

Buffalo Mountain Metro District

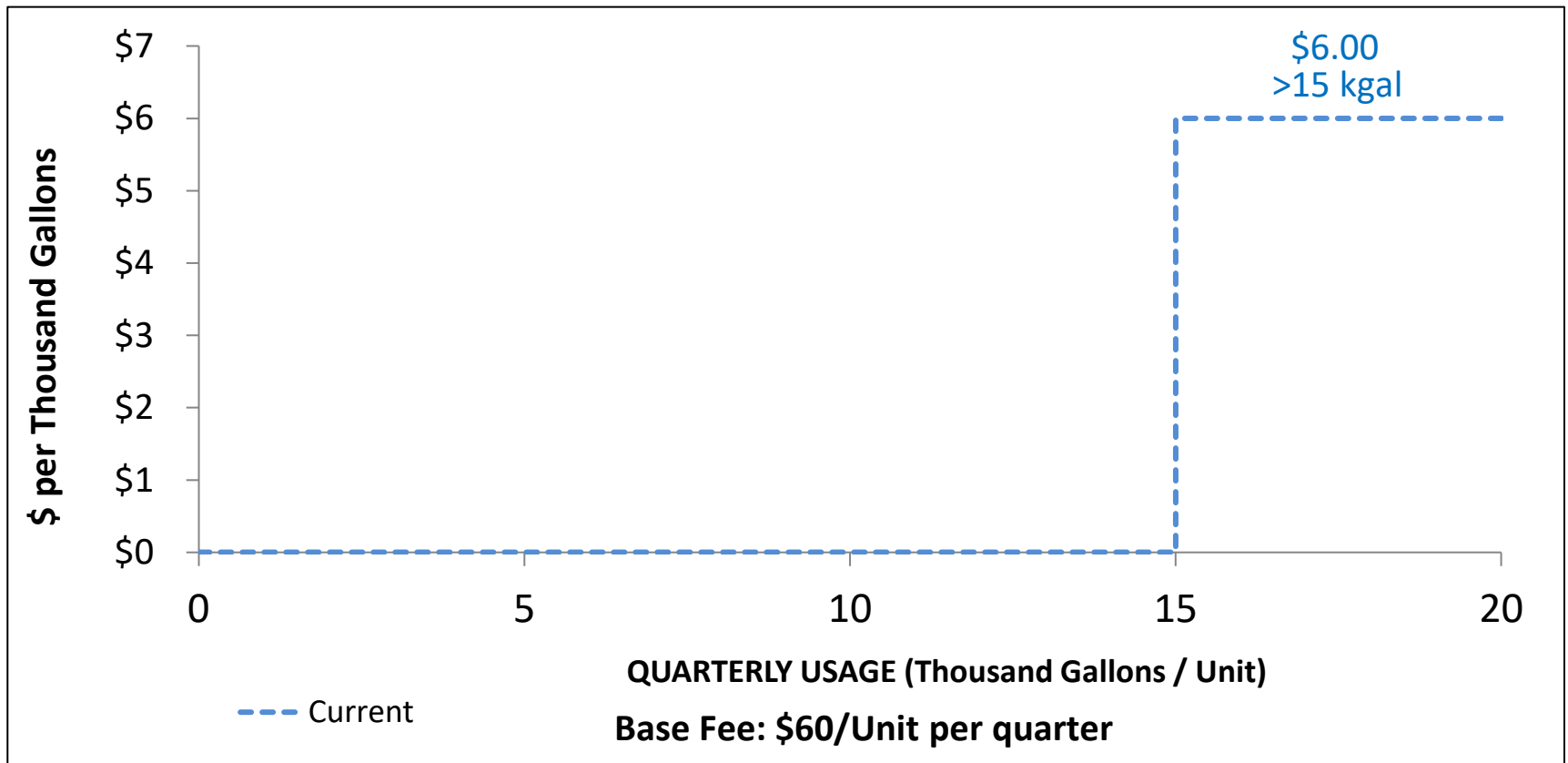


BMMD Rate Study

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Engineer 1

Current Billing Basis - Water

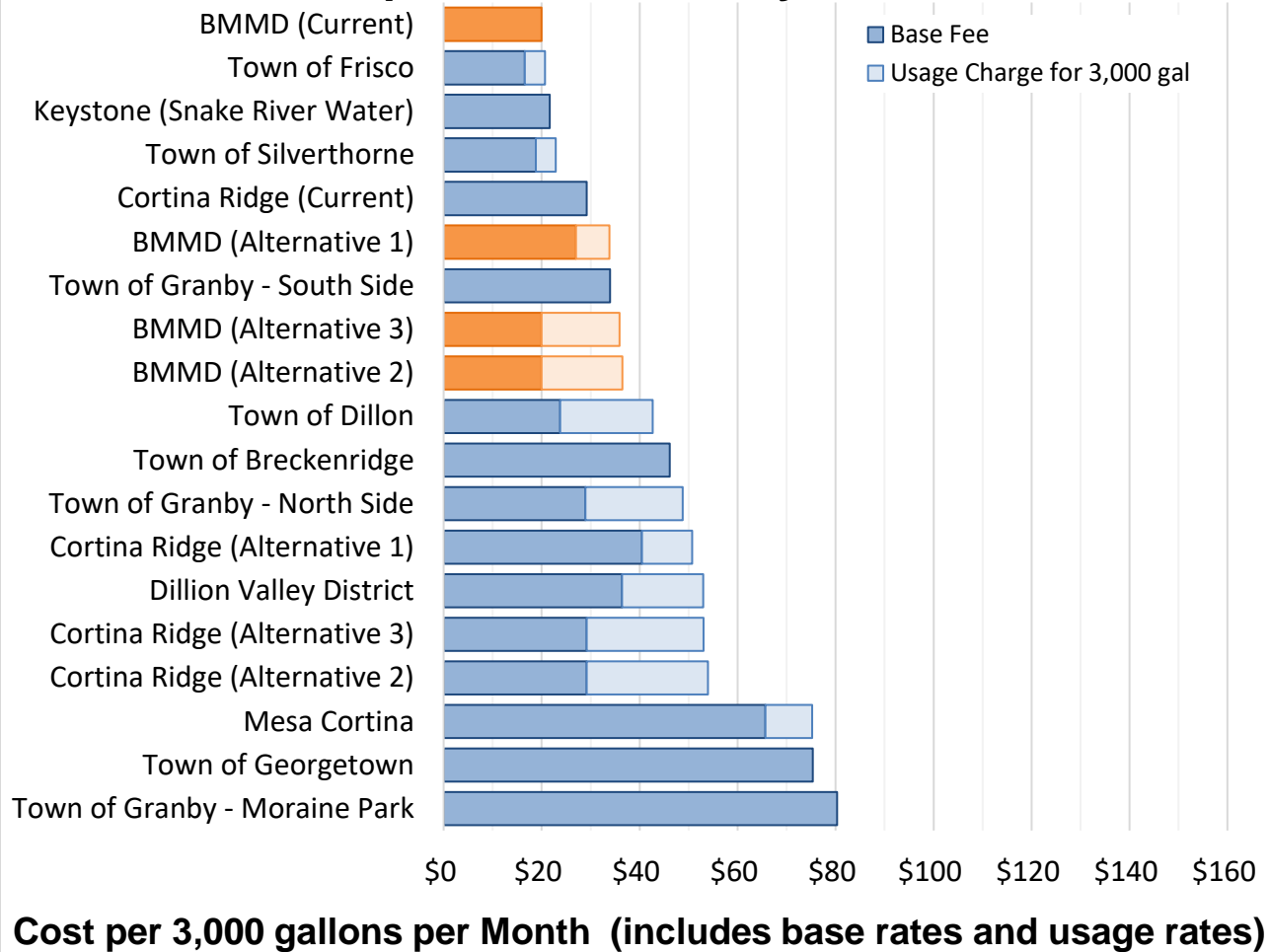
- All customers are charged a flat quarterly base fee plus a usage fee for any water use beyond 15,000 gallons.
- Base Fee: \$60 per quarter
- Usage Fee: \$6.00 per thousand gallons over 15,000 gallons/quarter



