



Village of Oswego

Water and Sewer Rate Study

Preliminary Rate Study Analysis

August 22, 2023

Alexis Shotton, PE

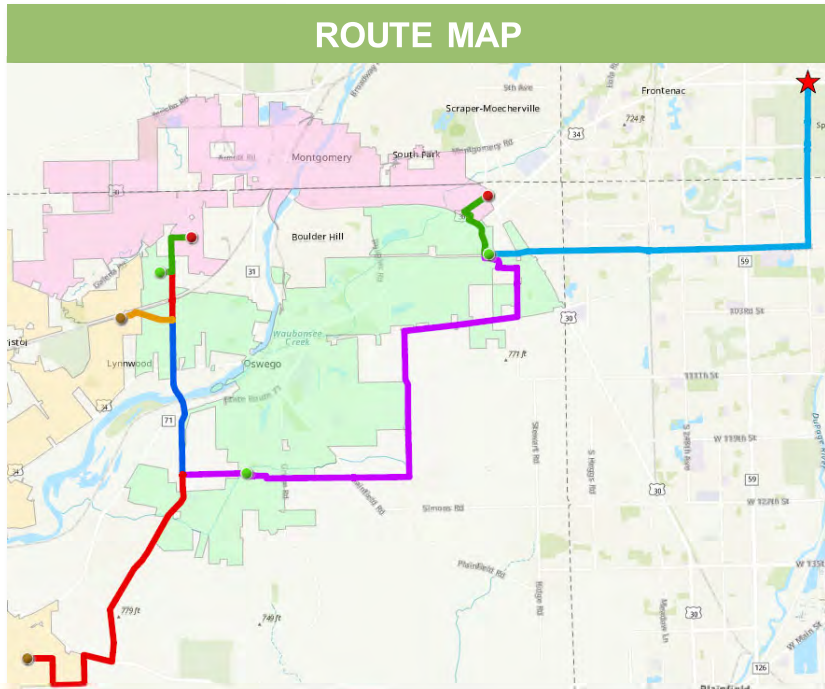
Carolyn Grieves, PE

Overview

1. Alternative Water Supply Study Recap
2. Rate Study Overview
3. Draft Rate Study Scenarios
4. Next Steps
 1. Input on Customer Impacts
 2. Input on Alternative Rate Structures
 3. Additional Information/Requests from the Board



Alternative Water Supply Study Recap (2021)



ROUTE MAP

SUSTAINABILITY OF WATER SOURCE

- Lake Michigan water
- No seasonal restrictions/ MDD:ADD 1.7
- Wells kept for emergency
- Looped water mains in DWC

WATER QUALITY & PERMITTING

- Chicago treats water
- Chlorine disinfection of treated water (Class C)
- Seasonally consistent water quality

GOVERNANCE & OPERATIONAL RESPONSIBILITY

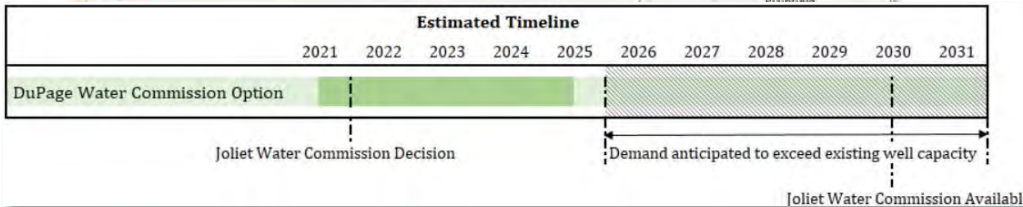
- No direct ownership or control of source water
- Indirect control of the transmission infrastructure

INTERNAL SYSTEM IMPROVEMENTS

- Transmission mains
- New storage
- Receiving station/pumping stations

TIMELINE

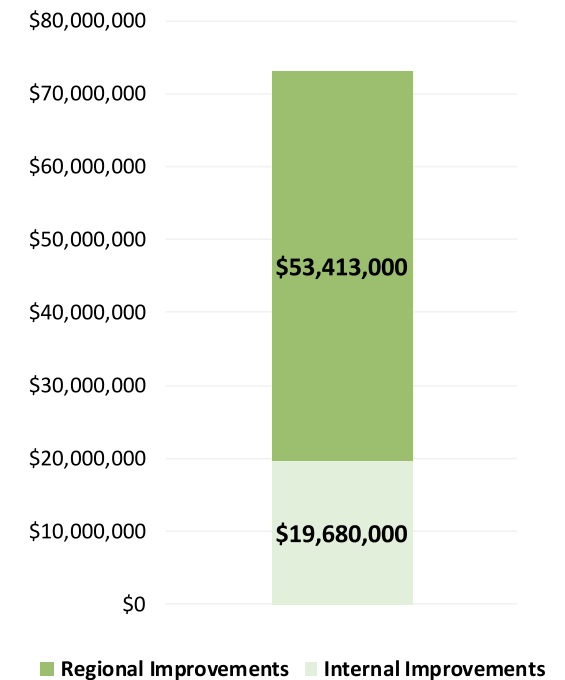
- Estimated 4-5 years



Treated Water Network
29.1 miles

Alternative Water Supply Study Recap (2021)

Description	DuPage Water Commission Option	
	Total	Oswego
Sub-Regional Well SR-1		
Raw Water Transmission Mains		
25 MGD Intake Pump Station		
25 MGD Lime Softening WTP		
Treated Water Transmission Mains	\$ 161,780,000	\$ 43,040,000
Buy-in Costs	\$ 27,720,000	\$ 10,373,000
Regional Improvements Subtotal	\$ 189,500,000	\$ 53,413,000
Receiving Stations	\$ 12,600,000	\$ 6,840,000
Intermediate Oswego Well & Treatment		
Internal Storage & Pumping	\$ 15,755,300	\$ 6,700,000
Internal Distribution Improvements	\$ 10,957,940	\$ 6,140,000
Internal System Improvements Subtotal	\$ 39,313,240	\$ 19,680,000
Total	\$ 228,830,000	\$ 73,100,000



