





Draft Water Rate Study

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Agenda

-  Rate Study Methodology
-  Financial Plan
-  Cost-of-Service Analysis
-  Draft Rate Design Results

Rate Study Methodology



Why Prepare a Rate Study?

1. Required to comply with Prop 218
2. Typically prepared every 5 years
3. They demonstrate the fairness & equity of customer rates

Rate Study Methodology

Financial Plan

This step examines how much money the District has coming in and what's going out. It helps figure out how much the District needs to charge for its services and thinks about any changes that might need to be made in the future.

Cost of Service Analysis

Here, the District works out how to fairly split the cost of its services between all the people who use them. It's about making sure everyone pays an amount that's right for the service they get, and that all laws and regulations are followed.

Rate Design Analysis

The last part is about deciding the best way to charge people for District services so that the District collects enough money to cover its costs. It's all about creating a fair system that works for everyone.

Rate Study Methodology

What are “Net Revenue Requirements”?

The Financial Plan estimates the costs to be recovered from customer rates:



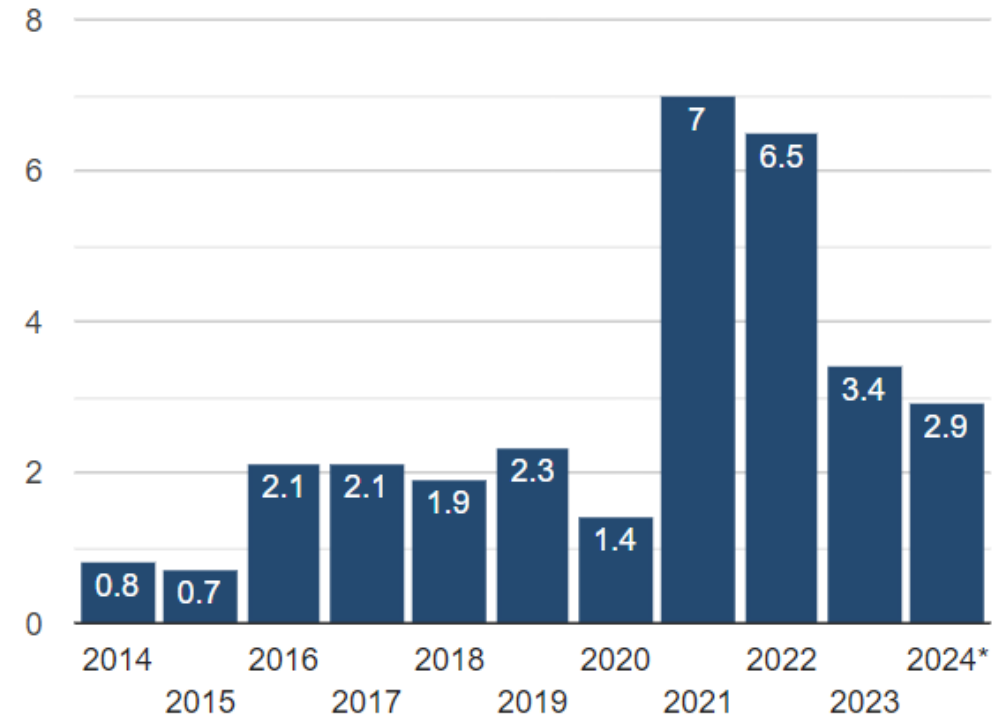
* licenses, fines, application fees, etc.

These costs should also include funding for adequate levels of reserves.

Summary of Key Considerations in Financial Plan

- **Increased costs for operations and maintenance of the water utility**
 - Inflationary costs for personnel, supplies, utilities and contract services
- **Costs for Capital Improvement Program**
 - Approximately \$8.4 million in identified capital improvement program costs over the next five years for domestic system
 - Irrigation-related capital improvement projects will commence after the five-year rate period is concluded
- **Use of Debt Financing to help pay for capital projects and help mitigate rate increases**
 - Rate model assumes debt financing of \$1.5 million in FY 24/25 and additional debt financing in FY 26/27

Chart: United States Annual Inflation Rates (2014 to 2024)



*Consumer Price Index is provided by the U.S. Department of Labor Bureau of Labor Statistics. The government agency last updated the CPI on August 14, and it covers the period up to July. CPI data for August will be released on September 11, 2024.