Current Billing Basis - Water

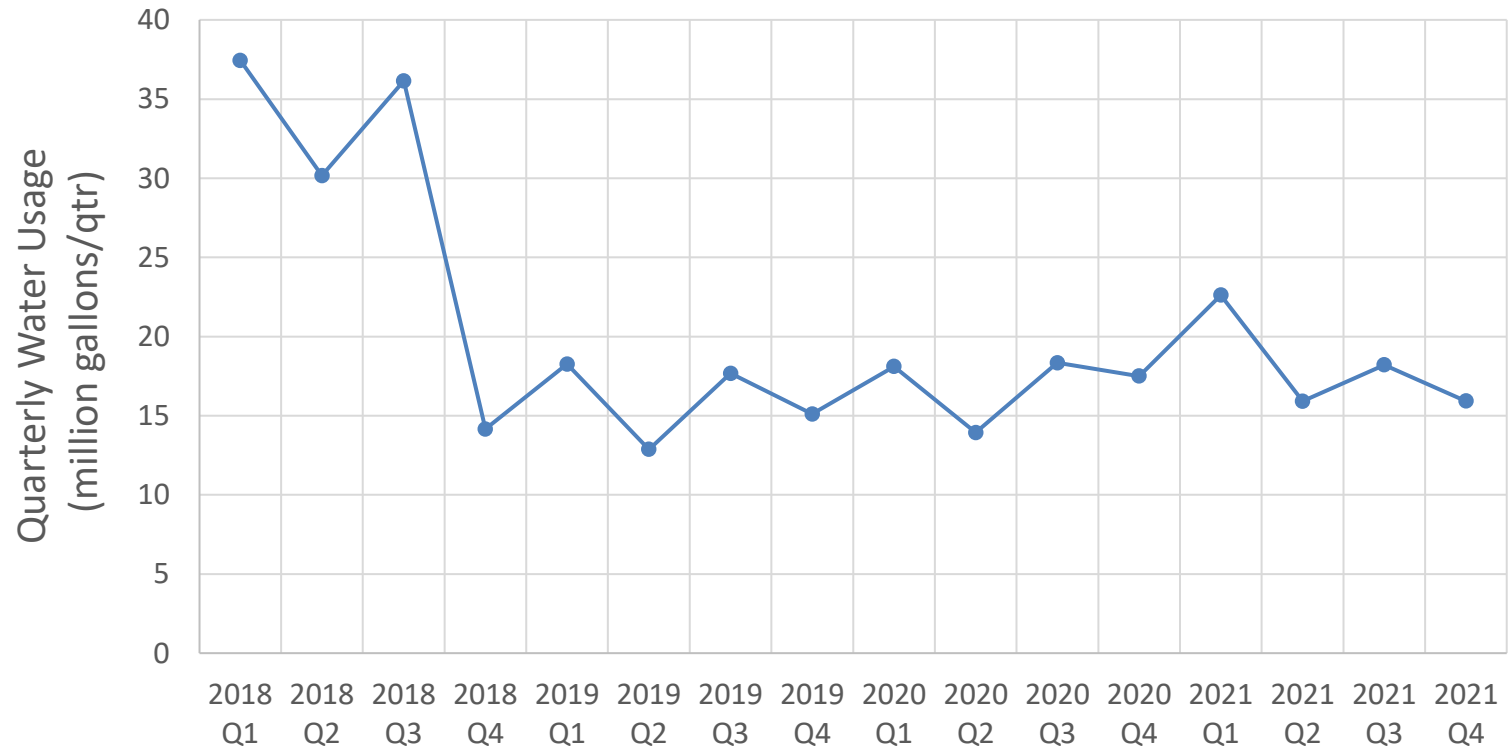
- SGM analyzed 2018, 2019, and 2020 quarterly billing data (provided by District staff) for water service
- All customers are charged a flat quarterly base fee plus a usage fee for any water use beyond 15,000 gallons.
- Base Fee: \$60 per quarter (\$20 per month)
- Usage Fee: \$6.00 per thousand gallons over 15,000 gallons/quarter

Water Rate Comparison for Nearby Water Providers



Water Usage Trends

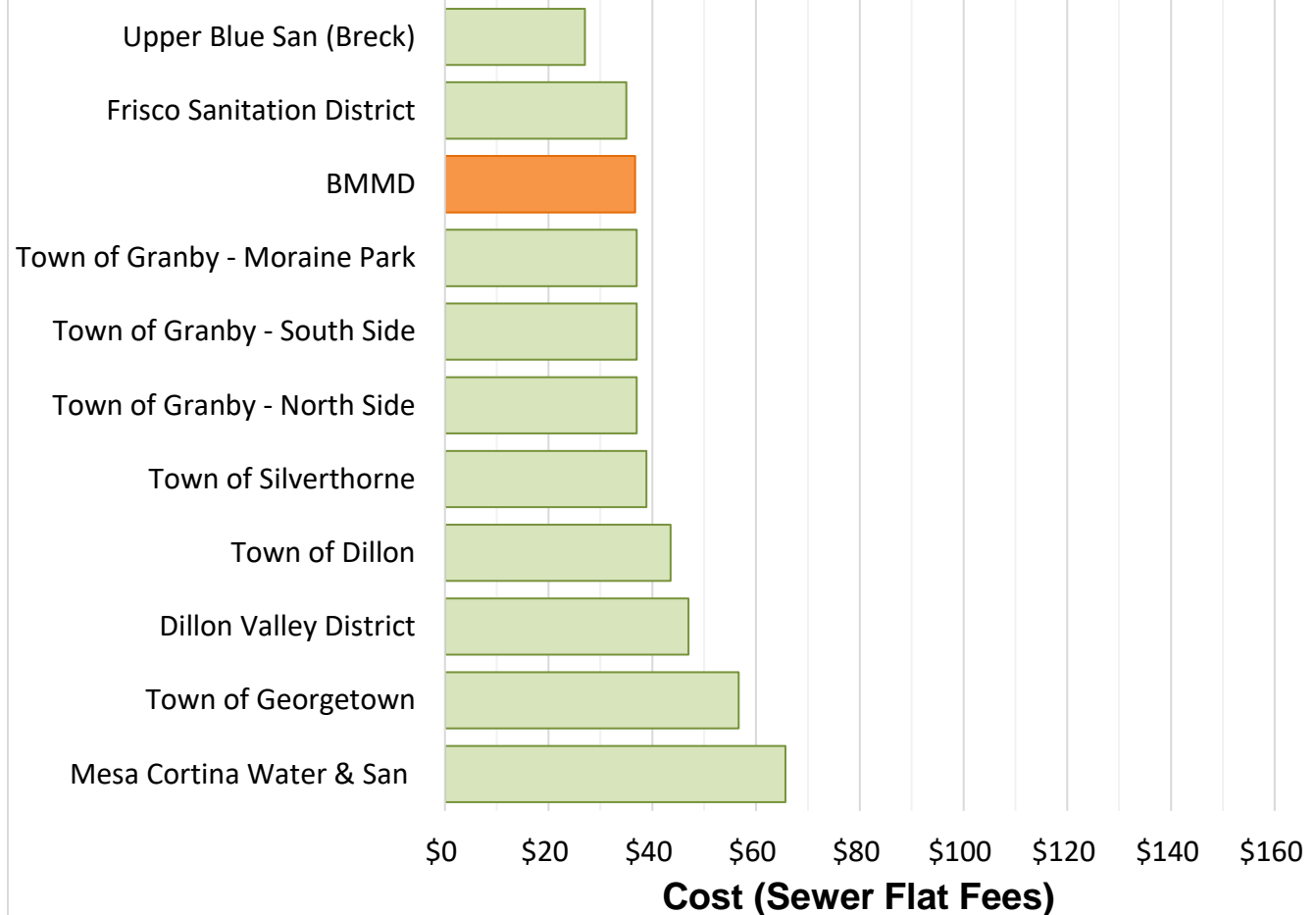
- Water usage for the District is low compared to other water providers
- Low lawn/landscaping water usage, mainly indoor usage
- Usage decreased after 2018 due to a new leak detection system
- Water usage increases slightly in winter (Q1) and summer (Q3)
- Rate increases will likely not decrease water use



Current Billing Basis - Wastewater

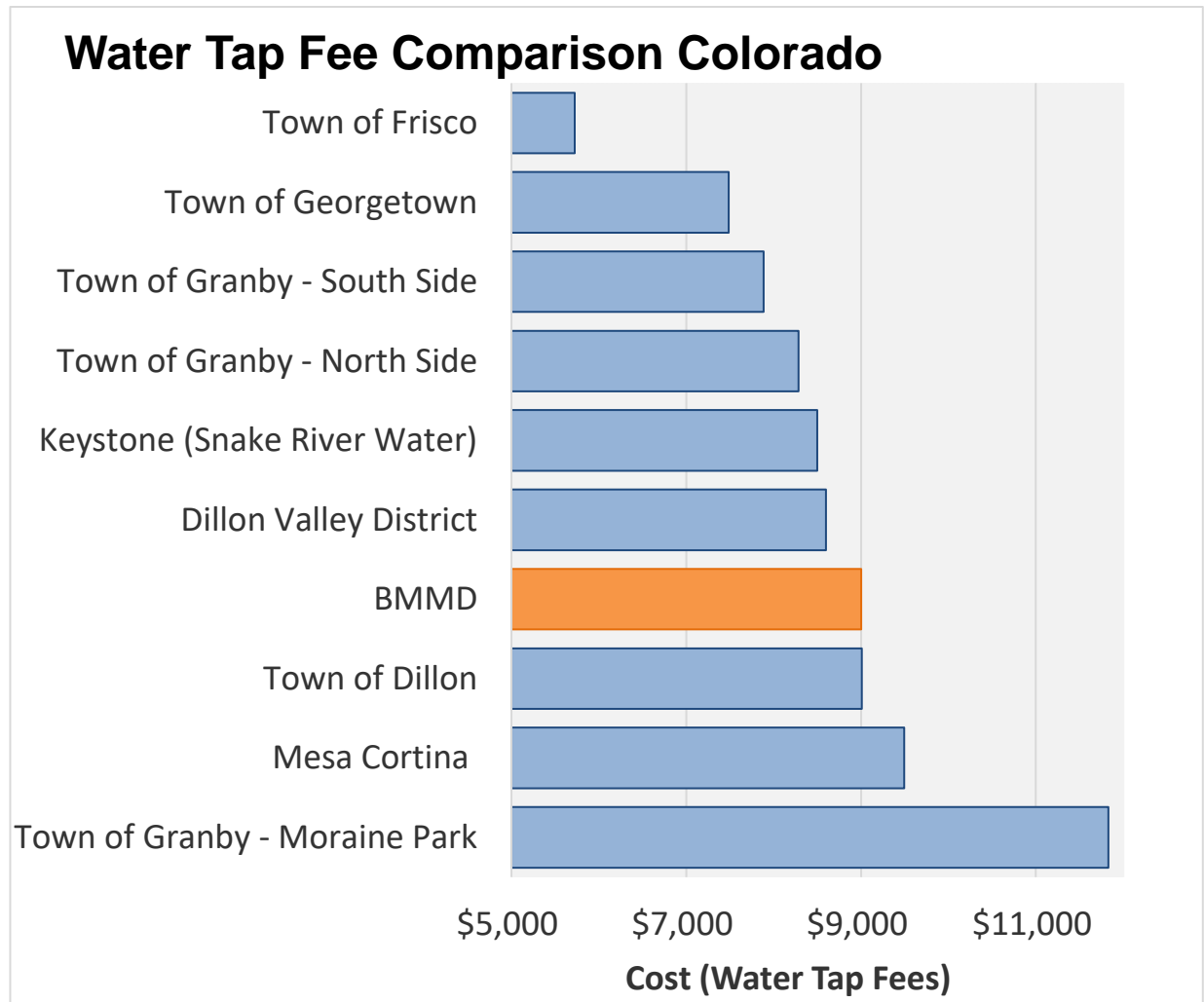
- All customers are charged a flat quarterly base fee
- Base Fee: \$110 per quarter (\$36.67 per month)

