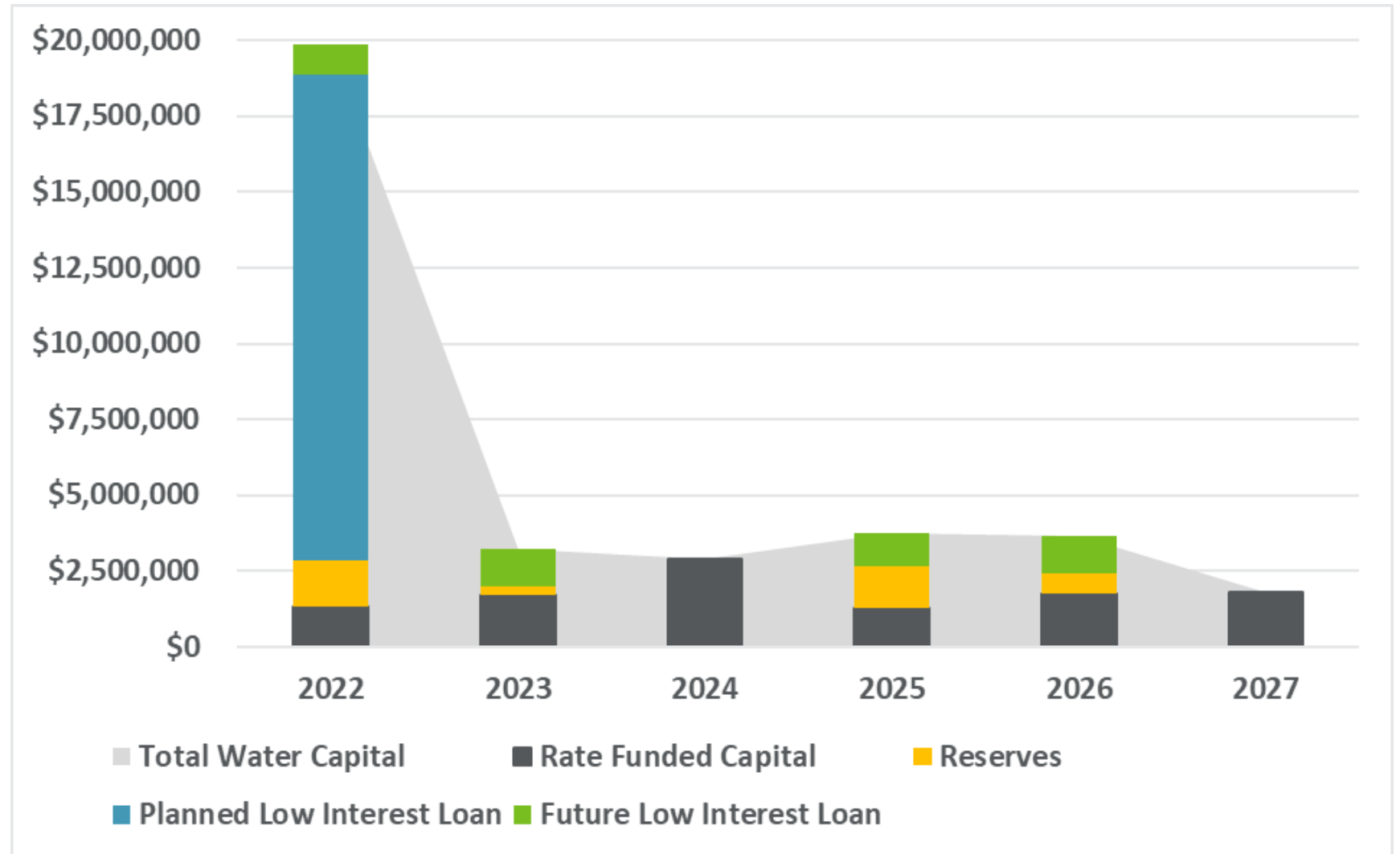
Utilizes the “cash basis” methodology

- Generally accepted method for municipal utilities

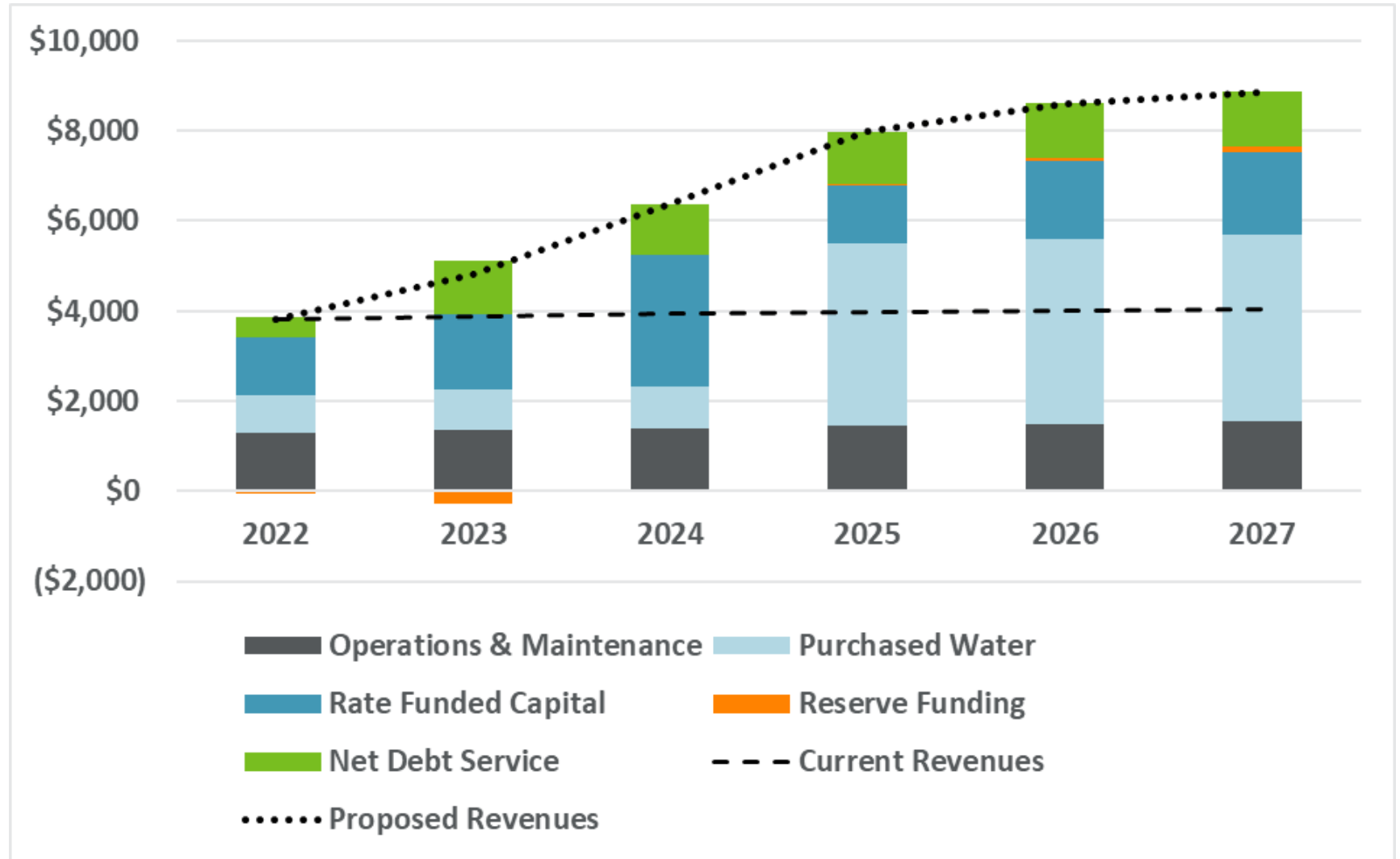
Key Assumptions

- Revenues independently calculated based on customer characteristics for each utility
- Expenses based on 2022 budgets for each utility
 - Projected through 2032 based on annual inflationary factors
 - Wastewater includes additional O&M for treatment expansion/improvements
 - Water includes future purchased water contract with Randal Rural Water (2025)
- Capital funding plan addresses need for:
 - Renewal and replacement
 - System betterments
 - System expansion
- Assumes long-term borrowing for a portion of capital needs
 - Low interest loans (SRF) annually 2022-2026