Financial Plan

Utility Revenue: The total income generated from customer service rates to cover operational expenses, debt repayments, and capital projects, minus alternative income sources like fees and fines. It includes a provision for reserves to ensure the utility's long-term financial stability and service reliability.

Operations and Maintenance (O&M) Bucket: This is the first bucket. It covers the costs of running and maintaining the service or infrastructure. The day-to-day expenses to keep things going.

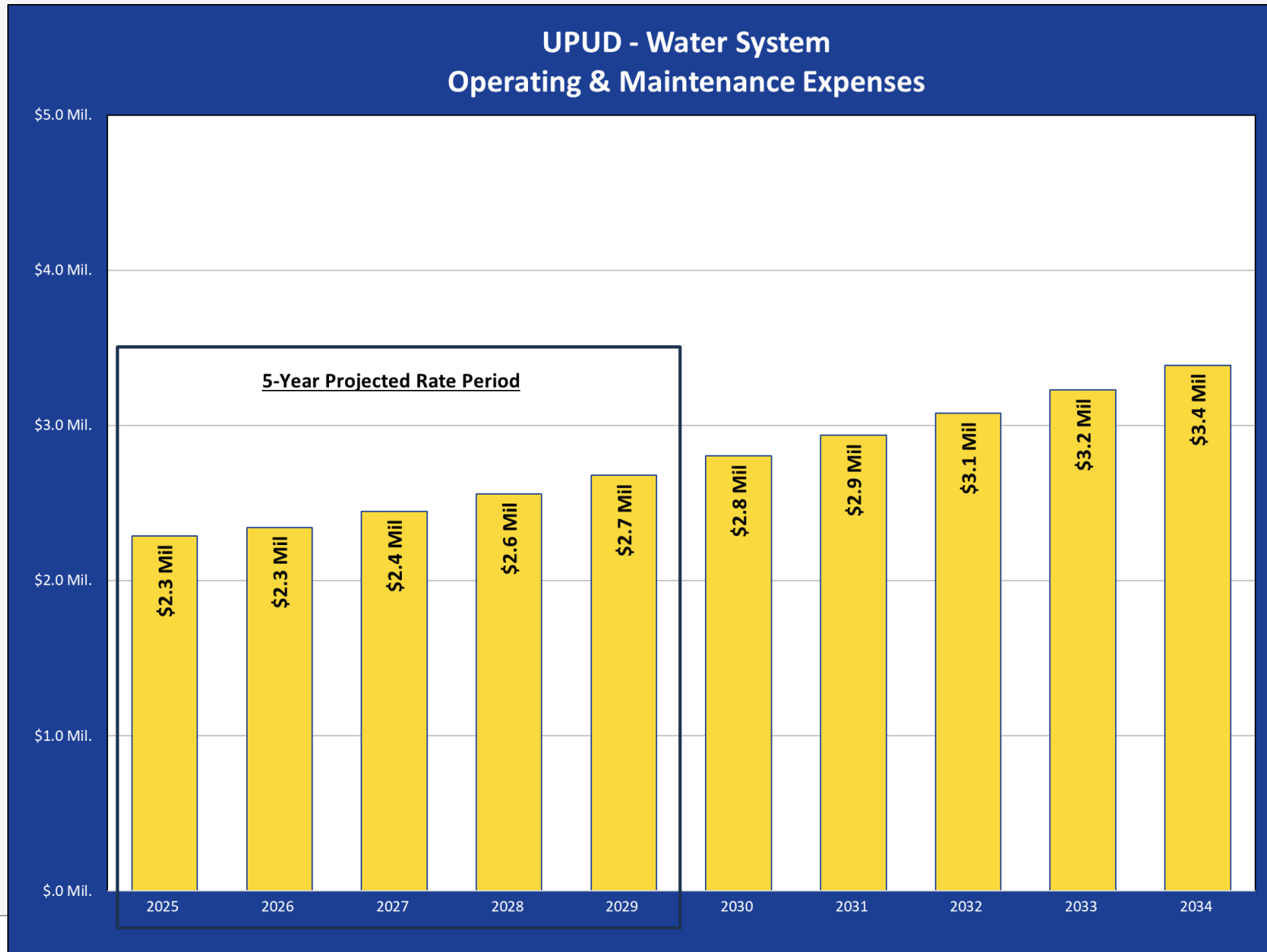
Capital Reserves Bucket: Once O&M is funded, the money can flow to the next bucket. This bucket is for capital reserves, used for future significant investments or infrastructure upgrades.