Draft Cost Estimates – These numbers will change based on final route and cost-share

Water and Sewer Rate Study Overview

✓ Cost of Service Analysis

- Determine Operations & Maintenance, Capital Improvement Project costs, and Debt Service to operate the water and sewer utility, now and through FY 2031 (April 2031)

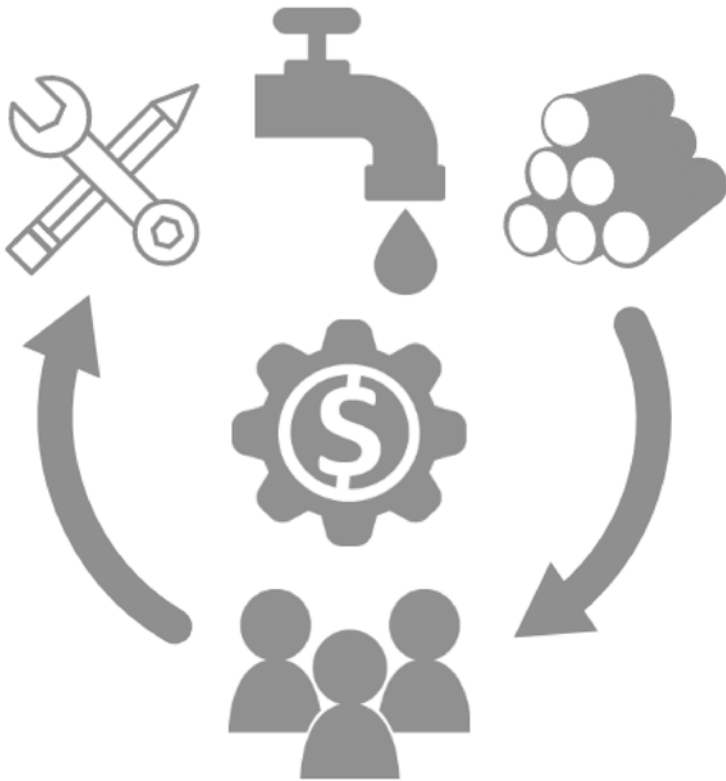
✓ User Group and Rate Structure Analysis

- Identify the major tiers of users in the Village and assess their sufficiency and equity to sustainably fund the Village's utilities.
- Develop rate structures and rate increases that accounts the impacts to the Village's customer base.

✓ Rate Stabilization Analysis

- The Village of Oswego has passed minimal rate increases over the past several years.
- Determine what rate increases are necessary to provide both financially sound, fair, and equitable utility funding while maintaining a proactive stance towards its infrastructure.

Enterprise Fund: Village Water & Sewer Fund



An enterprise fund is an account for operations that is financed and operated in a manner similar to private business enterprises – where the intent of the utility provider is to primarily finance and recover the costs of providing goods or services to the general public on a continuing basis through user charges.

Revenue Requirements vs. Customer Impacts

- Review the fully funded Revenue Requirements against proposed rate increases and impact to sample customer bills under the Village's current rate structure:

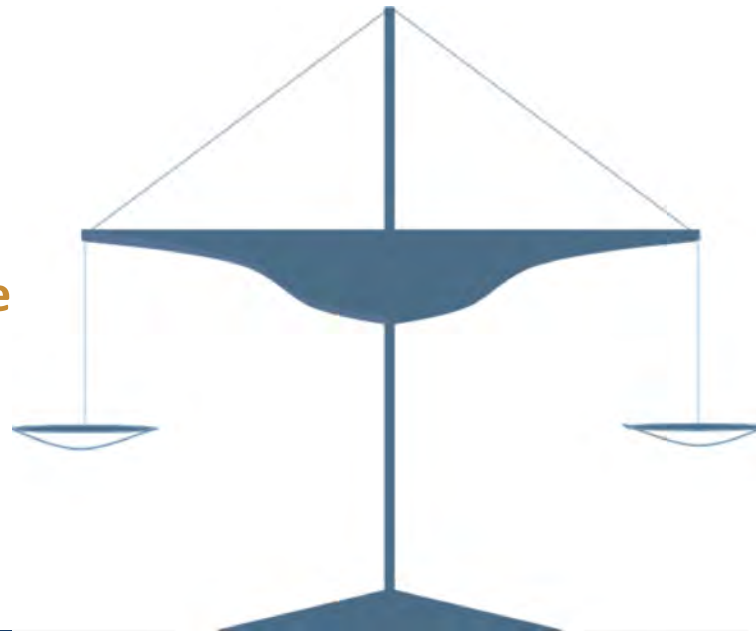
Needs:

Reduce NRW

Address Aging Infrastructure

Upsizing Infrastructure

Build Financial Reserves



Impacts:

Monitor Rate Increases

Preliminary Study Assumptions

1. Purchasing Water Cost begins in August 2027 and assumes 10% Non-Revenue Water throughout projection
2. DWC Rate projected to increase ~2% per year, which is subject to change based on agreement with CDWM
3. Wells convert to emergency status only in August 2027
4. Costs associated with Capital Projects and Debt Service will change in 2023.
5. Debt Service Assumptions are currently based on a combination of IEPA, WIFIA, and DWC Loans
6. Impact of real estate transfer tax \$450,000 per year