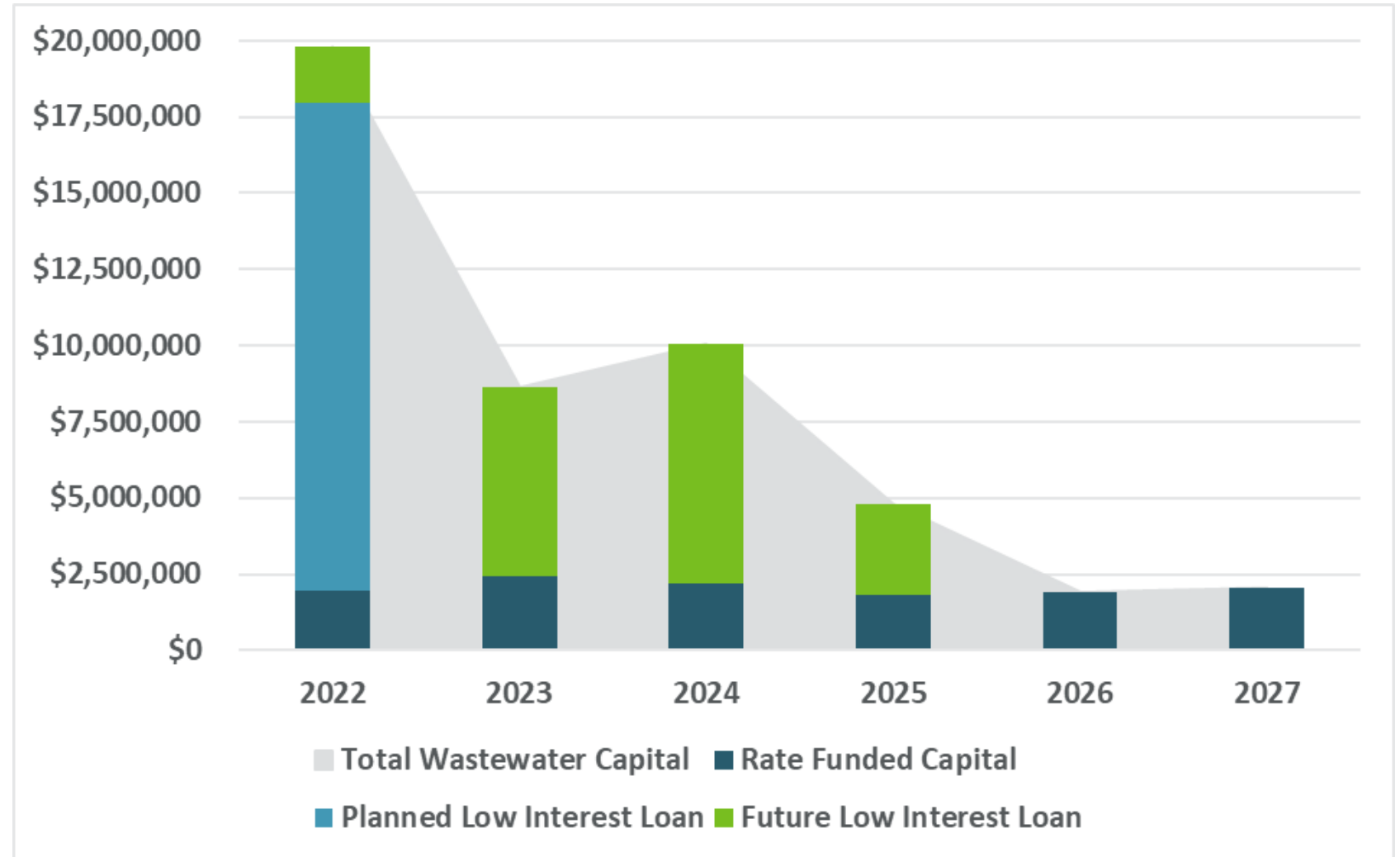
Capital Plan Water Summary



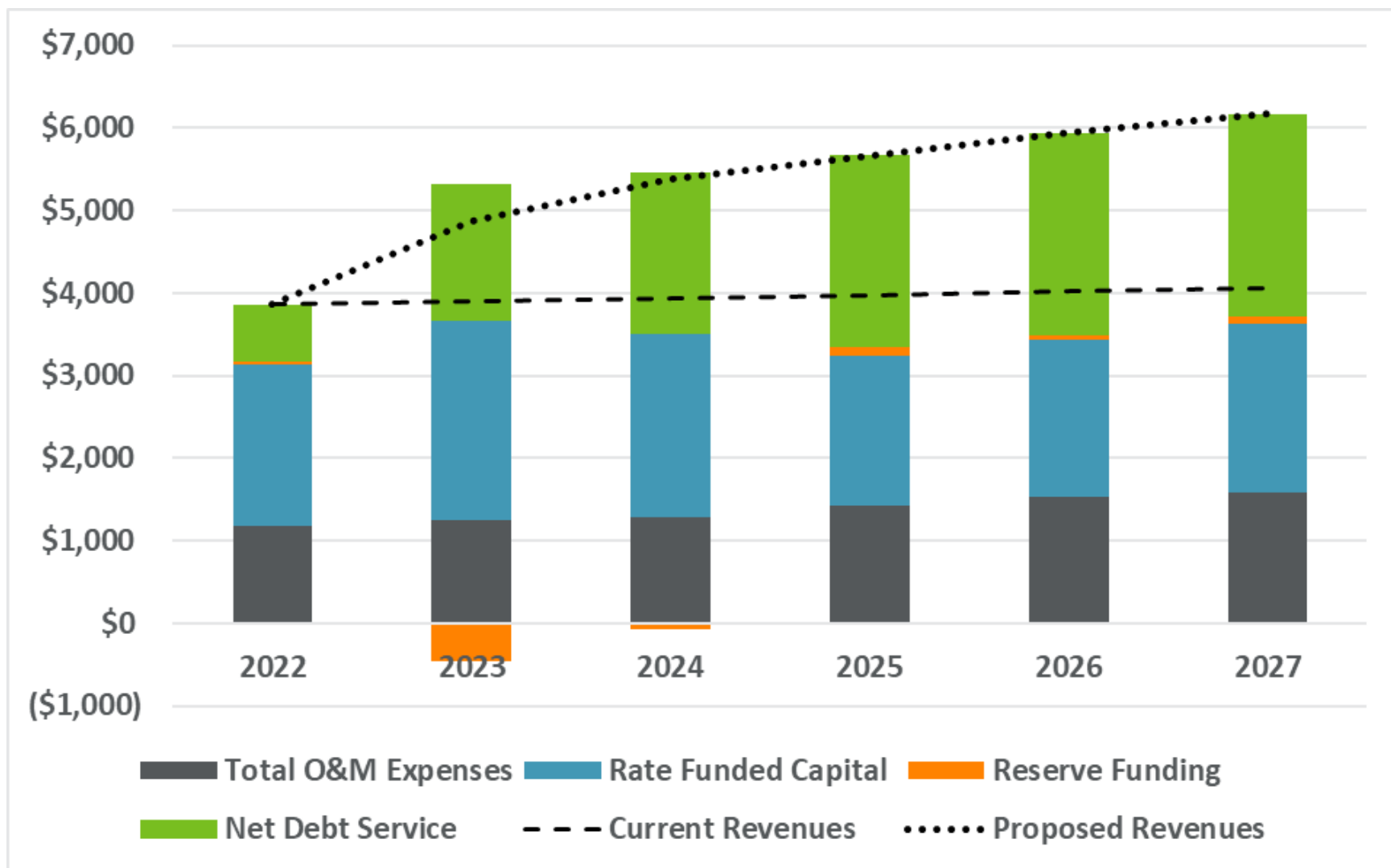
Revenue Requirement Water Summary



Capital Plan Wastewater Summary



Revenue Requirement Wastewater Summary



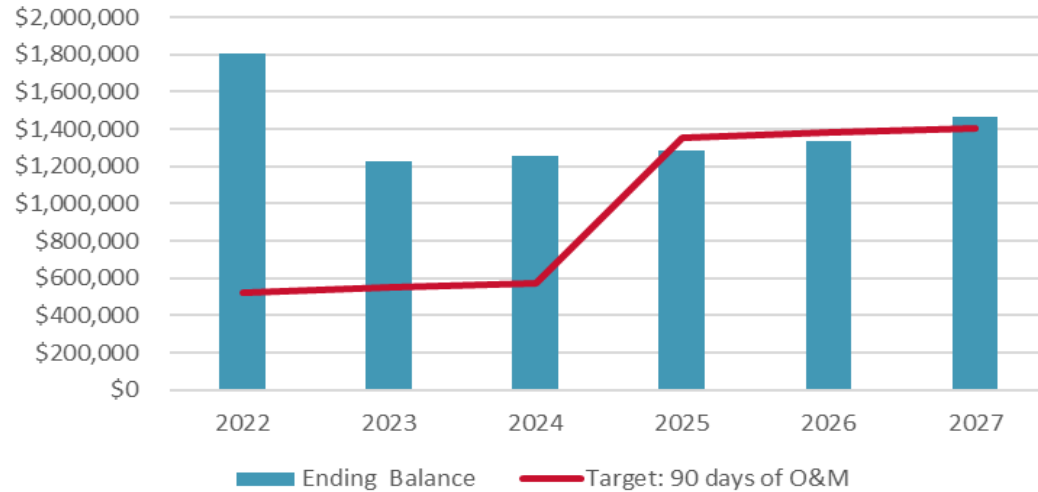
Revenue Requirement Summary

- Annual rate adjustments are necessary to fund water and wastewater utilities
 - **O&M** – inflationary impacts, future additional wastewater O&M, and future purchase water costs
 - **Capital** –funding for annual renewal and replacements and betterments