Sewer Rate Comparison for Nearby Sewer Providers



Tap Fee Comparison- Water

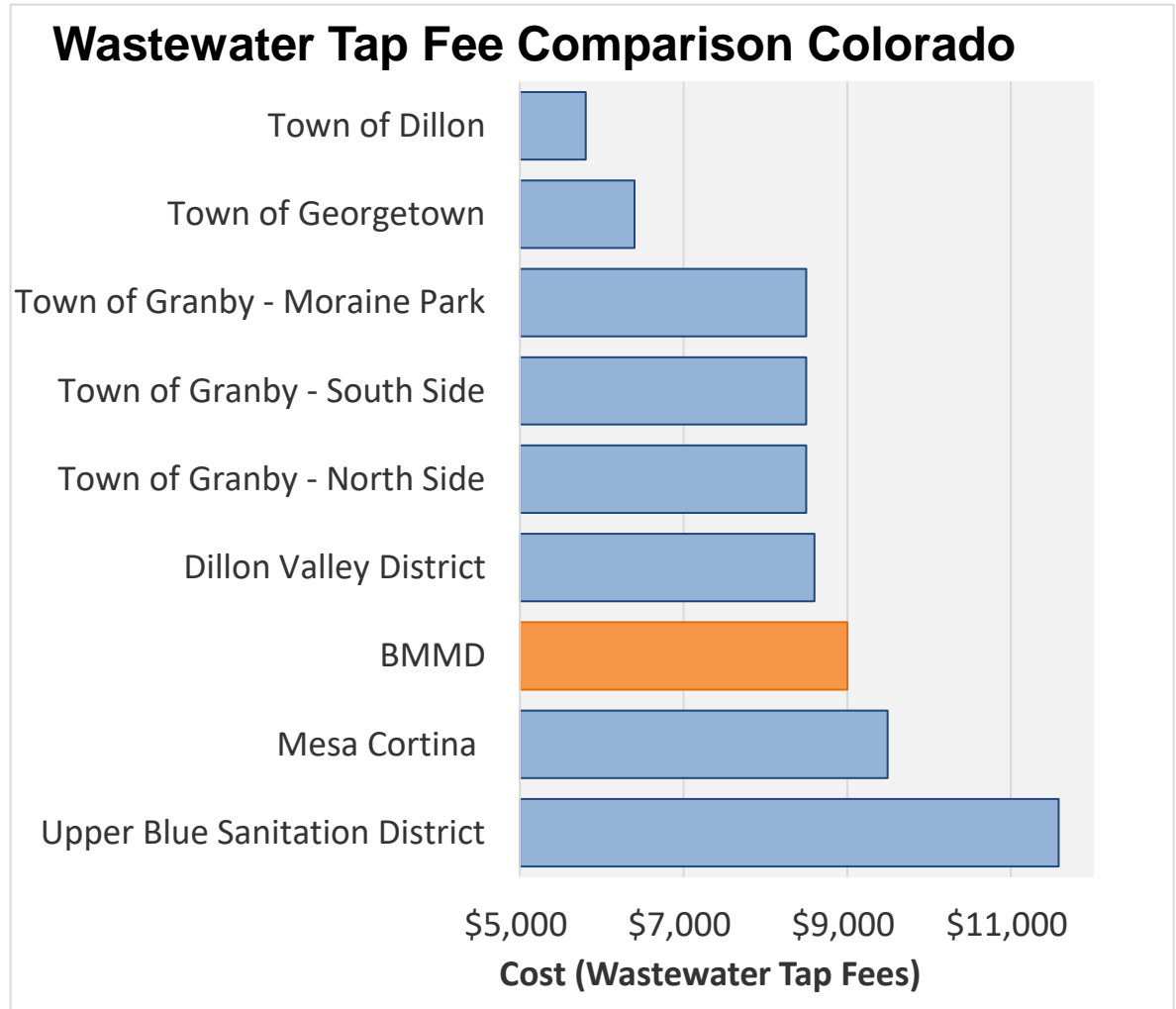
- Tap fee for a 3 bedroom, 3-bathroom house is \$9,000
- Additional bedroom or bathroom is \$900
- The Cash Flow Model does not project any revenue from tap fees.
- Not a significant source of revenue (JSA's EQR cap allows development of 62.56 new EQRs, of which 9.56 are unrestricted EQRs).



No modifications to tap fees recommended at this time.

Tap Fee Comparison- Wastewater

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Revenue and Expenses for 2021

Category	Revenues 2021		
	General	Water	Sewer
Service Fees	-	\$576,270	\$982,866
Tap Fees*	-	\$20,220	\$21,380
Mesa Cortina Service Charges	-	\$51,357	\$21,932
Other	\$26,673	-	-
Total	\$26,673	\$647,847	\$1,026,178

Category	Expenses 2021		
	General	Water	Sewer
Capital	-	\$532,369	\$78,095
Debt Service	-	\$182,734	-
O&M	-	\$438,855	\$709,563
Other	\$201,170	-	-
Total	\$201,170	\$1,153,958	\$787,658

- Assumptions:**
- Non-operating revenues are split 50/50 between water and sewer
 - General expenses are split 50/50 between water and sewer
 - *No tap fee revenue is projected in future years to be conservative

Wastewater Capital Improvement Plan (CIP)

Year	Estimated Total Cost in 2022 Dollars
2022	\$69,000
2023	\$140,000
2024	\$150,000
2025	\$110,000
2026	\$130,000
2027	\$130,000
2028	\$200,000
2029	\$50,000
2031	\$25,000
2032	\$30,000
2042	\$30,000
Total	\$1,064,000

Key Takeaway: The complete wastewater CIP list will be included in the report.

Water CIP

Year	Estimated Total Cost in 2022 Dollars
2022	\$637,500
2023	\$255,000
2024	\$1,550,000
2025	\$1,095,000
2026	\$730,000
2027	\$860,000
2028	\$238,600
2029	\$280,000
2030	\$380,000
2031	\$40,000
2032	\$85,000
2033	\$395,000

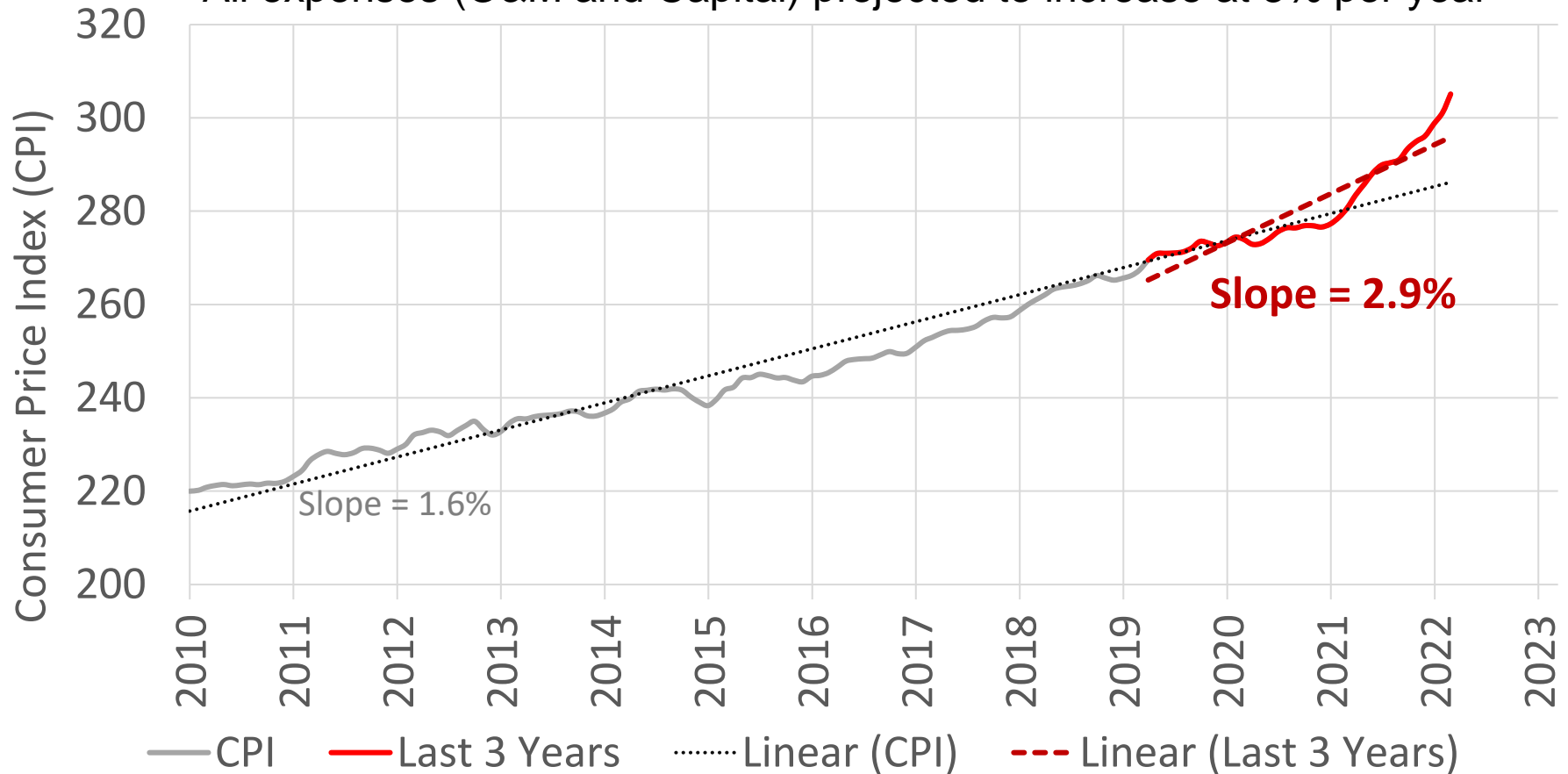
Water CIP Cont.