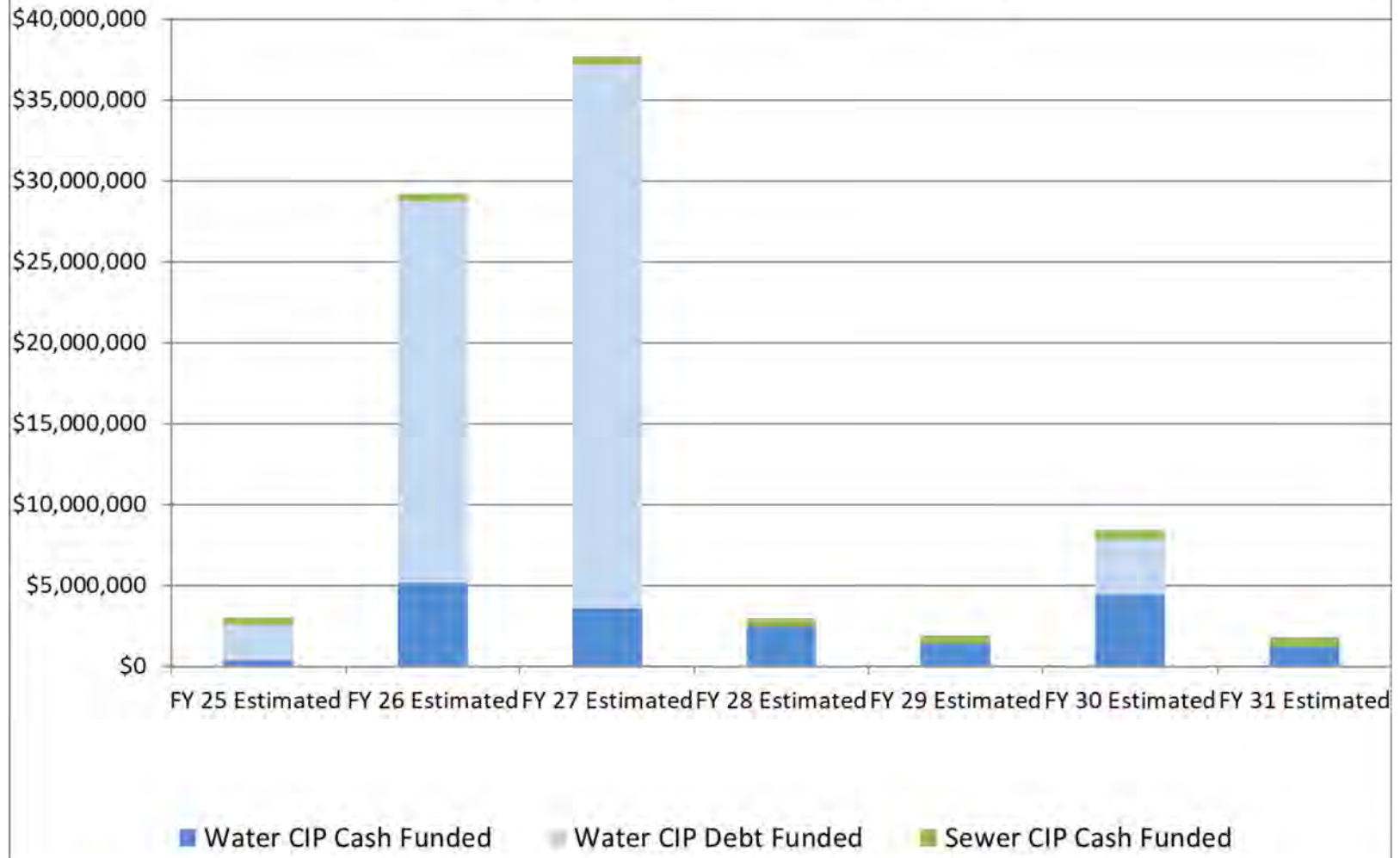


Draft Study Assumptions – Board Feedback

1. Minimize impact on seniors
2. Minimize impact on low-income residents
3. Minimize rate increase as much as possible
4. Develop a rate that reflects the impact of demand on the system
5. Encourage conservation
6. Increase rates now vs. later