 - **Reserves** – maintain adequate funds to support cash flow, capital, and emergencies
 - Maintain adequate **financial metrics** needed to issue long-term debt

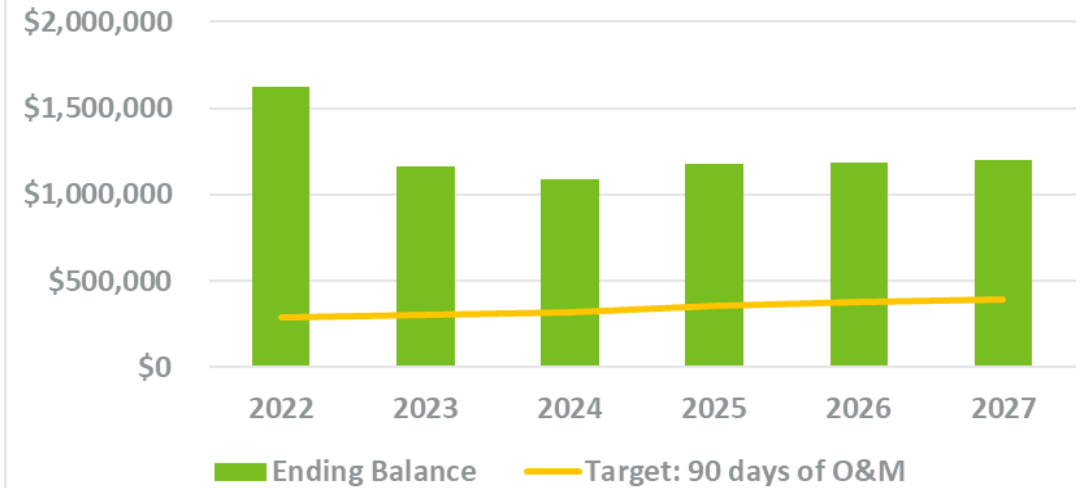
	2022	2023	2024	2025	2026	2027
Water						
Avg Customer Bill ¹	\$38.26	\$49.55	\$62.68	\$77.72	\$83.16	\$84.82
Monthly Change		\$11.29	\$13.13	\$15.04	\$5.44	\$1.66
Wastewater						
Avg Customer Bill ²	\$39.01	\$51.49	\$54.33	\$56.77	\$59.04	\$60.81
Monthly Change		\$12.48	\$2.83	\$2.44	\$2.27	\$1.77
1 – Service Charge + 7 CCF 2 – Service Charge + 5 CCF						