Year	Estimated Total Cost in 2022 Dollars
2034	\$30,000
2035	\$205,000
2036	\$390,300
2037	\$140,000
2038	\$3,045,000
2039	\$280,000
2040	\$315,000
2041	\$290,000
2042	\$702,700
2043	\$45,000
2044	\$180,000
Total	\$12,169,100

Key Takeaway: The complete water CIP list will be included in the report.

Inflation Assumptions

- The cash flow model assumes an inflation rate of 3% based on historical consumer price index (CPI) increases and Federal Reserve Board's target inflation increases of 2.5-3%
- All expenses (O&M and Capital) projected to increase at 3% per year



Reserve Account Balance

- **Operations & Maintenance (O&M) Reserve:** 6 months O&M expenses
- **Emergency & Loan Reserve:** Part of the cost to replace Tank 2b or a pump station

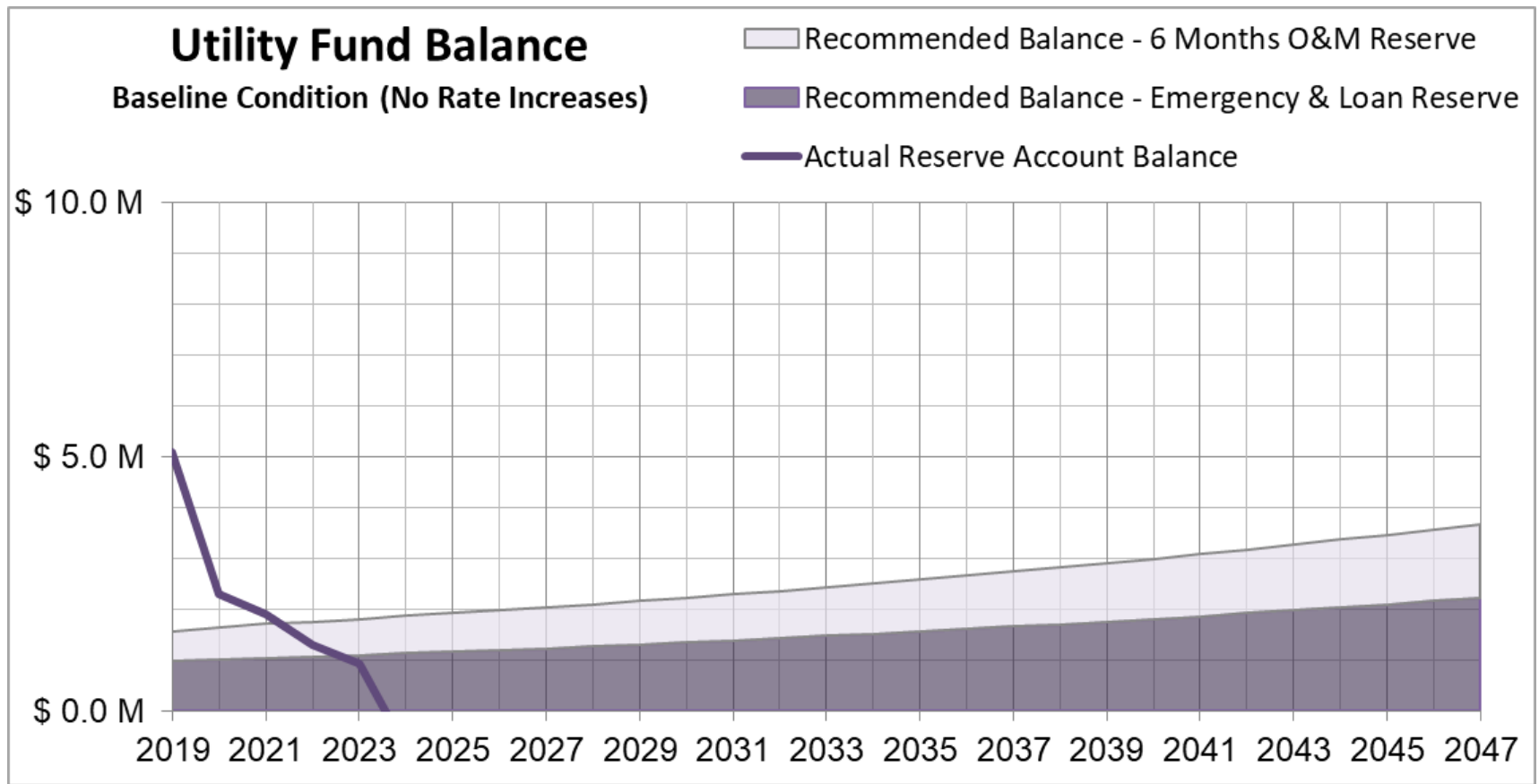
Total Utility Fund	Total Utility Fund	Description
O&M Reserve	\$ 674,794	6 months O&M Expenses
Emergency & Loan Reserve	\$ 1,000,000	Chosen by District Staff, to cover half a tank replacement or a pump station replacement
Total	\$ 1,674,794	O&M Reserve + Emergency Reserve
Planned Inflation Rate	3%	Federal Reserve Board's target inflation increases of 2.5-3%

Rate Revenue Alternatives

SGM developed multiple rate revenue alternatives to show options for how the District can raise rates to meet its goals of:

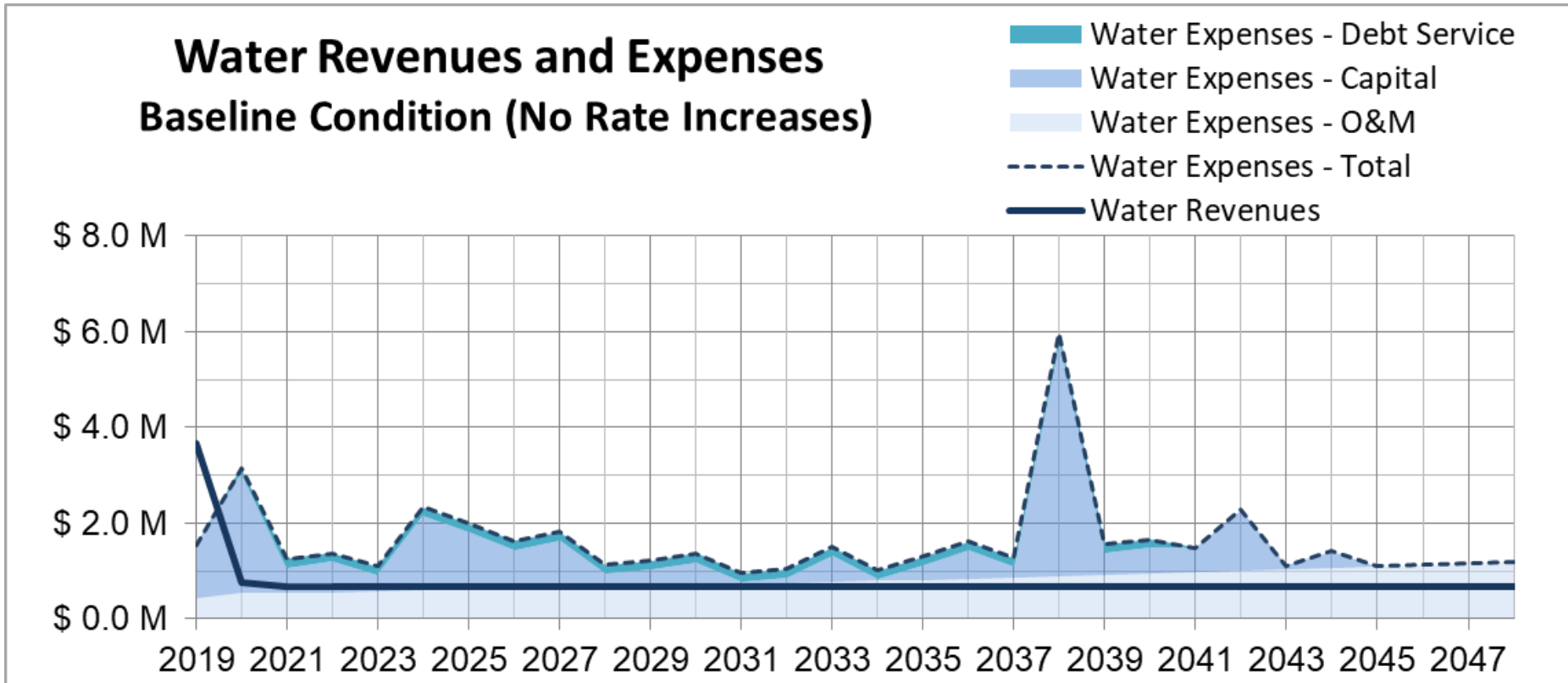
- Meeting expected operations and maintenance costs
- Funding the District's Capital Improvements Plan to replace aging infrastructure and make necessary upgrades
- Keeping a reserve balance to maintain operational flexibility