Village of Oswego Capital Improvements Plan: 2025 to 2031

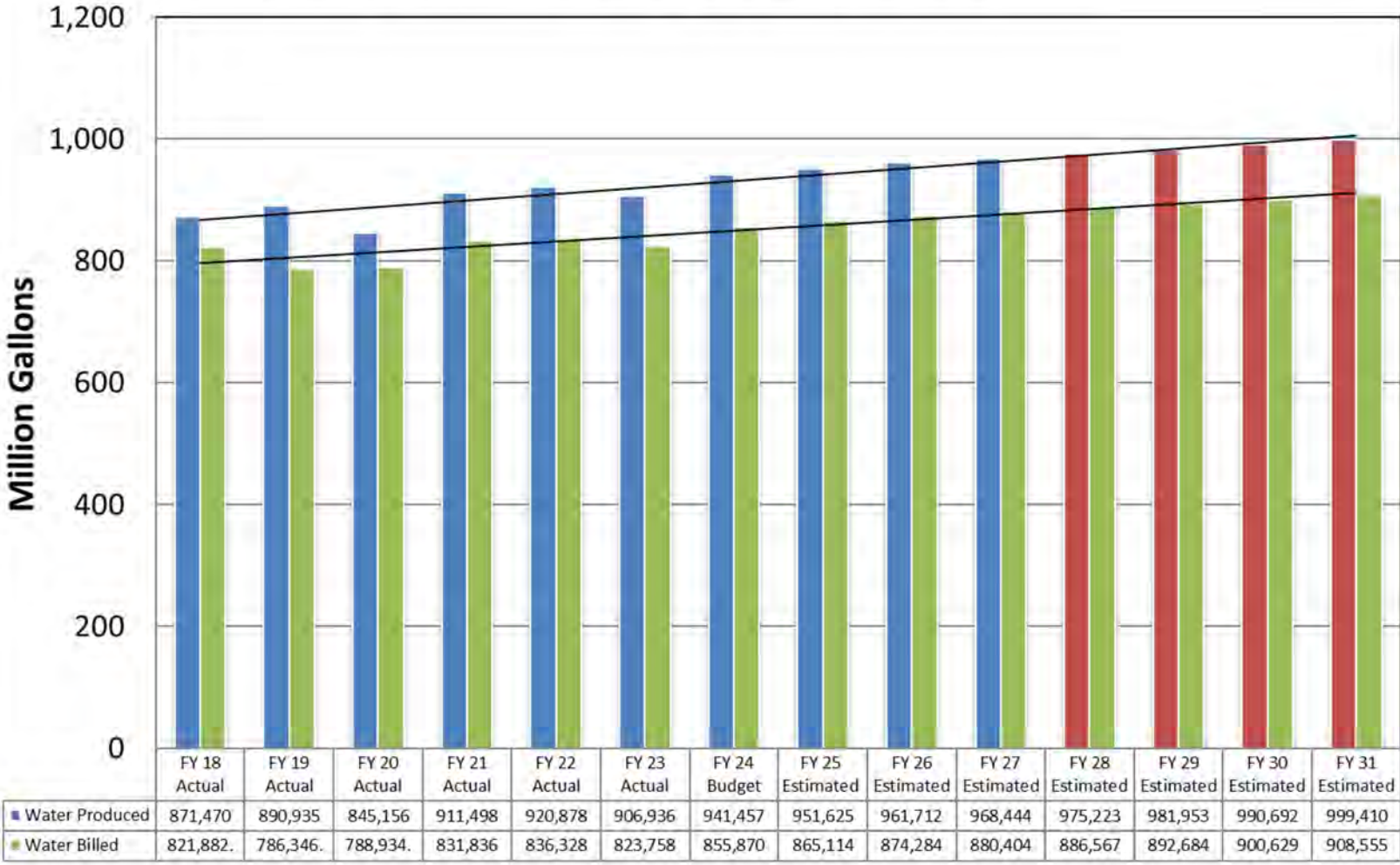


Draft Debt Service Assumptions

1. Proposed Debt Service is subject to change based on loan agreements and total capital cost

	Total Loan Amount	Loan Period (years)	Interest Rate	Annual Debt Service	Payments Begin
WIFIA	\$30,781,996	30	4.27%	\$1,838,941	2028
DWC	\$10,373,000	30	0.00%	\$345,767	2028
IEPA	\$18,215,404	20	2.00%	\$1,113,994	2028
IEPA	\$3,450,000	20	2.00%	\$210,991	2030

Annual Water Produced/Purchased vs. Water Billed



Village of Oswego – Fiscal Policies and Reserve Goals

- 1. Operating Reserve Goal: 30% of the estimated subsequent year's annual operating expenditures**
- 2. Debt Service Reserve Goal: Meet all principal and interest payments for the following fiscal year debt service**
- 3. Per Village Staff, strategy to maintain \$1 million above the Operating Reserve Goal to reduce impacts on customers**

Village's Existing Rate Structure

Village of Oswego - Fiscal Year 2024 Utility Rates

	Water (Per 1,000 gallons)	Sewer (per 1,000 gallons)	Fixed (Bi-Monthly)
Non-Senior	\$7.39	\$1.71	\$6.34
Senior	\$3.70	\$0.86	\$6.34

Village’s Water Connection Fees – New Development

1. Currently \$2,200/unit (for all unit types)

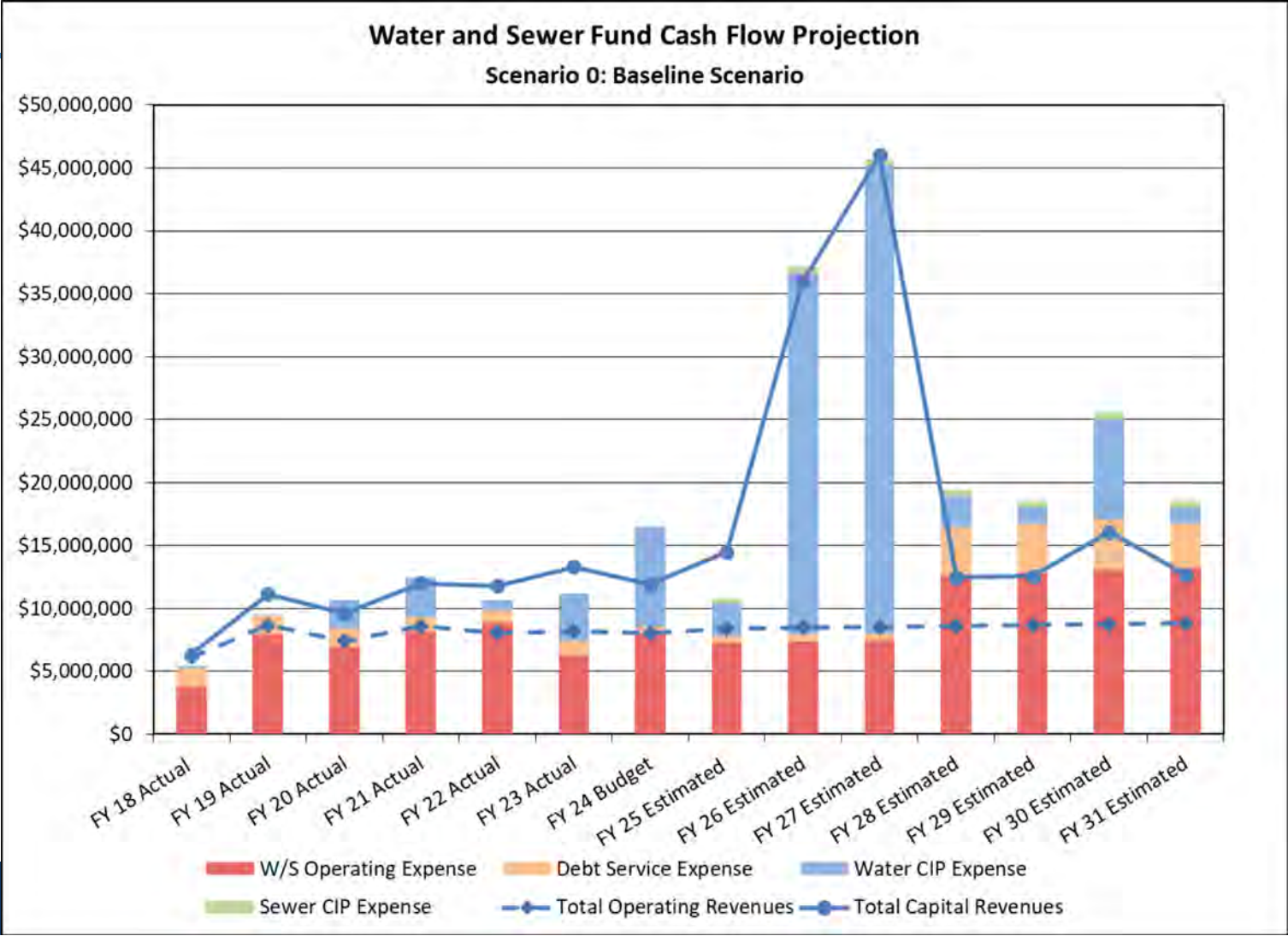
1. Single-Family: \$3,400 average, up to \$5,200 supported in other communities
2. Townhomes: \$3,300 average, up to \$5,000 supported in other communities
3. Apartments: \$1,600 average, Montgomery is only outlier with \$4,359