Summary of Reserves

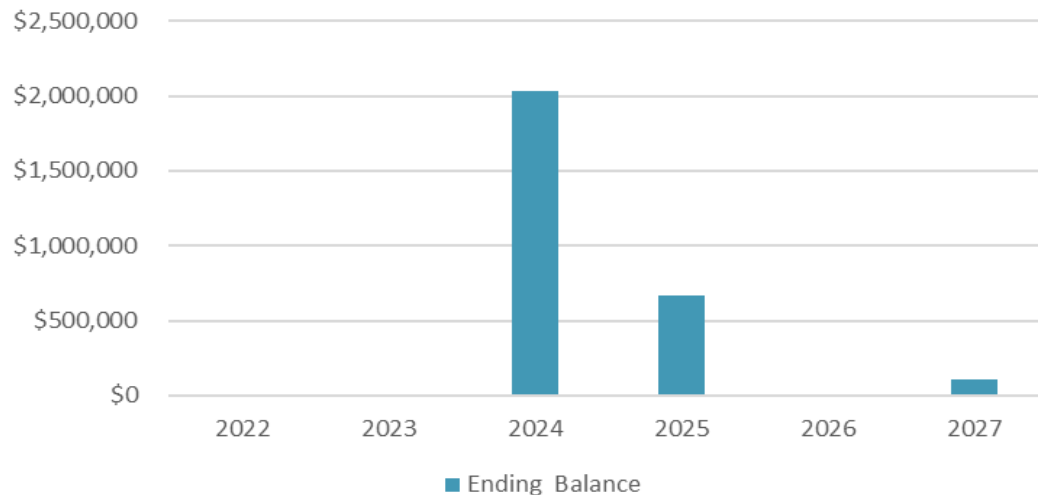
Water Operating Ending Reserves



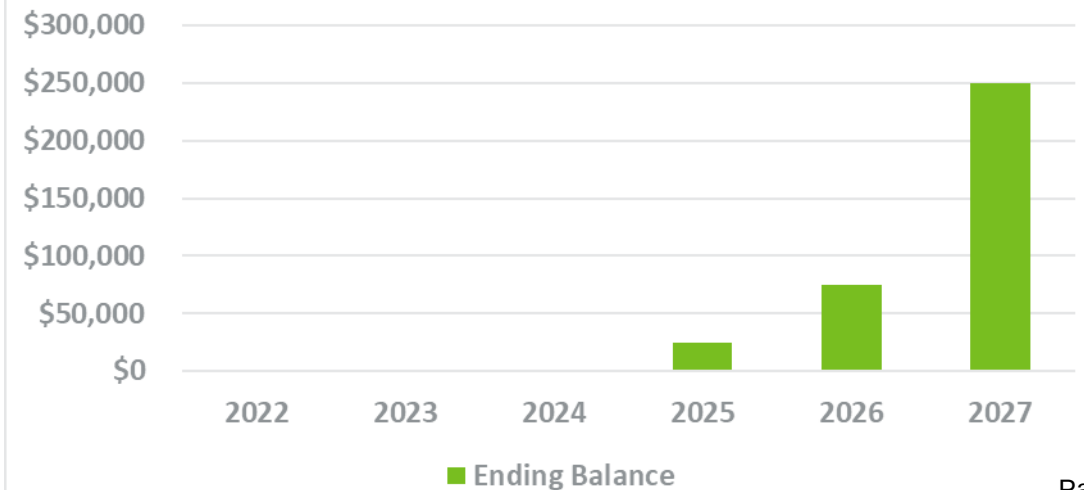
Wastewater Operating Ending Reserves



Water Capital Ending Reserves



Wastewater Capital Ending Reserves



Cost of Service



Cost of Service – Overview

What is cost of service?

- Analysis to proportionally distribute the revenue requirement to the customer classes of service of each utility

Why cost of service?

- Generally accepted as “fair and equitable”
- Avoids subsidies
- Revenues reflect costs

Objectives of cost of service

- Determine if subsidies exist
- Develop average unit costs for rate designs

Cost of Service Summary

- Key water rate drivers:
 - System and customer class average and peak consumption characteristics
 - Allocated and distributed costs to reflect service levels
 - Minimal differences in the cost of service
 - Current rate structure reflects costs incurred by each customer class
 - Recommend equal adjustments to all customer classes
- Key wastewater rate drivers:
 - Annual average wastewater volumes
 - Only allocated and distributed treatment related costs to industrial wastewater customers (no distribution facilities/costs)
 - Industrial customers reflect facility requirements
 - Wastewater results show a larger adjustment is needed for commercial customers to reflect actual costs
 - Recommend cost of service adjustments for each customer class of service

Cost of Service Summary

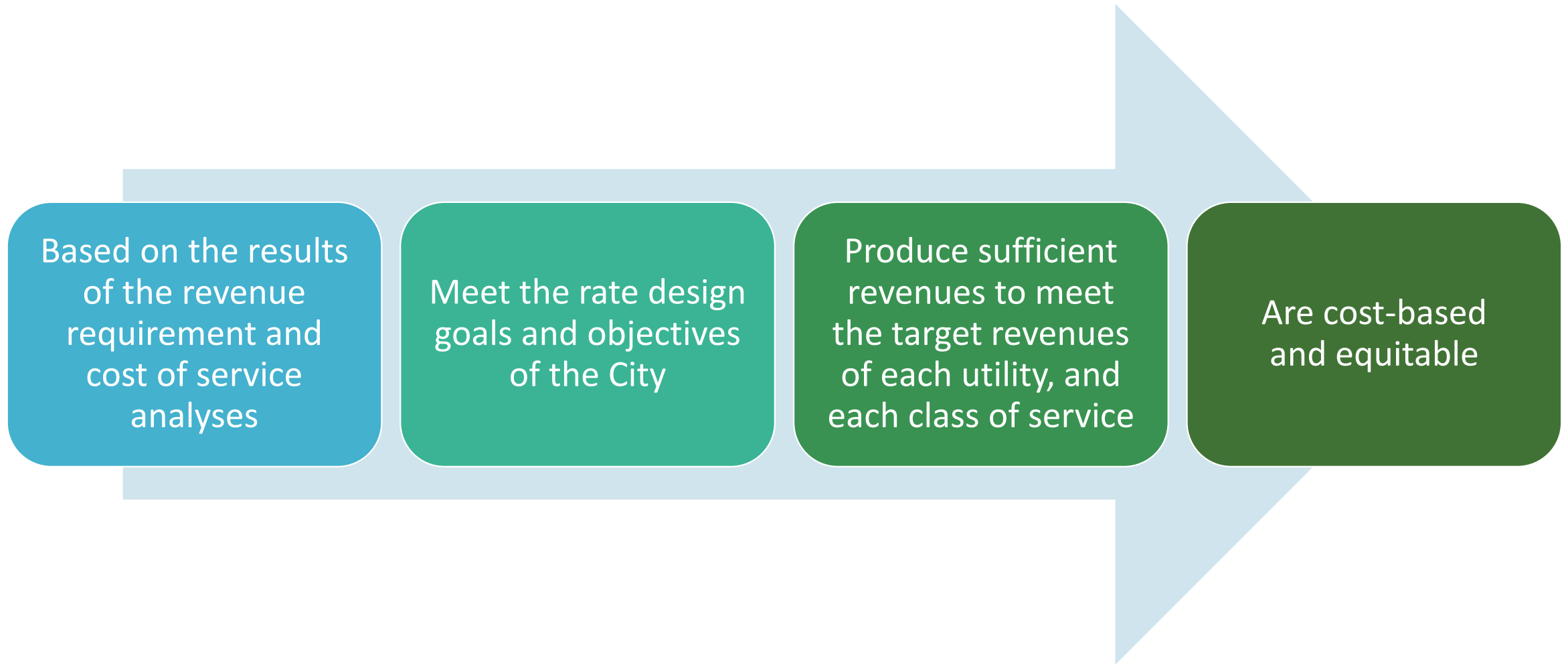
- Analysis reflects facility and service requirements of each customer class
- Results in equitable rates for each customer class of service
- Provides the City with information for rate structure policy decisions
- Should be reviewed periodically to reflect changes in customer and system characteristics
- Snapshot in time based on current costs and system usage
- Study results show that some wastewater cost of service differences exist
 - Minimal cost of service differences for water