Utility Fund Balance: No Rate Increases



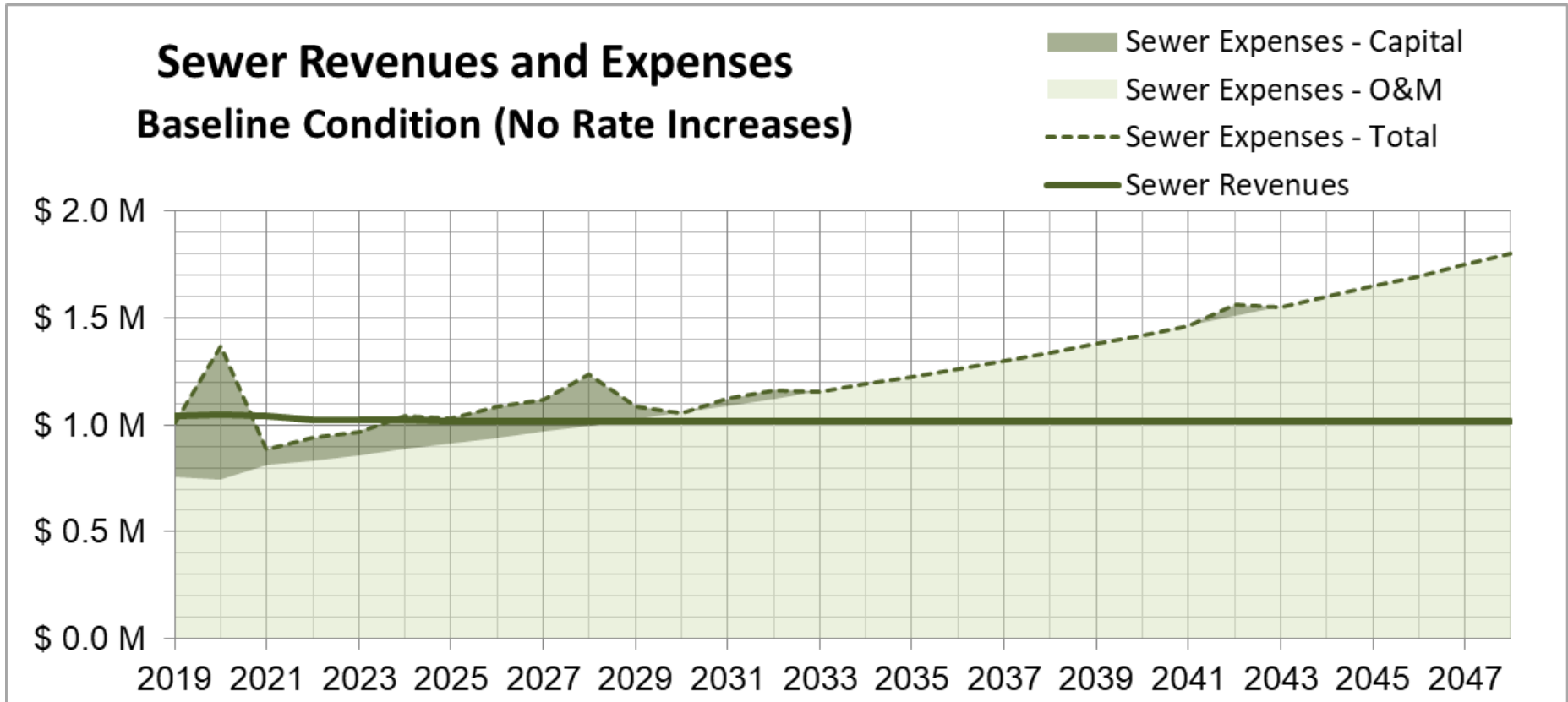
Key Takeaway: Water and sewer rate increases are needed to cover operations & maintenance (O&M) expenses, cover planned capital projects, and keep the reserve account balance.

Water Revenue and Expenses: No Rate Increases



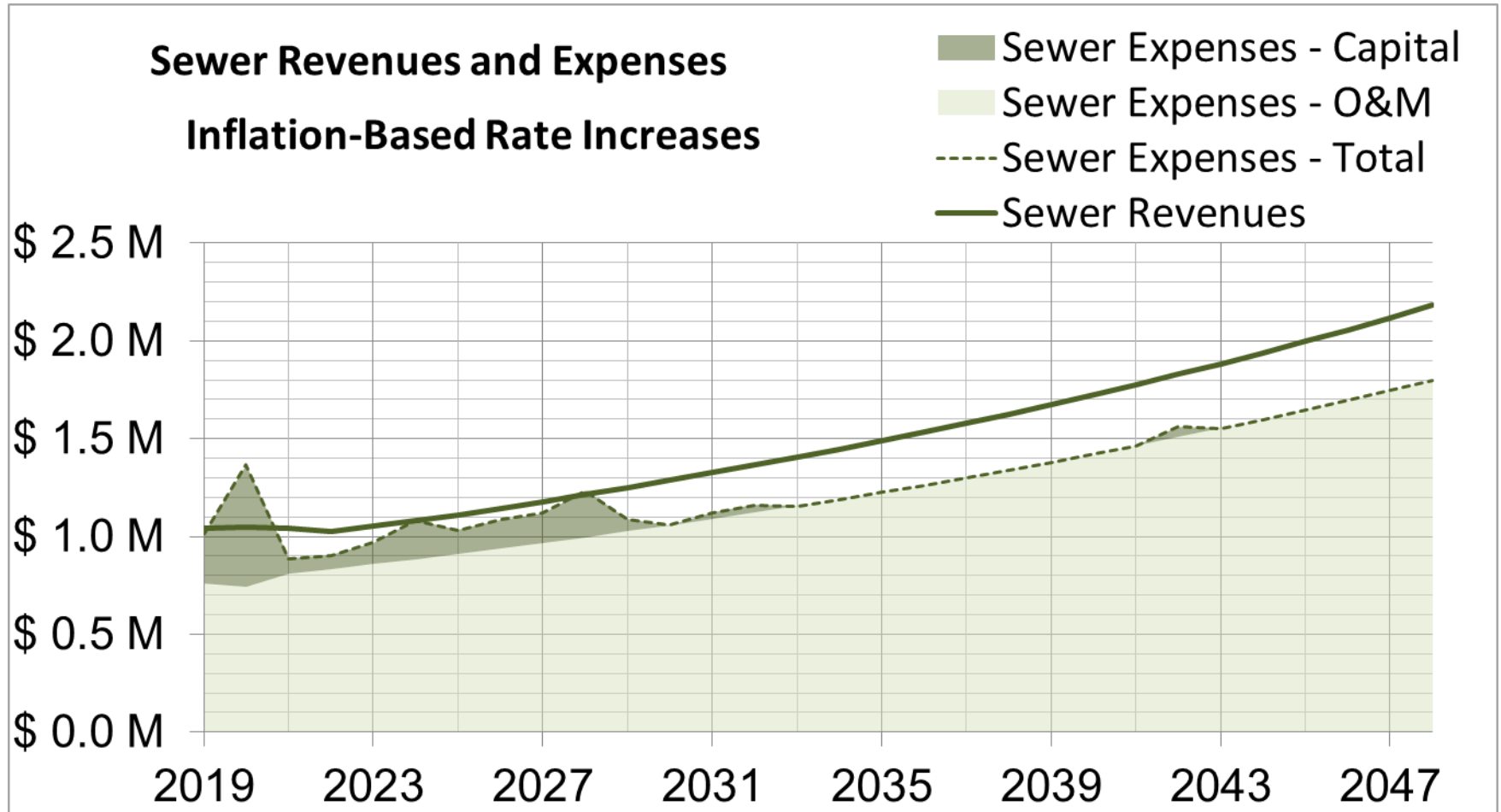
Key Takeaway: Rate increases will be needed to cover expenses

Sewer Revenue and Expenses: No Rate Increases



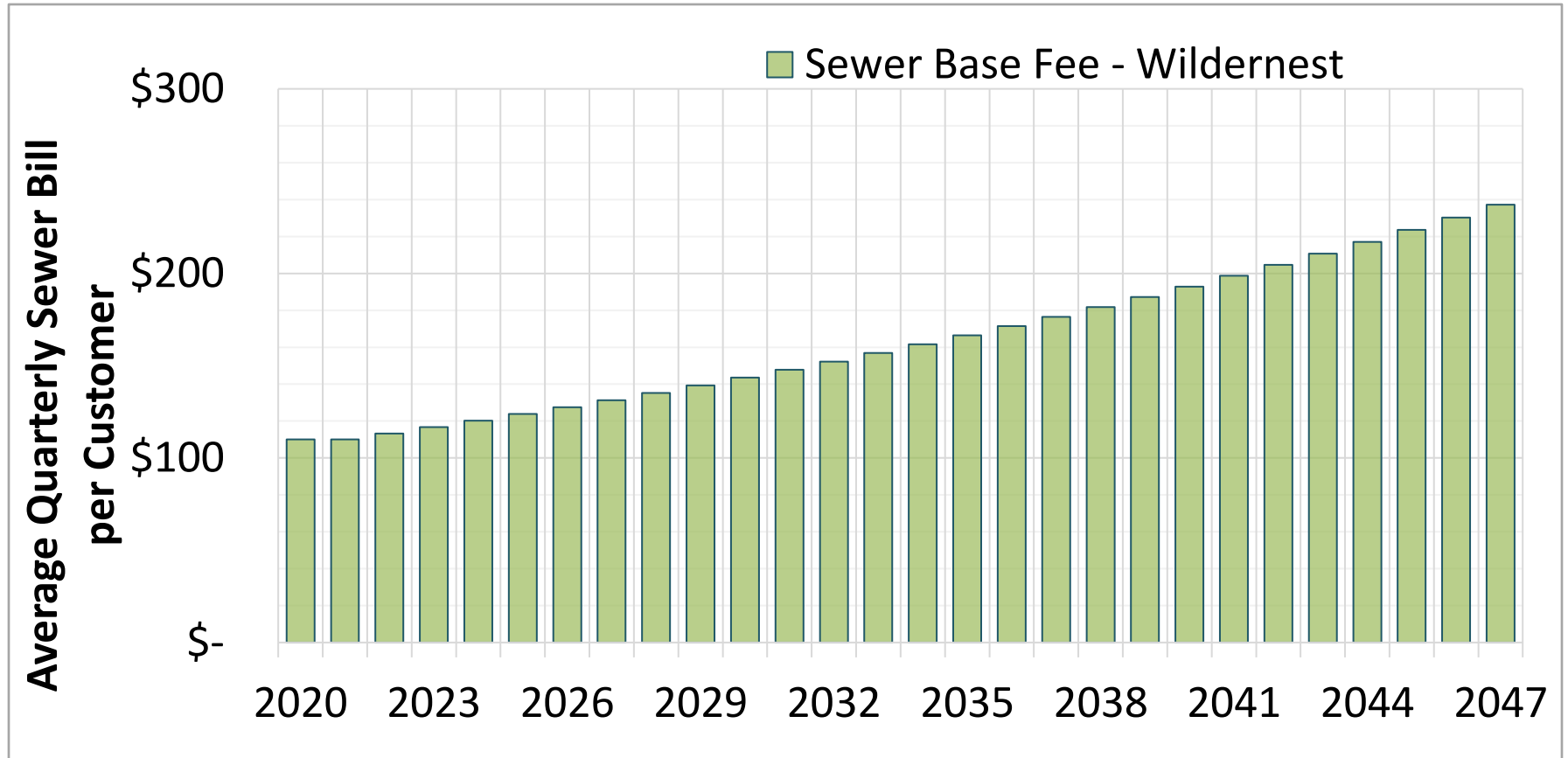
Key Takeaway: Rate increases will be needed to cover expenses