2. Consider increasing by \$1,000-\$3,000/unit for single-family and townhomes

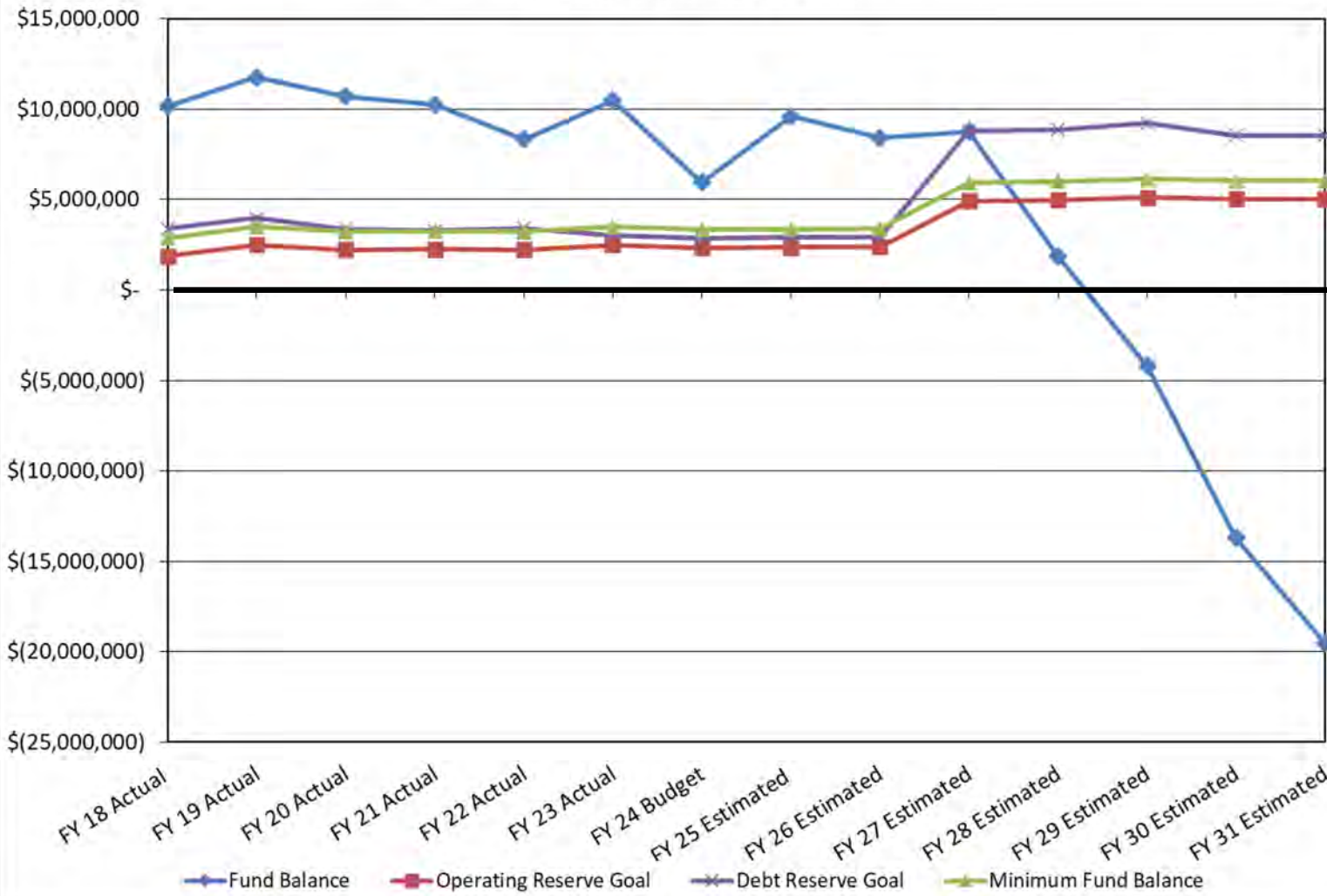
Projected* ADDITIONAL Revenue			
5-Year Time Period	\$1,000 Increase	\$2,000 Increase	\$3,000 Increase
2026 – 2030	\$275,000	\$550,000	\$825,000
2031 – 2035	\$575,000	\$1,150,000	\$1,725,000
2036 – 2040	\$800,000	\$1,600,000	\$2,400,000
2041 - 2045	\$850,000	\$1,700,000	\$2,550,000
2046 – 2050	\$910,000	\$1,820,000	\$2,730,000
25-Year TOTAL	\$3,400,000	\$6,800,000	\$10,200,000