Rate Design



Rate Design – Overview



Overview of Rate Designs

Water and Wastewater - Status Quo:

- No change in the rate structure
- Greater increase in fixed charge component

WATER ALTERNATIVE 1:

- Fixed charge (service charge) by meter size
- Increase fixed revenues
- Balance with usage (consumption) charge

WASTEWATER ALTERNATIVE 1:

- Develop rate by class of service, separate rate schedules
- Increase fixed charges
- Balance with usage (volume) charge



Rate Design Water Rate Alternatives

	<i>Present Rates</i>	<i>Proposed</i>				
		2023	2024	2025	2026	2027
Service Charge						
All	\$9.21	\$13.80	\$17.46	\$21.65	\$23.17	\$23.63
Water Use						
All	\$4.15	\$5.20	\$6.58	\$8.16	\$8.73	\$8.90

	<i>Present Rates</i>	<i>Proposed</i>				
		2023	2024	2025	2026	2027
Service Charge						
1" and Less	\$9.21	\$13.00	\$16.75	\$20.50	\$24.25	\$28.00
1 1/2"	9.21	26.00	33.50	41.00	48.50	56.00
2"	9.21	41.60	53.60	65.60	77.60	89.60
3"	9.21	78.00	100.50	123.00	145.50	168.00
4"	9.21	130.00	167.50	205.00	242.50	280.00
6"	9.21	260.00	335.00	410.00	485.00	560.00
Unkonwn	9.21	13.00	16.75	20.50	24.25	28.00
Water Use						
All	\$4.15	\$5.10	\$6.48	\$8.17	\$8.60	\$8.60

Rate Design

Wastewater

Status Quo

Rate

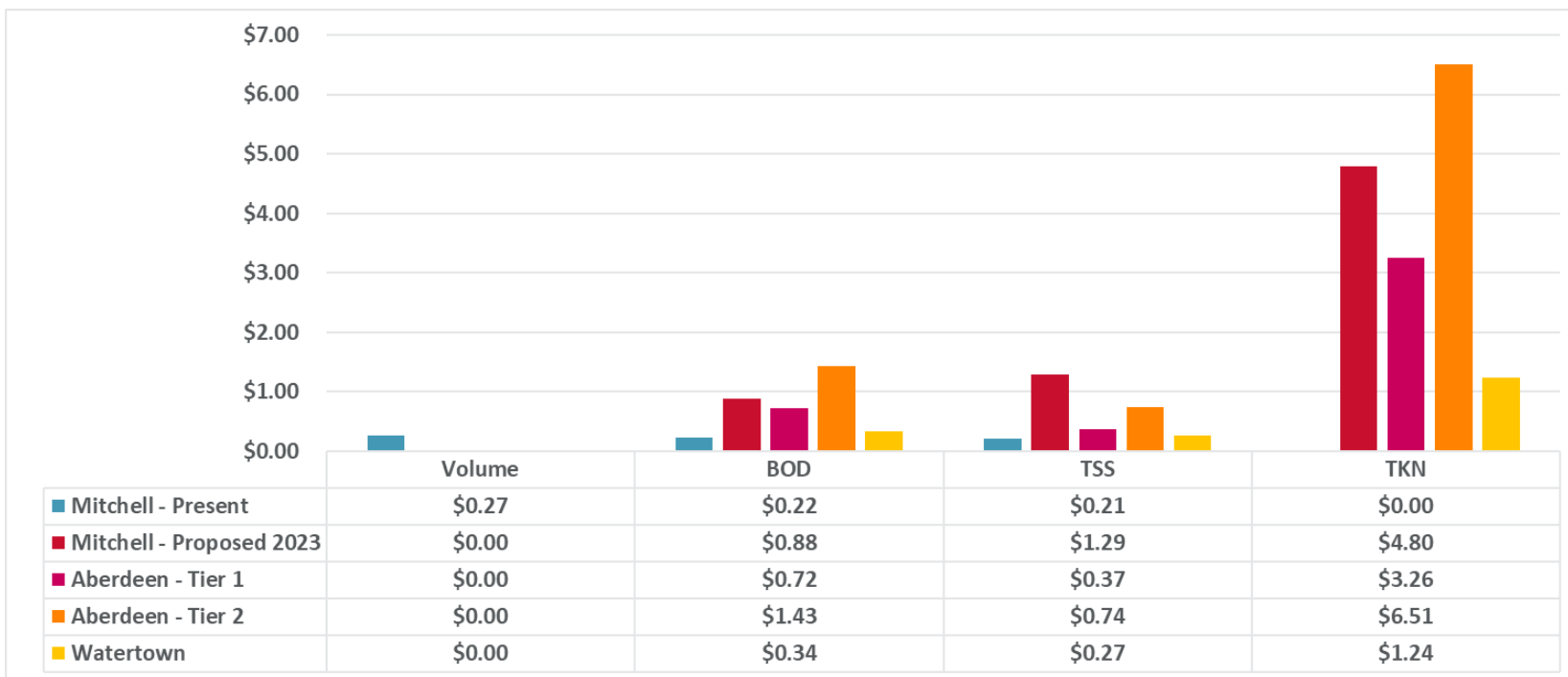
	<i>Present Rates</i>	<i>Proposed</i>				
		2023	2024	2025	2026	2027
	<i>\$ / Acct.</i>					
Base Fee	\$22.01	\$29.05	\$30.65	\$32.03	\$33.31	\$34.31
	<i>\$ / CCF</i>					
Volume Charge	\$3.40	\$4.49	\$4.74	\$4.95	\$5.15	\$5.30