Sewer Revenue & Expenses: Inflation Based Rate Increases

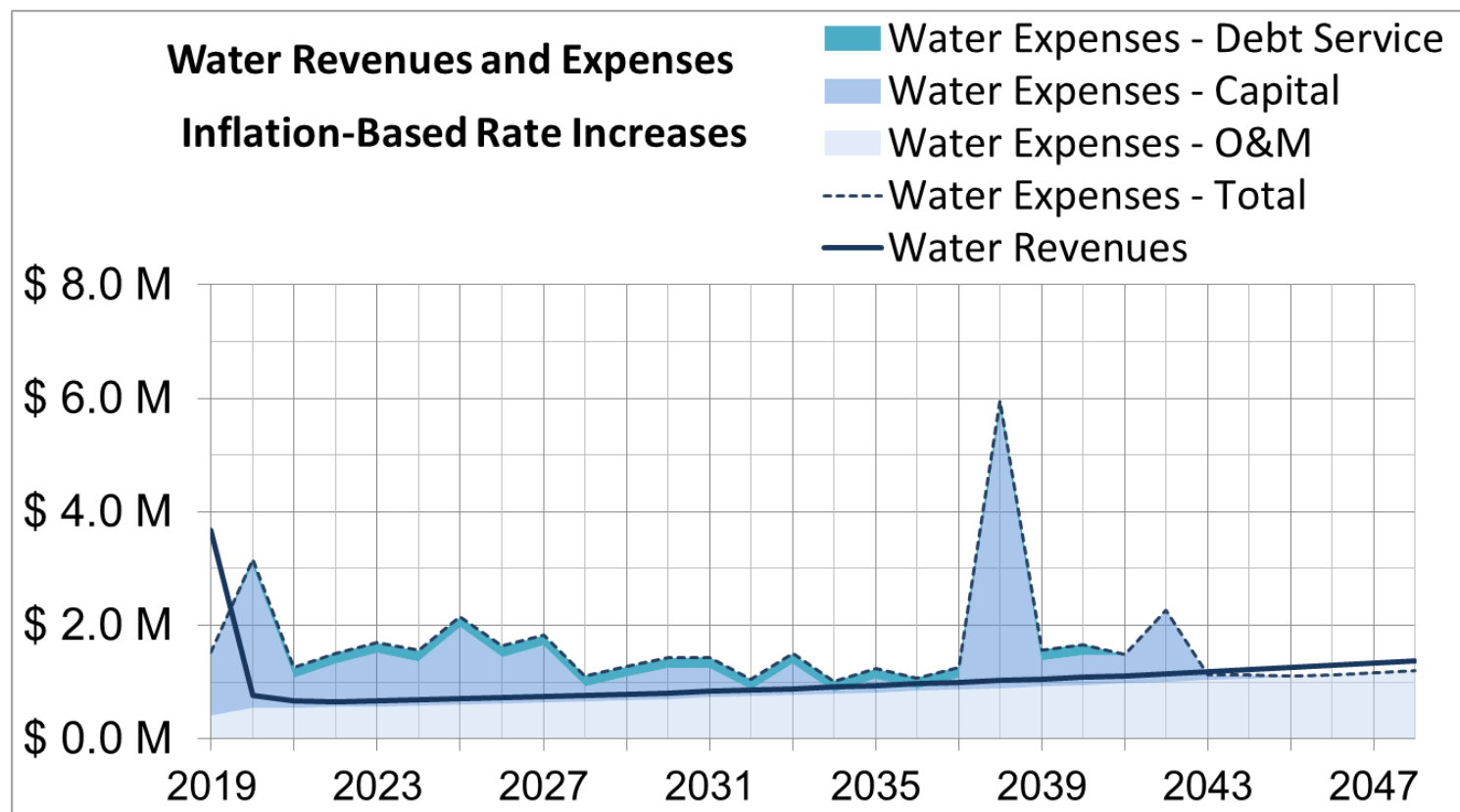


Recommendation: Structure all rate increase alternatives to include inflation-based rate increases for sewer fees

Average Quarterly Sewer Bill: Inflation Based Rate Increases



Water Revenue & Expenses: Inflation Based Rate Increases



Key Takeaway: Inflation-based water rate increases are

- sufficient to cover operations & maintenance (O&M) expenses
- **insufficient to cover planned capital projects**

Proposed Water Rate Increase Alternatives

- Three rate increase alternatives were evaluated using the cash flow model
- All alternatives have the same loan assumptions
- Each alternative has different a rate structure

	Alternative 1	Alternative 2	Alternative 3
Loan	<ul style="list-style-type: none">• 2024 loan• 2038 loan	<ul style="list-style-type: none">• 2024 loan• 2038 loan	<ul style="list-style-type: none">• 2024 loan• 2038 loan
Rate Structure	<ul style="list-style-type: none">• Change Base Rate• Two-Tier Rate Structure	<ul style="list-style-type: none">• Keep Current Base Rate• Two-Tier Rate Structure	<ul style="list-style-type: none">• Keep Current Base Rate• Three-Tier Rate Structure

Loan Assumptions

Loan Assumptions for all Alternatives:

	2024 Loan	2038 Loan
Loan Amount	\$ 6 Million	\$ 5 Million
Projects Covered	“Bundled” short-term CIP projects	Tank 3 replacement & associated items
Payback Period	20-year 2024 – 2044	20-year 2038 – 2058
Assumed Rate	3%	3%
Approx. Annual Payment	\$403,000	\$336,000

- The District will pursue a state revolving fund (SRF) loan
 - 3% is a conservative estimate for the finance rate
- The 2024 leveraged loan will cover certain water CIP projects from 2024-2035.
 - These projects will be prioritized and completed within 3-5 years after the loan is received. Recommend detailed reevaluation of CIP timeline during SRF funding process.
 - The District will need to complete the eligibility survey during the June 1, 2023 to June 30, 2023 application period.

Considerations for Tiered Water Rates

Advantages

- Increasing block tiers are well suited to small utilities with a homogenous customer base, such as BMMD (primarily residential customers)

Conservation:

- Increasing block rate structures encourage conservation
- Billing for every drop of treated water consumed (including Tier 1) reinforces the message that water is a valuable resource and that none of it is free
- Customers are rewarded for indoor conservation

Revenue stability:

- Tier 1 and base rate will generate stable revenue and will help reliably cover fixed costs of service

Disadvantages

Increased complexity:

- Tiered rate structures are more complex for utilities from a billing perspective (additional billing and customer service considerations)
- The rate structure can be difficult to communicate to customers

Revenue volatility for outdoor use

- Increasing block rates can increase revenue volatility in utilities with high outdoor use; however, BMMD has low outdoor use and a base fee

Equity

- Increasing block rate structures can create inequity, especially for commercial or industrial users

Water Revenue Statistics

Water Revenue Statistics					
Existing Rate Structure	Tier #-->		1	0	Base Fee
	Tier Bottom (kgal/.qtr-unit)-->		> 15	0 - 15	(\$/qtr.-unit)
	<i>Rates (\$/Unit-kgal)</i>		\$6.00	\$0.00	\$60.00
	Volume (%)		11.4%	88.6%	
	Revenue (%)		7.7%	0.0%	92.3%
Alt 1 - Change Base Rate + Two Tier Rate Structure	Tier #-->		2	1	Base Fee
	Tier Bottom (kgal/.qtr-unit)-->		> 15	0 - 15	(\$/qtr.-unit)
	<i>Rates (\$/Unit-kgal)</i>		\$12.00	\$2.27	\$81.00
	Volume (%)		11.4%	88.6%	
	Revenue (%)		9.3%	13.7%	77.0%
Alt 2 - Current Base Rate + Two Tier Rate Structure	Tier #-->		2	1	Base Fee
	Tier Bottom (kgal/.qtr-unit)-->		> 15	0 - 15	(\$/qtr.-unit)
	<i>Rates (\$/Unit-kgal)</i>		\$12.00	\$5.49	\$60.00
	Volume (%)		11.4%	88.6%	
	Revenue (%)		9.3%	33.2%	57.4%
Alt 3 - Current Base Rate + Three Tier Rate Structure	Tier #-->	3	2	1	Base Fee
	Tier Bottom (kgal/.qtr-unit)-->	> 11	7 - 11	0 - 7	(\$/qtr.-unit)
	<i>Rates (\$/Unit-kgal)</i>	\$12.00	\$11.58	\$3.48	\$60.00
	Volume (%)	15.8%	19.4%	64.8%	
	Revenue (%)	13.4%	15.8%	15.9%	54.9%

Water Rate Structures Analyzed

The cash flow model evaluated the following alternatives. All alternatives met revenue requirements (O&M & capital projects) & met recommended minimum reserve balance 2024 and on (all 3 used some reserve funds in 2022 & 2023).