*Based on a myriad of hypothetical growth scenarios

Baseline Scenario



Water and Sewer Fund Cash Flow Projection Scenario 0: Baseline Scenario



Draft Scenario 1: Existing Rate Structure – Rate Increases

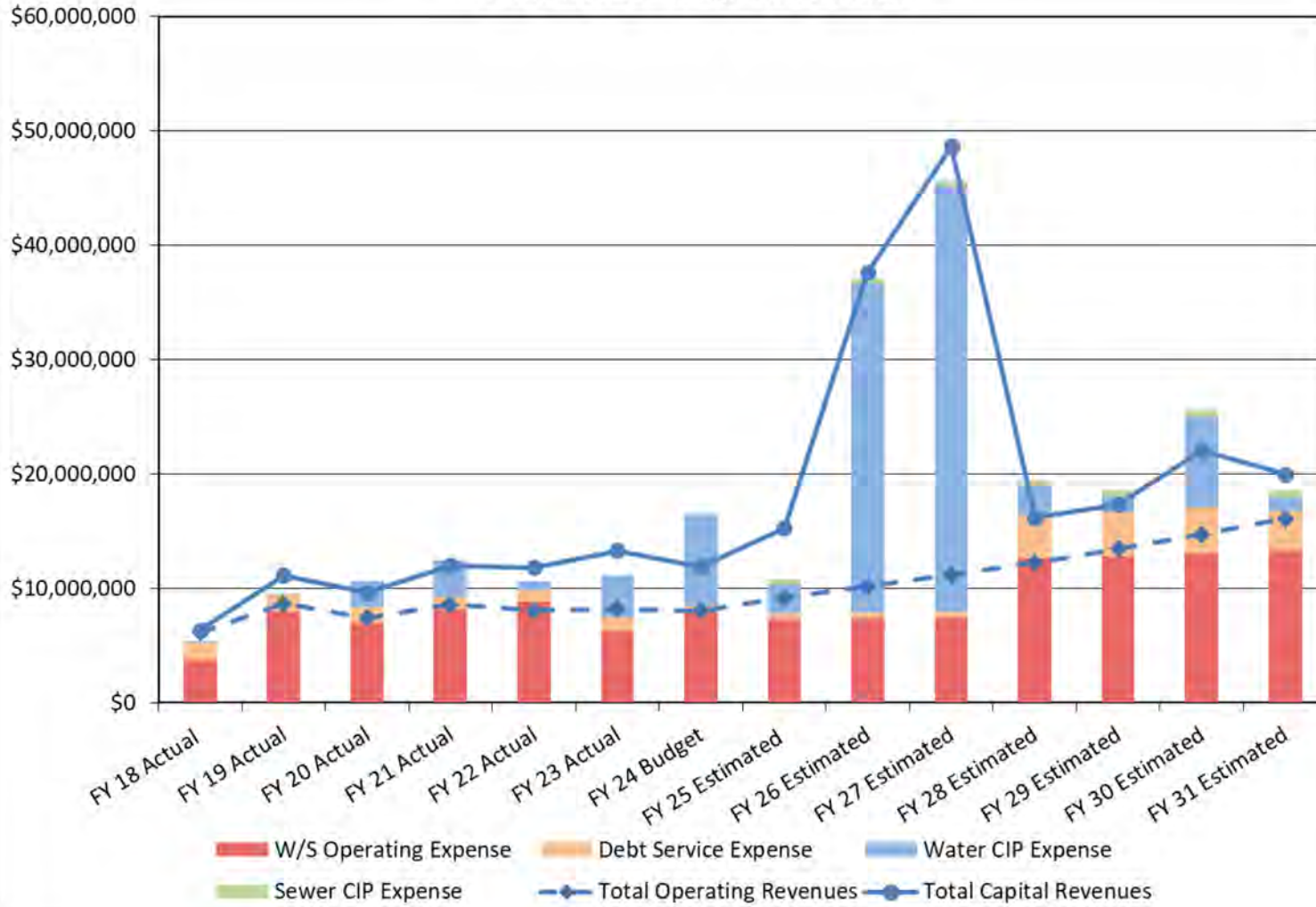
- 1. The following rate increases were identified based on the upcoming and projected expense breakdown such that water pays for water and sewer pays for sewer as much as possible.**
- 2. The volumetric rate is inclusive of the DWC Volumetric Charge rate for the cost of purchasing water.**
- 3. The draft rate increases are subject to change based on capital project costs and debt service.**