Rate Design Wastewater Rate Alternative

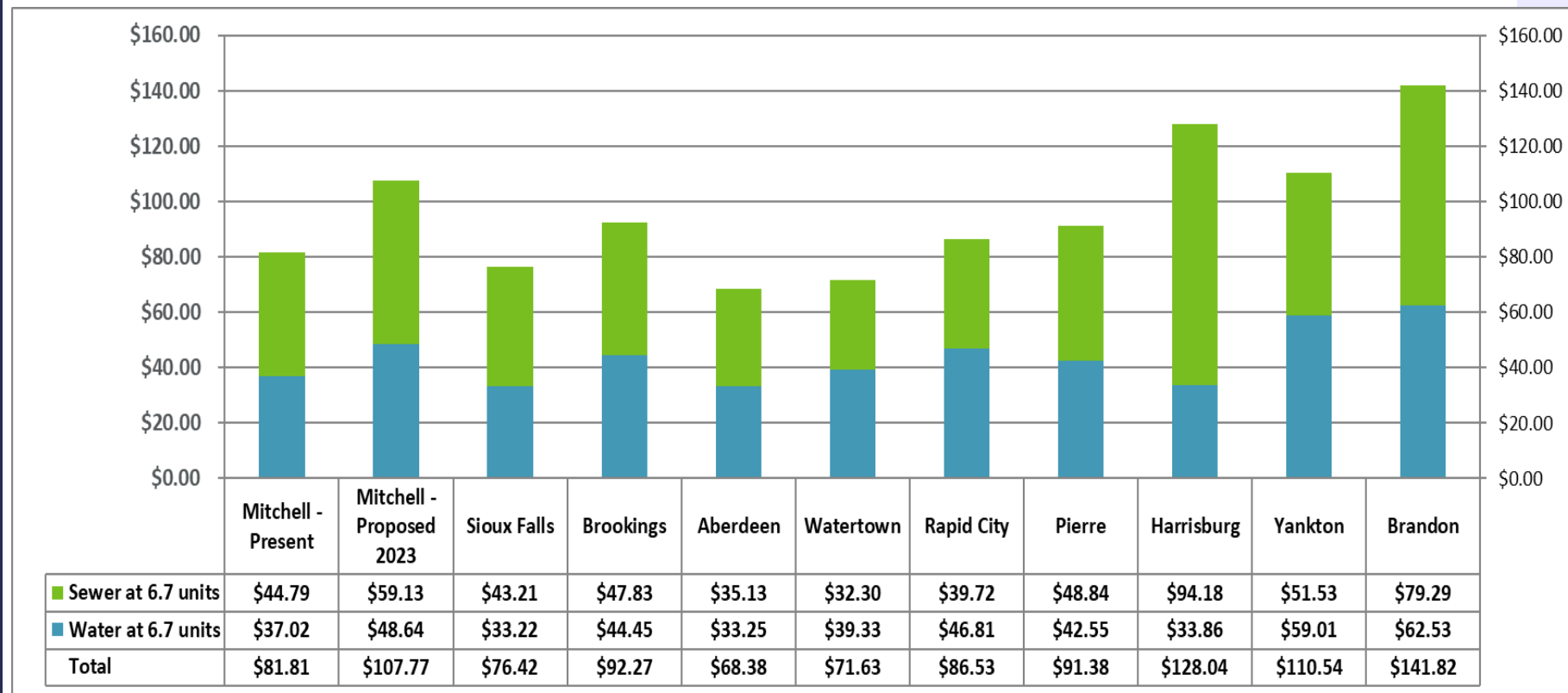
	<i>Present Rates</i>	Proposed				
		2023	2024	2025	2026	2027
Residential						
<i>Base Fee</i>	\$22.01	\$29.05	\$30.65	\$32.03	\$33.31	\$34.31
<i>Volume Charge</i>	\$3.40	\$4.00	\$4.22	\$4.41	\$4.59	\$4.73
Non Residential						
<i>Base Fee</i>	\$22.01	\$29.05	\$30.65	\$32.03	\$33.31	\$34.31
<i>Volume Charge</i>	\$3.40	\$5.00	\$5.27	\$5.51	\$5.73	\$5.90
Industrial						
<i>Base Fee</i>	\$22.01	\$29.05	\$30.65	\$32.03	\$33.31	\$34.31
<i>Volume Charge</i>	\$3.40	\$3.98	\$4.20	\$4.39	\$4.57	\$4.71

Rate Design Wastewater Industrial Surcharges

	<i>Present Rates</i>	<i>Proposed</i>				
		2023	2024	2025	2026	2027
	<i>\$ / Lb</i>					
Volume	\$0.27	N/A	N/A	N/A	N/A	N/A
BOD	0.22	0.88	0.92	0.96	1.00	1.03
TSS	0.21	1.29	1.36	1.42	1.48	1.52
TKN	0.00	4.80	5.06	5.29	5.50	5.67



Local Comparison Combined Water and Wastewater Bill



Next Steps

- Receive Council feedback and input
 - Update the study to reflect Council direction
- Review study results with City staff
- Develop draft written report
- Present study results, findings, and recommendations