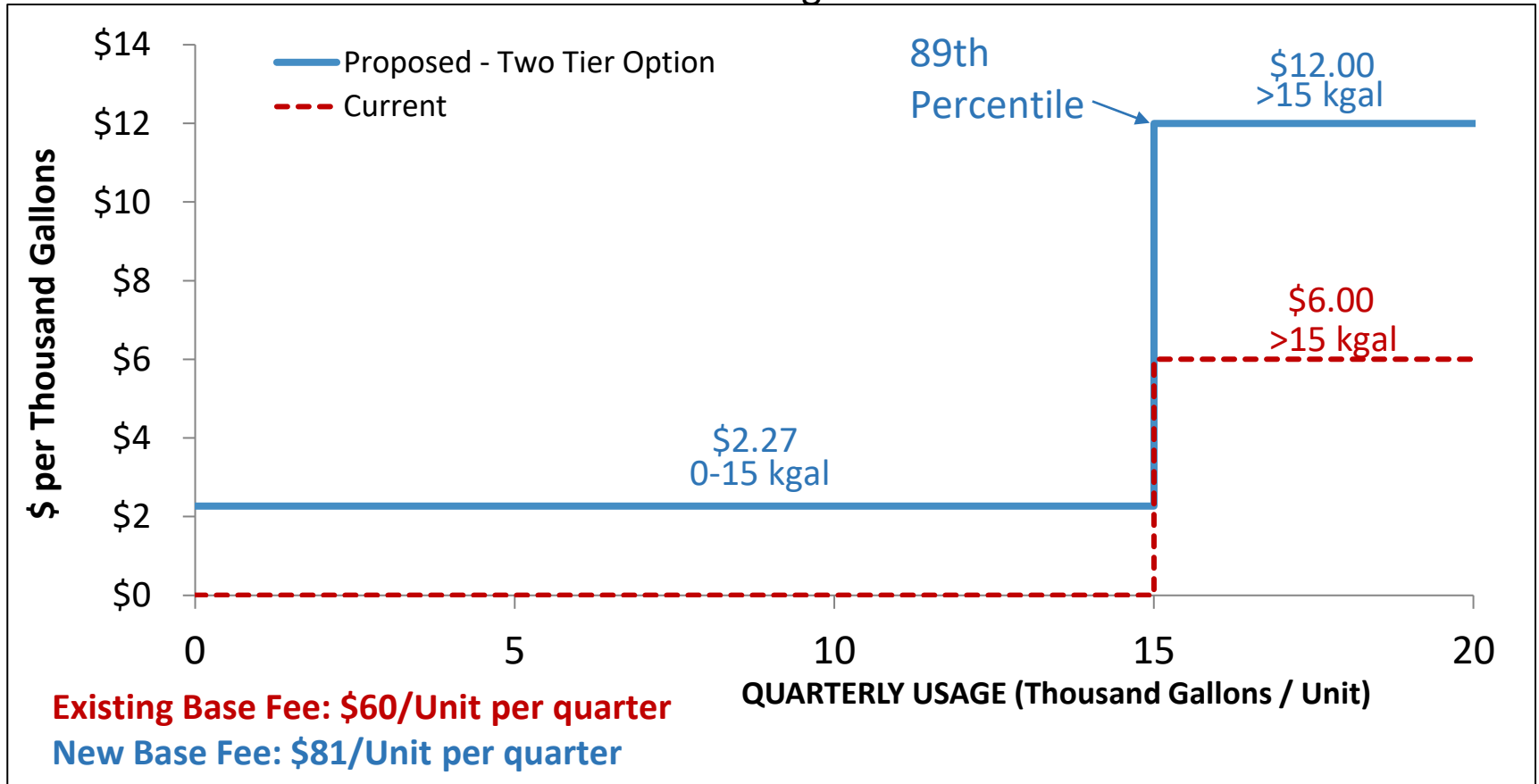
Alt. #	Base Fee	Rate Structure	Temporary Rate Increases			Default Long-term Rate Increase	2024 Water Loan Amount	2038 Water Loan Amount
			Increase %	Start Year	End Year			
Alt. 1	\$81	2 Tiers	5.0%	2024	2028	3.0%	\$6M	\$5M
Alt. 2	\$60	2 Tiers	5.0%	2024	2027	3.0%	\$6M	\$5M
Alt. 3	\$60	3 Tiers	0.0%			3.0%	\$6M	\$5M

Key Takeaway: Alternative 1 was chosen as the District recommendation:

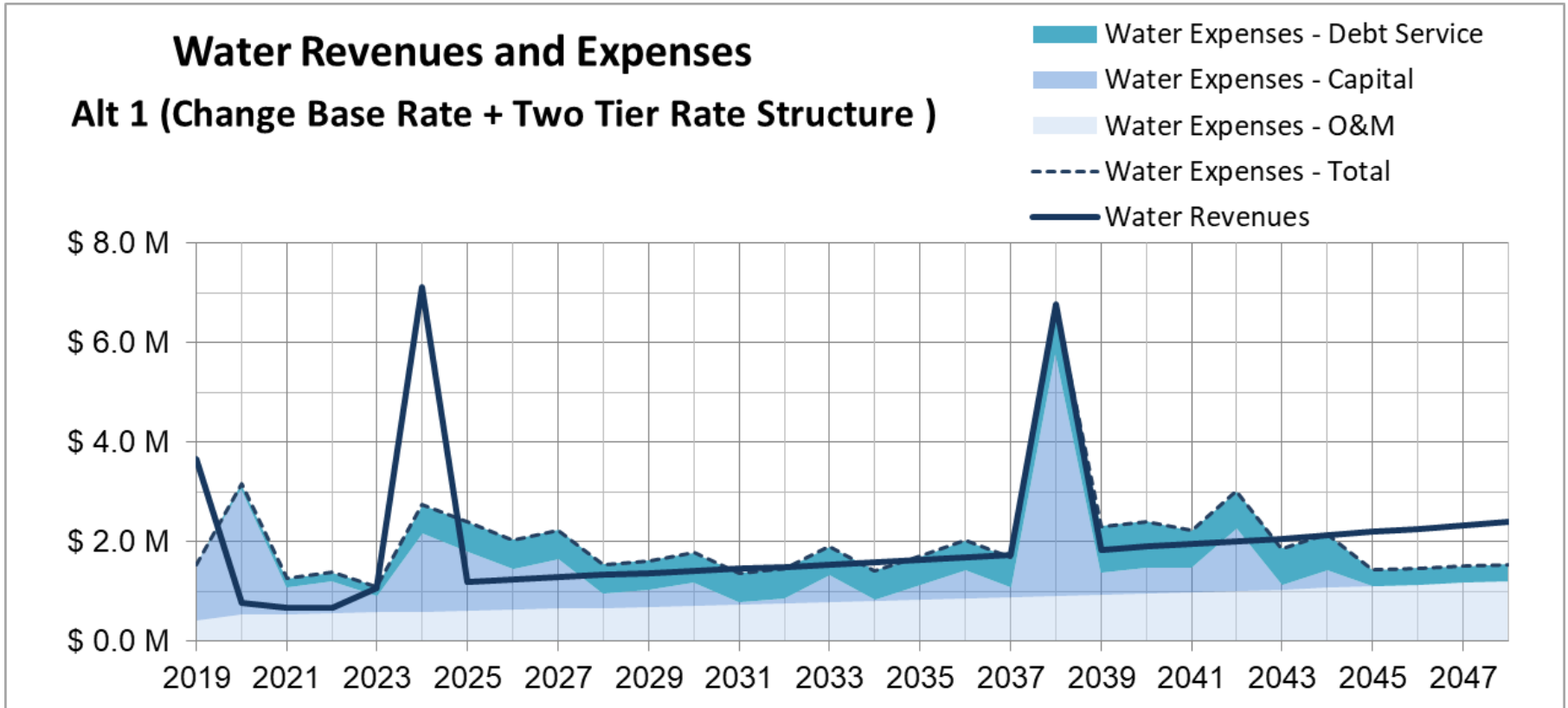
- It creates a stable revenue source for the District since a significant portion of the revenue comes from the base fee.
- It minimizes impact to customers (especially high use customers).

Water Rate Structure – Alternative 1 (Recommended)

- Increase base fee from \$60/Unit/Qtr → \$81/Unit/Qtr
- Keep two-tiered rate structure
 - Tier-break based on ~90th percentile of per-unit water usage, 2019 & 2020
- 5% rate increase from 2024-2028. Then a long-term rate increase of 3% after 2028