Draft Scenario 1: Existing Rate Structure – Rate Increases

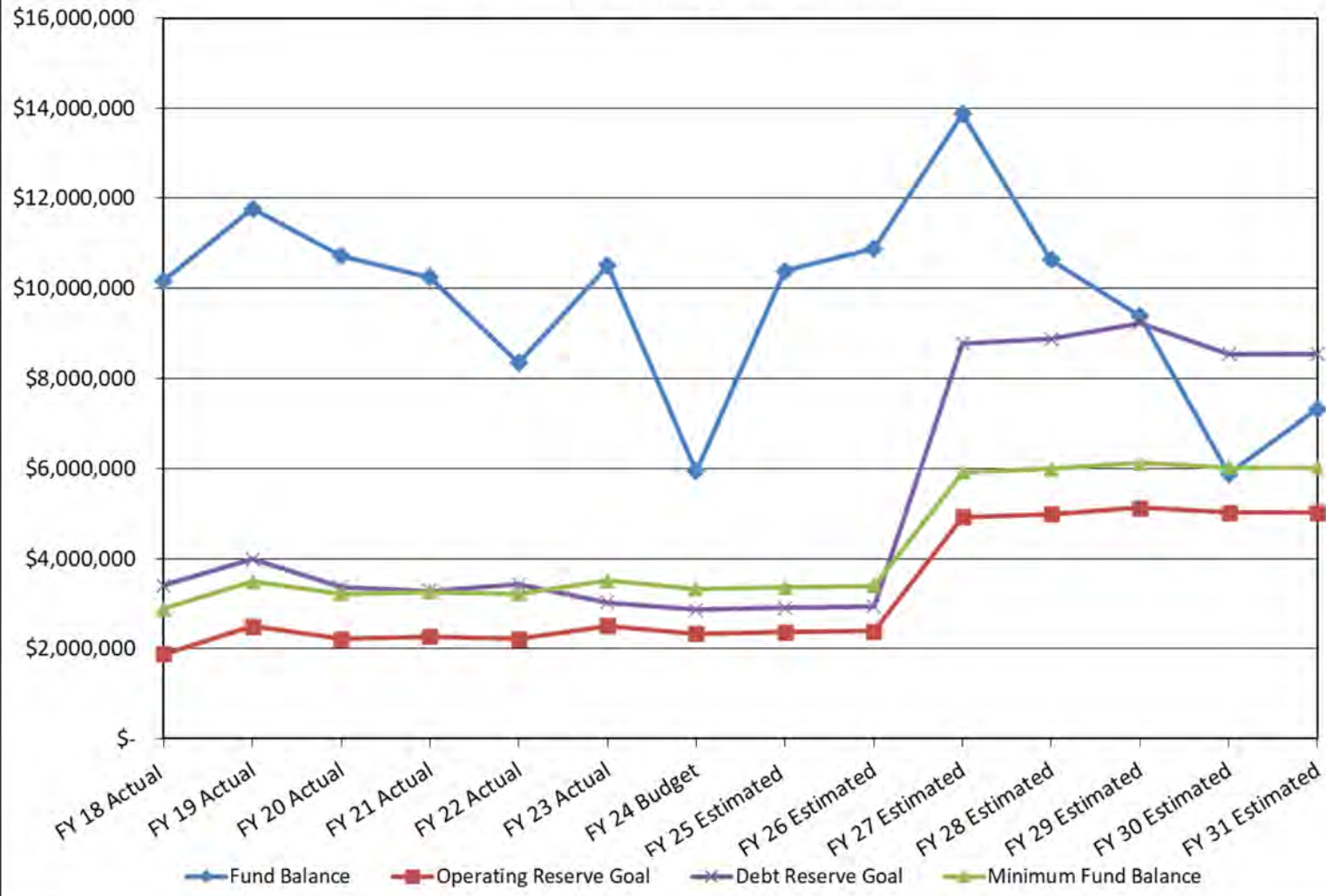
Scenario 1	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Increase in Dollars	\$0.00	\$3.00	\$3.50	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Fixed Fee - Bi-Monthly	\$6.34	\$9.34	\$12.84	\$16.84	\$20.84	\$24.84	\$28.84	\$32.84
Increase in Percent	1.8%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Water Volumetric Rate - Non-Senior - per kgal	\$7.39	\$7.98	\$8.62	\$9.31	\$10.05	\$10.86	\$11.73	\$12.67
Increase in Percent	1.8%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Water Volumetric Rate - Senior - per kgal	\$3.70	\$3.99	\$4.31	\$4.65	\$5.03	\$5.43	\$5.86	\$6.33
Increase in Percent	0.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Sewer Volumetric Rate - Non-Senior - per kgal	\$1.71	\$1.78	\$1.85	\$1.93	\$2.00	\$2.08	\$2.17	\$2.25
Increase in Percent	0.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Sewer Volumetric Rate - Senior - per kgal	\$0.86	\$0.89	\$0.93	\$0.96	\$1.00	\$1.04	\$1.08	\$1.13

Water and Sewer Fund Cash Flow Projection

Scenario 1B: Existing Rate Structure



Water and Sewer Fund Cash Flow Projection Scenario 1B: Existing Rate Structure



Draft Scenario 1: Bi-Monthly Sample Bills

Non-Senior - Residential User - 10 kgals	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Fixed Fee	\$6.34	\$6.34	\$9.34	\$12.84	\$16.84	\$20.84	\$24.84	\$28.84	\$32.84
Water Volumetric Charge	\$73.90	\$73.90	\$79.81	\$86.20	\$93.09	\$100.54	\$108.58	\$117.27	\$126.65
Sewer Volumetric Charge	\$17.12	\$17.12	\$17.80	\$18.52	\$19.26	\$20.03	\$20.83	\$21.66	\$22.53
Bi-Monthly Total	\$97.36	\$97.36	\$106.96	\$117.55	\$129.19	\$141.41	\$154.25	\$167.77	\$182.02
Bi-Monthly Increase in Dollars		\$0.00	\$9.60	\$10.60	\$11.64	\$12.22	\$12.84	\$13.52	\$14.25
Bi-Monthly Increase in Percent		0.0%	9.9%	9.9%	9.9%	9.5%	9.1%	8.8%	8.5%
Annual Total	\$584.16	\$584.16	\$641.74	\$705.32	\$775.14	\$848.45	\$925.51	\$1,006.63	\$1,092.12
Annual Increase in Dollars		\$0.00	\$57.58	\$63.58	\$69.82	\$73.31	\$77.07	\$81.12	\$85.49
Annual Increase in Percent		0.0%	9.9%	9.9%	9.9%	9.5%	9.1%	8.8%	8.5%

Senior - Residential User - 6 kgals	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Fixed Fee	\$6.34	\$6.34	\$9.34	\$12.84	\$16.84	\$20.84	\$24.84	\$28.84	\$32.84
Water Volumetric Charge	\$22.17	\$22.17	\$23.94	\$25.86	\$27.93	\$30.16	\$32.58	\$35.18	\$38.00
Sewer Volumetric Charge	\$5.14	\$5.14	\$5.34	\$5.56	\$5.78	\$6.01	\$6.25	\$6.50	\$6.76
Bi-Monthly Total	\$33.65	\$33.65	\$38.63	\$44.25	\$50.55	\$57.01	\$63.66	\$70.52	\$77.59
Bi-Monthly Increase in Dollars		\$0.00	\$4.98	\$5.63	\$6.29	\$6.47	\$6.65	\$6.86	\$7.07
Bi-Monthly Increase in Percent		0.0%	14.8%	14.6%	14.2%	12.8%	11.7%	10.8%	10.0%
Annual Total	\$201.88	\$201.88	\$231.75	\$265.53	\$303.27	\$342.06	\$381.98	\$423.12	\$465.56
Annual Increase in Dollars		\$0.00	\$29.87	\$33.77	\$37.75	\$38.79	\$39.92	\$41.14	\$42.45
Annual Increase in Percent		0.0%	14.8%	14.6%	14.2%	12.8%	11.7%	10.8%	10.0%