Thank You Questions & Discussion



Local Comparison Water



Local Comparison Wastewater



Public Works Secondary Water Source

CITY OF MITCHELL

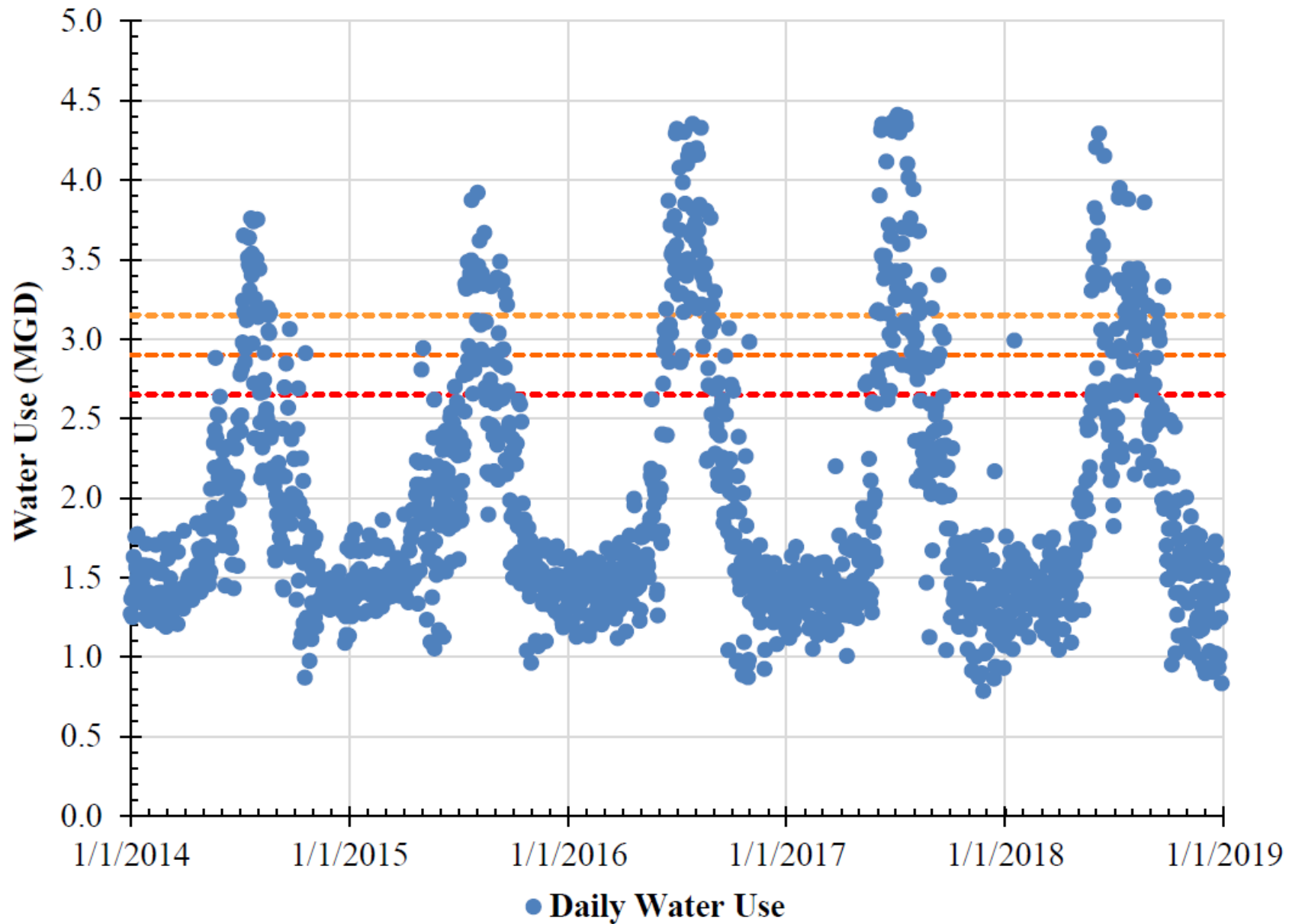
Discussion Points

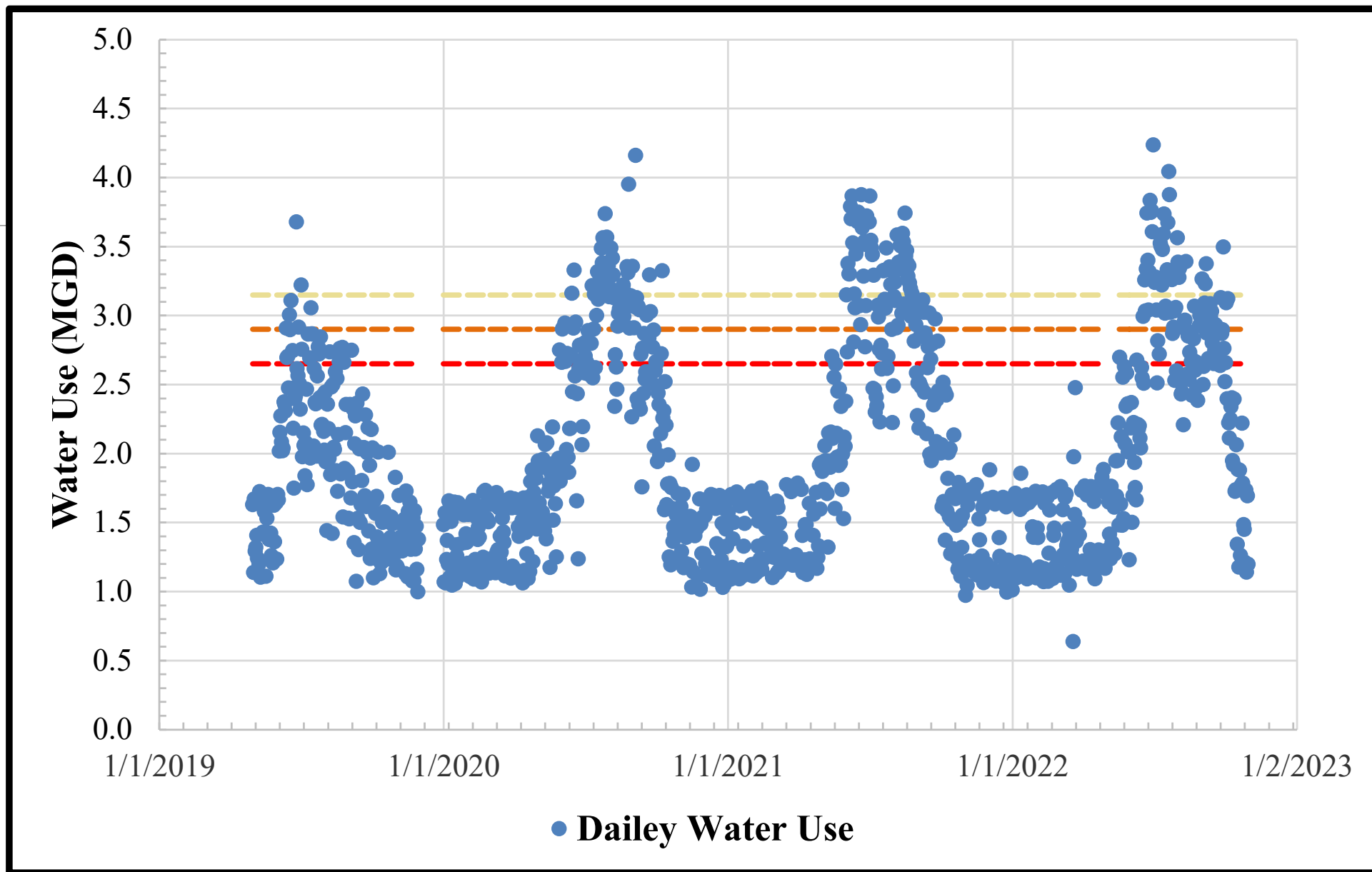
- Current Water Use
- Future Water Use
- Alternatives
- Summary



Current Water Use

- Bon Homme Yankton (B-Y) Water District
 - Minimum Contract Amount - 500,000 GPD
 - Guaranteed Contract Amount – 2.65 MGD
- Water may be delivered to the City in excess of 2.65 MGD within the total discretion of B-Y Water District.
- We exceed 2.65 MGD on average 25% of the year.