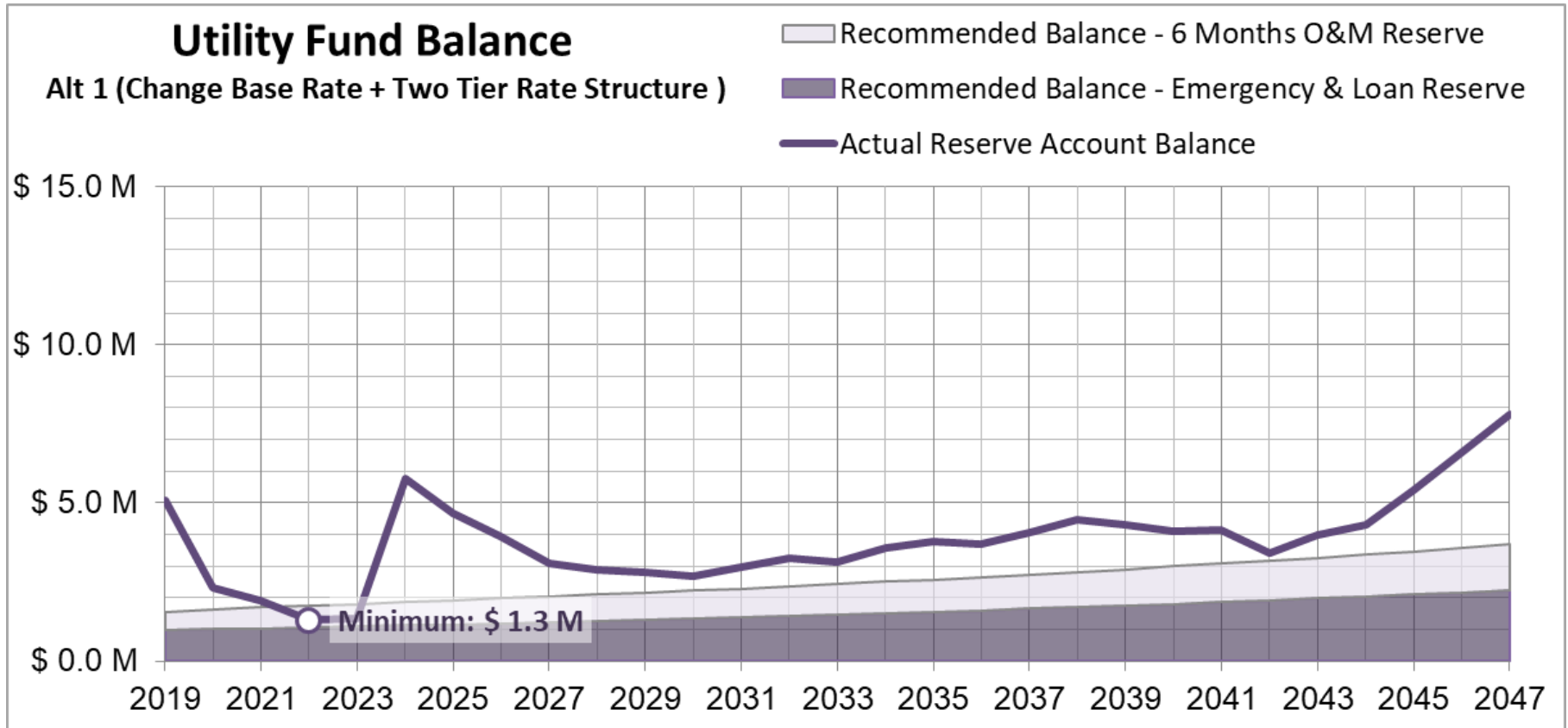


Alternative 1: District Recommendation



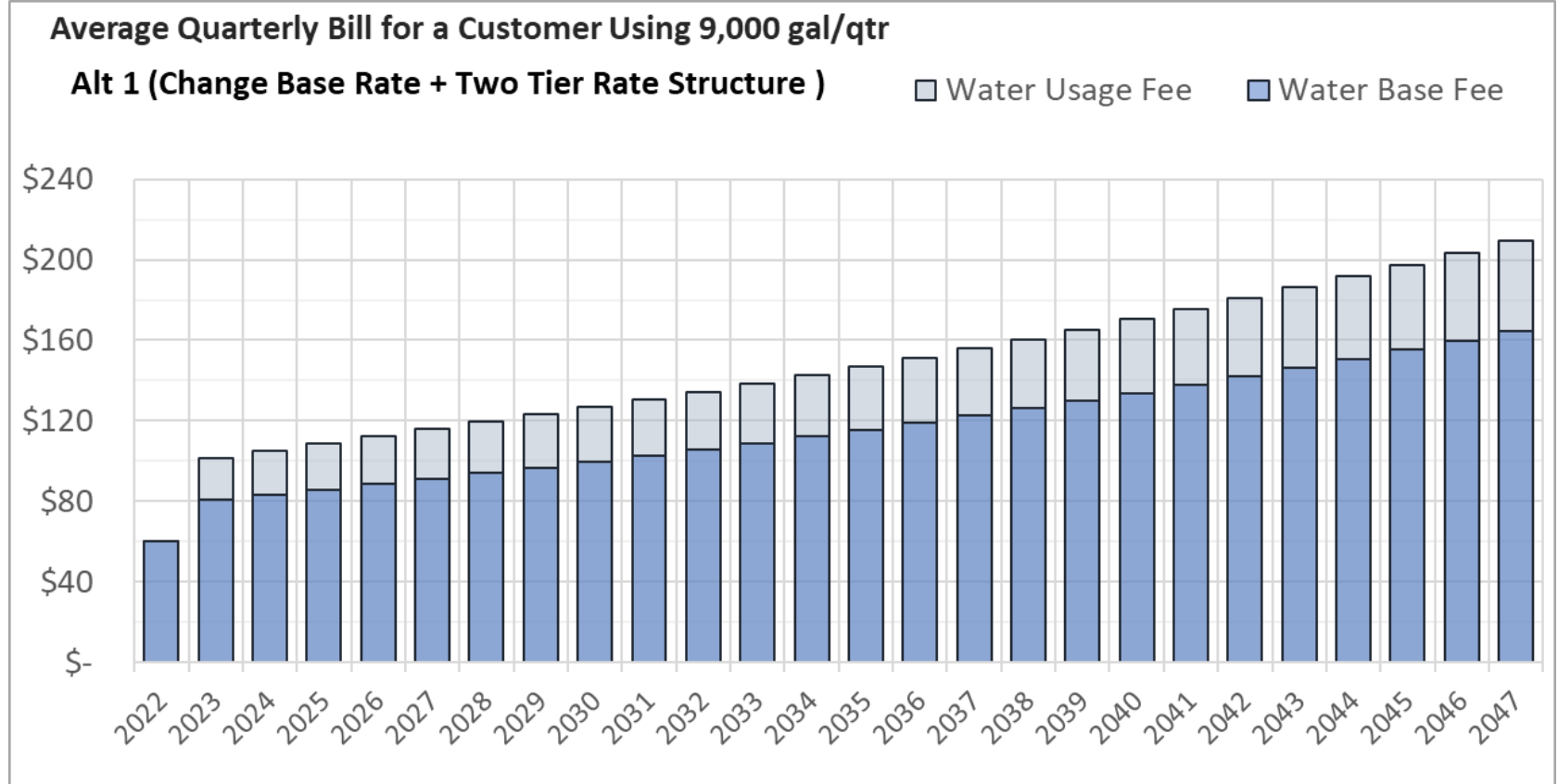
Key Takeaway: Alt 1 increases the base fee to \$81 and uses a two-tier rate structure. These rate increases are sufficient to cover operations & maintenance expenses and planned capital projects.

Alternative 1: District Recommendation



Key Takeaway: The rate increases and SRF loans will be sufficient to maintain the recommended reserve account balance in 2024 and on (with some use of reserve funds in 2022 & 2023).

Alternative 1: District Recommendation



Key Takeaway: Alt 1 increases the base fee to \$81 and uses a two-tier rate structure. A significant portion of the average quarterly bill is from the base fee. This will create a stable revenue source for the District and reduce impact to customers, especially high use customers.

Highest Water Users

Account #	Current Unit #	Property Description	Average Yearly Usage	Average Quarterly Usage per Account	Average Quarterly Usage (per Unit)
779900	1	Buffalo Ridge Clubhouse	1,213,656	303,414	303,414
789100	1	Timber Ridge Clubhouse	522,766	130,692	130,692
748200	2	Treehouse Club#2	650,688	162,672	81,336
320111	1	WILDERNEST SUB	187,383	46,846	46,846
243713	1	EAGLESNEST TOWNHOMES	151,437	37,859	37,859
242020	1	VILLAGE AT WILDERNEST SUB	137,121	34,280	34,280
560253	1	SADDLE RIDGE TOWNHOMES	135,430	33,858	33,858
140601	1	ROLLING RIDGE TOWNHOMES	128,308	32,077	32,077
140404	1	ROLLING RIDGE TOWNHOMES	122,912	30,728	30,728
749491	1	Snowscape Clubhouse	119,810	29,952	29,952
310232	1	WILDERNEST SUB	116,590	29,147	29,147
748000	4.6	Treehouse Club#1	535,893	133,973	29,125

Key Takeaway: Top water users were determined by ranking each account by average quarterly usage (per unit) from 2019 and 2020 and then dividing that water usage by the number of units associated to the account.

Customer Cost Implications

Account #	Current Unit #	Property Description	Average Quarterly Usage (per Unit)	Current Quarterly water Bill (per Unit)	Alternative 1: Quarterly water Bill (per Unit)
779900	1	Buffalo Ridge Clubhouse	303,414	\$1,790.48	\$3,576.02
789100	1	Timber Ridge Clubhouse	130,692	\$754.15	\$1,503.35
748200	2	Treehouse Club#2	81,336	\$458.02	\$911.08
320111	1	WILDERNEST SUB	46,846	\$248.90	\$492.86
243713	1	EAGLESNEST TOWNHOMES	37,859	\$229.04	\$441.07
242020	1	VILLAGE AT WILDERNEST SUB	34,280	\$178.64	\$351.22
560253	1	SADDLE RIDGE TOWNHOMES	33,858	\$184.57	\$359.87
140601	1	ROLLING RIDGE TOWNHOMES	32,077	\$189.98	\$364.60
140404	1	ROLLING RIDGE TOWNHOMES	30,728	\$160.15	\$313.17
749491	1	Snowscape Clubhouse	29,952	\$149.71	\$294.48
310232	1	WILDERNEST SUB	29,147	\$144.88	\$284.82
748000	4.6	Treehouse Club#1	29,125	\$144.75	\$284.55

- Notable increase in highest water users' rates
- By quickly increasing revenue through rate increases, future rate increases will be lower.

Key Points

- All customers are currently charged a flat quarterly base fee plus a usage fee for any water use beyond 15,000 gallons.
 - Water usage for the District is low compared to other water providers
 - Rate increases will likely not significantly decrease water use
- **The District staff recommend the rate increases in Alternative 1.**
 - **Creates a stable revenue source for the District since a significant portion of the revenue comes from the base fee.**
 - **Minimizes impact to customers (especially high use customers).**
- Increased revenue quickly by moving to a tiered rate structure where users are charged for all water usage.
 - Reinforces the message that water is a valuable resource and that none of it is free to treat and distribute
 - Increase base fee and introduce a two-tier rate structure
 - Increasing the base fee will create a stable revenue source that is not dependent on water usage
 - Large water users will experience a notable increase in their water rates
- Apply for SRF proposed loans to cover the costs of proposed CIP projects and maintain the reserve account balance.
 - “Bundled” water system projects for \$6M SRF Loan in 2024
 - \$5M loan in 2038 to cover the Tank 3 replacement