Draft Scenario 1: Bi-Monthly Sample Bills

Commercial User - 30 kgals	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Fixed Fee	\$6.34	\$6.34	\$9.34	\$12.84	\$16.84	\$20.84	\$24.84	\$28.84	\$32.84
Water Volumetric Charge	\$221.70	\$221.70	\$239.44	\$258.59	\$279.28	\$301.62	\$325.75	\$351.81	\$379.95
Sewer Volumetric Charge	\$51.36	\$51.36	\$53.41	\$55.55	\$57.77	\$60.08	\$62.49	\$64.99	\$67.59
Bi-Monthly Total	\$279.40	\$279.40	\$302.19	\$326.98	\$353.89	\$382.54	\$413.08	\$445.64	\$480.38
Bi-Monthly Increase in Dollars		\$0.00	\$22.79	\$24.79	\$26.91	\$28.65	\$30.53	\$32.56	\$34.74
Bi-Monthly Increase in Percent		0.0%	8.2%	8.2%	8.2%	8.1%	8.0%	7.9%	7.8%
Annual Total	\$1,676.40	\$1,676.40	\$1,813.14	\$1,961.89	\$2,123.35	\$2,295.27	\$2,478.46	\$2,673.82	\$2,882.29
Annual Increase in Dollars		\$0.00	\$136.74	\$148.75	\$161.46	\$171.92	\$183.20	\$195.36	\$208.47
Annual Increase in Percent		0.0%	8.2%	8.2%	8.2%	8.1%	8.0%	7.9%	7.8%

Industrial - Average - 240 kgals	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Fixed Fee	\$6.34	\$6.34	\$9.34	\$12.84	\$16.84	\$20.84	\$24.84	\$28.84	\$32.84
Water Volumetric Charge	\$1,773.60	\$1,773.60	\$1,915.49	\$2,068.73	\$2,234.23	\$2,412.96	\$2,606.00	\$2,814.48	\$3,039.64
Sewer Volumetric Charge	\$410.88	\$410.88	\$427.32	\$444.41	\$462.18	\$480.67	\$499.90	\$519.89	\$540.69
Bi-Monthly Total	\$2,190.82	\$2,190.82	\$2,352.14	\$2,525.97	\$2,713.25	\$2,914.47	\$3,130.74	\$3,363.21	\$3,613.17
Bi-Monthly Increase in Dollars		\$0.00	\$161.32	\$173.83	\$187.27	\$201.23	\$216.26	\$232.48	\$249.95
Bi-Monthly Increase in Percent		0.0%	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%
Annual Total	\$13,144.92	\$13,144.92	\$14,112.86	\$15,155.85	\$16,279.50	\$17,486.85	\$18,784.43	\$20,179.29	\$21,679.01
Annual Increase in Dollars		\$0.00	\$967.94	\$1,042.99	\$1,123.65	\$1,207.35	\$1,297.58	\$1,394.86	\$1,499.73
Annual Increase in Percent		0.0%	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%

Impact on Low Income Residents

- 1. There is no industry standard in evaluating impacts on Low Income customers**
- 2. Village is exploring options to reduce impact on and assist Low Income residents**
 1. Payment Plans
 2. Assistance Programs
- 3. Per United States Census Bureau:**
 1. Median Household Income (in 2021 dollars), 2017-2021: \$106,790
 2. Persons in poverty, percent: 2.2%

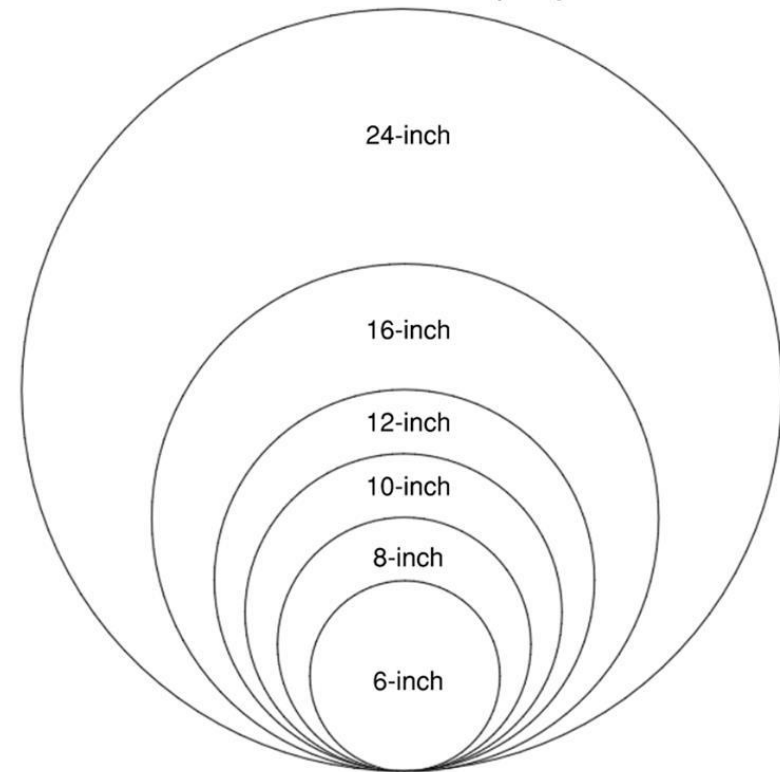
Rate Study: Next Steps

1. Review Alternative Rate Structures: User Group, Inclining Block, Declining Block, Minimum Usage Charge, Fixed Scaled Meter
2. In our experience, the implementation of the Fixed Scaled Meter and Inclining Volumetric Block Rate Structure generally present the most fair and equitable rates for Lake Michigan based, water purchasing utilities
3. A comparison of neighboring and similarly sized Utilities will be prepared with the existing and alternative rate structures

Next Steps: Alternative Rate Structures Analysis

- **Fixed Scaled Meter:**
A fixed charge proportional to the customer's meter size
- **Inclining Block Volumetric Rate Structure:**
Establish blocks of usage that are charged progressively more to use per billing cycle
- **Review impacts to sample bills between proposed rate structures**

Cross Sectional Area of a Pipe by Diameter



Summary and Decisions to be Made

1. **Input on Preliminary Assumptions**
2. **Input on Customer Impacts**
 1. Senior Citizen
 2. Low Income
3. **Input on Alternative Rate Structures**
 1. Reflect demand put on the water system
 2. Encourage conservation
4. **Increase Rates Now vs. Later**



Questions?