Current Water Use

Time Period	Min Day MGD	Max Day MGD	Average Day MGD
Summer 2019	1.23	3.68	2.33
Winter 2020	1.05	1.73	1.36
Summer 2020	1.24	3.95	2.88
Winter 2021	1.09	1.79	1.39
Summer 2021	2.23	3.88	3.18
Winter 2022	1.01	2.48	1.35
Summer 2022	1.50	4.24	2.91
Winter months are January through March Summer Months are June through August			

Future Water Use

- From the City of Mitchell Water System Improvement Facility Plan provided by IDG and AE2S

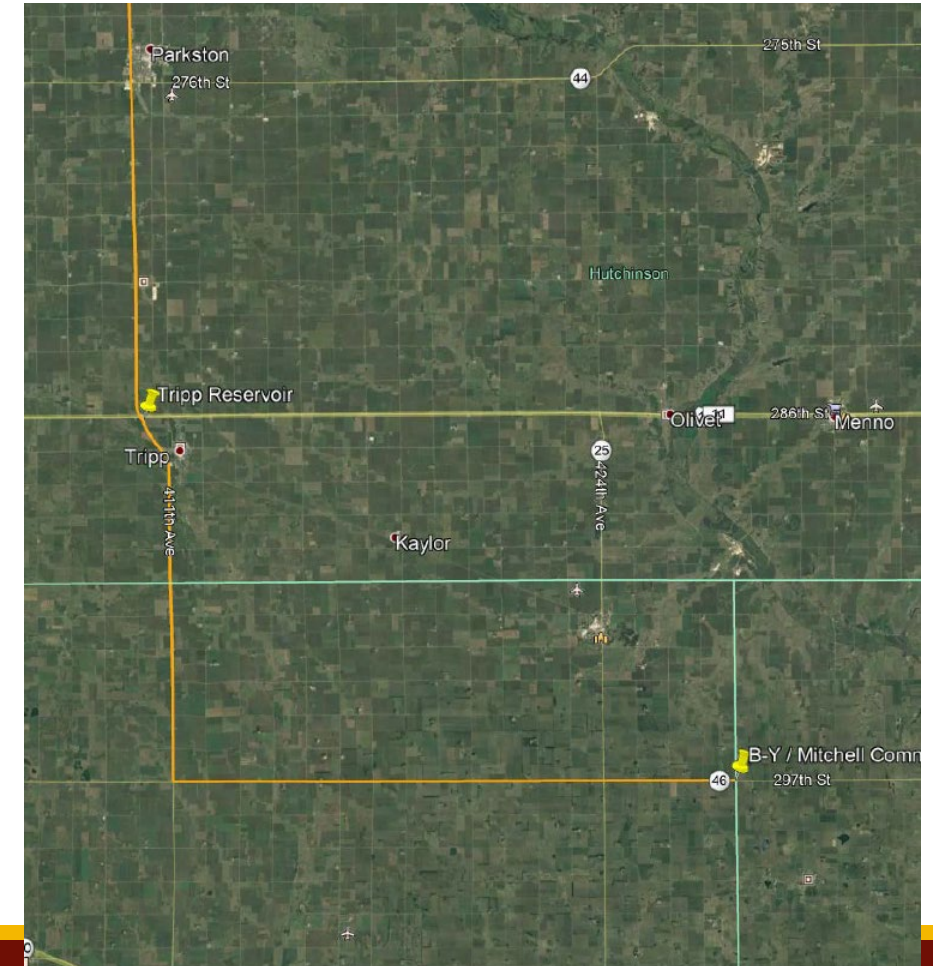
Projected 2040 Water Use

- Average Day Demand – 2.14 MGD
- Maximum Day Demand – 5.4 MGD

Alternative 1

B-Y Water District Upgrades

- Current sole source for City
- Would bring capacity to 5.4 MGD
- 13.5 Miles of transmission line
- Pump station upgrades





Alternative 2

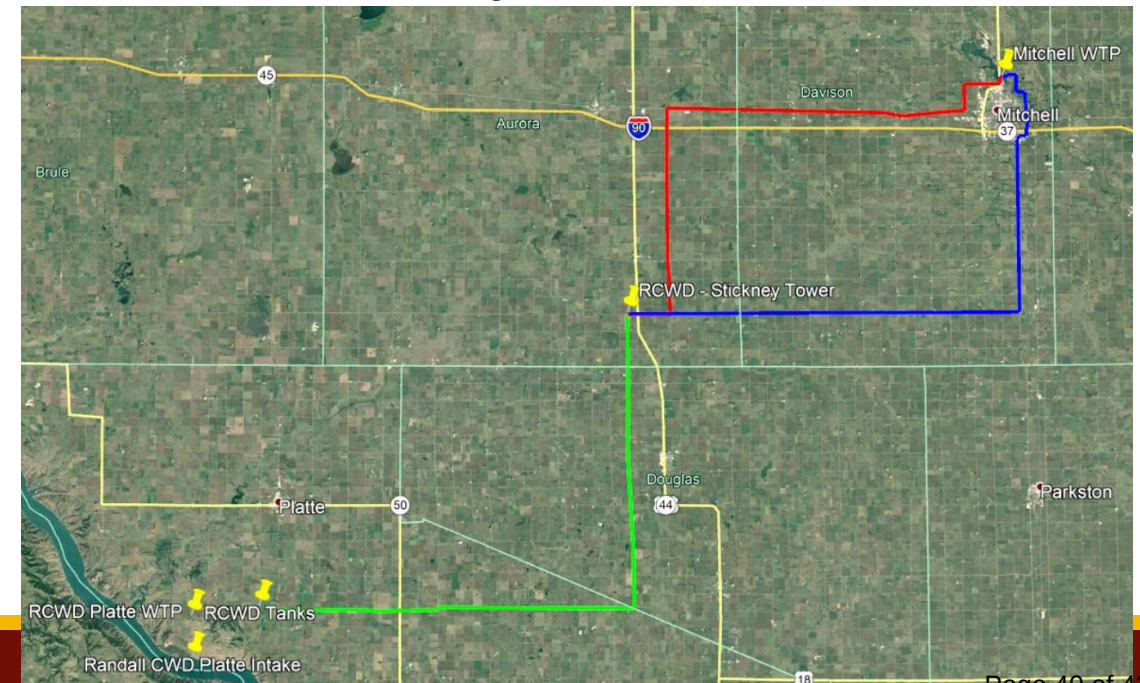
Lake Mitchell Improvements

- 2.5 MGD of additional water
- Improvements to match current water quality (taste and smell)
- Treatment process would waste 44% of treated water
- 4.5 MGD to produce 2.5 MGD
- Provides Secondary Source

Alternative 3

Randall Community Water District

- Min 2.5 MGD
- 38 miles of transmission line from plant to Stickney
- 31 miles of transmission line from Stickney to Mitchell
- Provides Secondary Source



Alternative 4 Missouri River Intake

- Raw water intake and pump station near Chamberlain
- Water treatment at the current water treatment plant
- 75 miles of transmission line
- 1 MG ground storage tank at highest elevation point
- Provides Secondary Source





Alternative Costs

Alternative	Cost
B-Y Water District Upgrades	\$40,000,000
Lake Mitchell Improvements	\$43,500,000
Randall Community Water District	\$60,000,000
Missouri River Intake	\$93,000,000
Missouri River Intake (Water treatment at Chamberlain)	\$150,000,000

Questions?