Rate-Funded Capital or Other Expenditures Bucket: If there's money left over after filling the first two buckets, it can then be allocated to other areas in the water enterprise such as pay-as-you-go rate-funded capital projects.

Utility Revenue

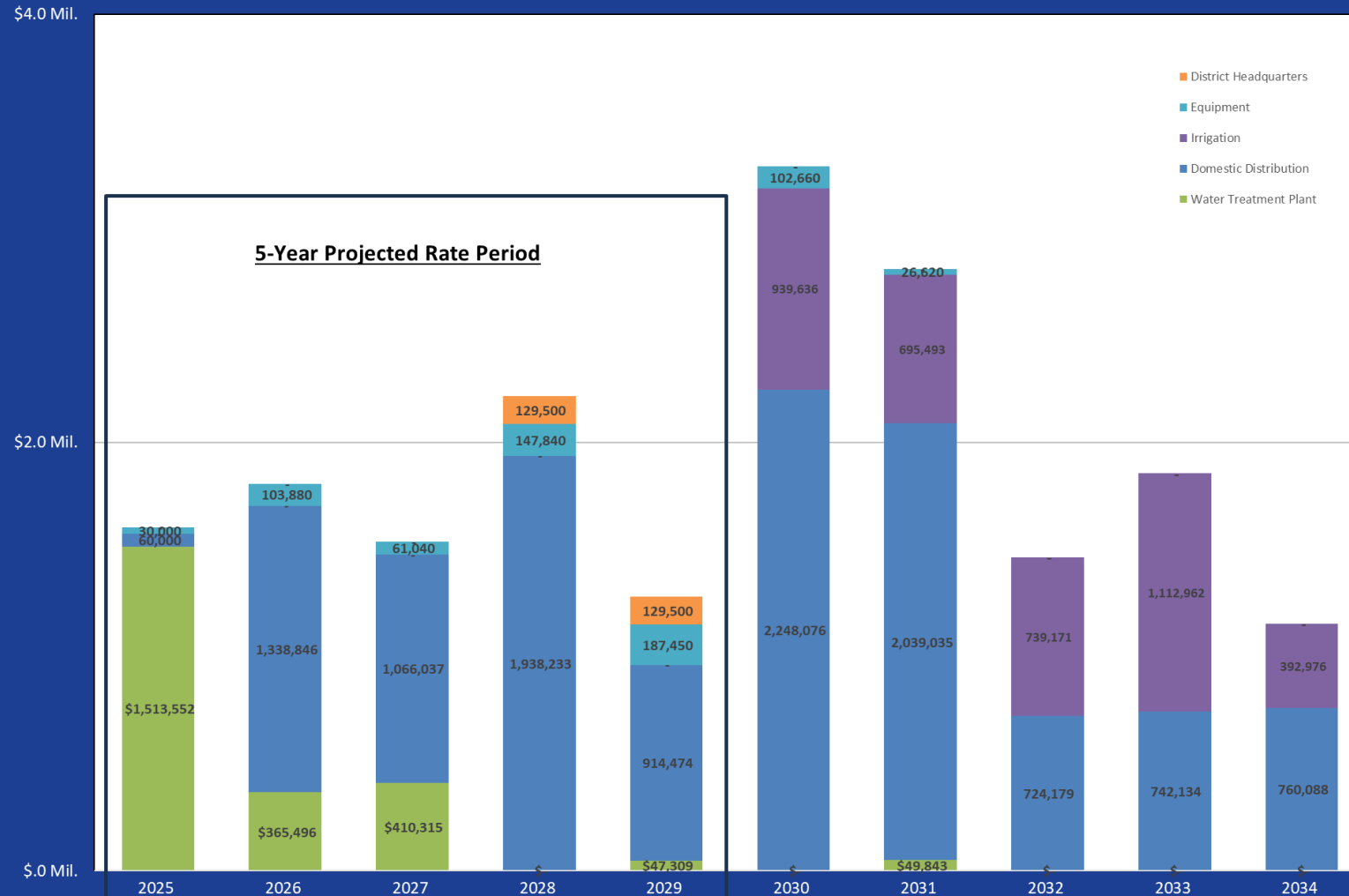


Financial Plan – O&M Expenses



Financial Plan – CIP

UPUD - Water System Capital Improvement Projects



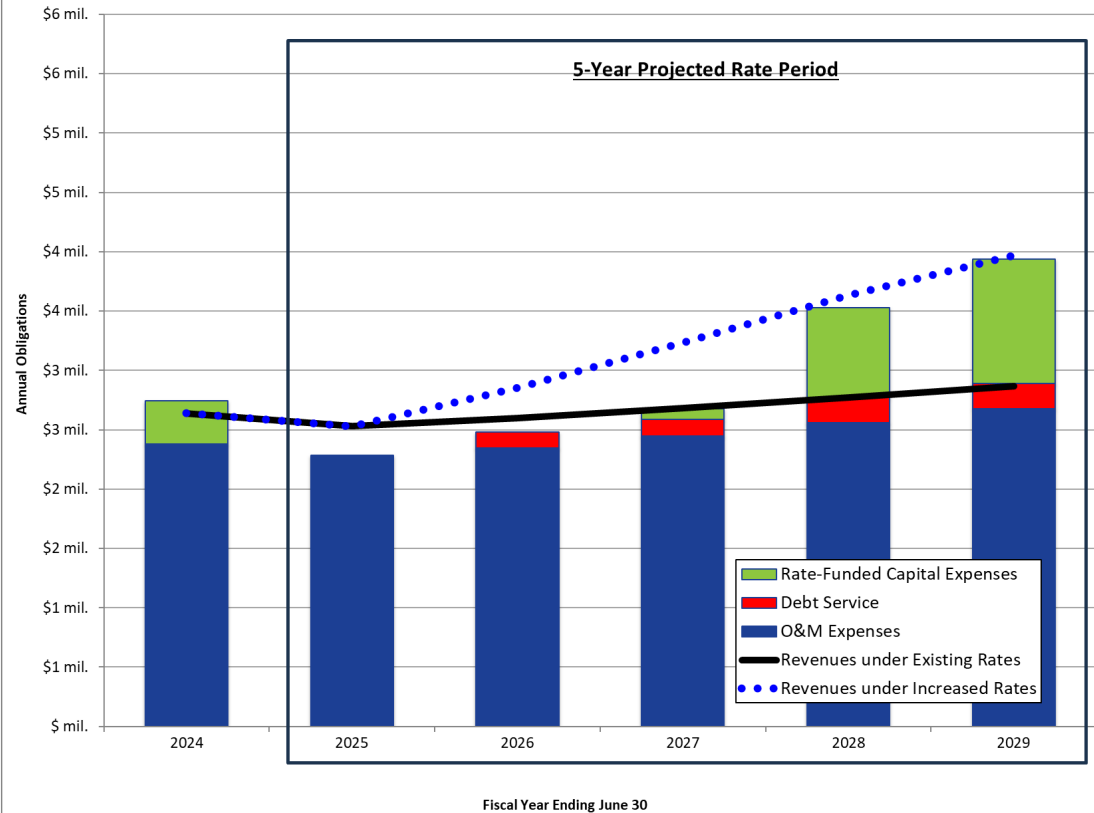
Financial Plan – Draft Alternative 1

RATE REVENUE REQUIREMENTS SUMMARY	Budget	5-Year Projected Rate Period				
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29
Sources of Water Funds¹						
Water Sales	\$ 2,151,277	\$ 2,276,582	\$ 2,351,726	\$ 2,431,335	\$ 2,515,792	\$ 2,605,523
Connection Fees	56,000	14,000	-	-	-	-
Non-Operating Revenue	430,200	240,200	245,004	249,904	254,902	260,000
Total Sources of Funds:	\$ 2,637,477	\$ 2,530,782	\$ 2,596,730	\$ 2,681,239	\$ 2,770,695	\$ 2,865,523
Uses of Water Funds¹						
<i>Operating Expenses:</i>						
Water System	\$ 2,377,477	\$ 2,286,498	\$ 2,343,152	\$ 2,448,140	\$ 2,559,411	\$ 2,677,453
Subtotal: Operating Expenses	\$ 2,377,477	\$ 2,286,498	\$ 2,343,152	\$ 2,448,140	\$ 2,559,411	\$ 2,677,453
<i>Other Expenditures:</i>						
Existing Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Debt Service	-	-	140,038	140,038	210,057	210,057
Rate-Funded Capital Expenses	367,630	-	-	89,001	757,960	1,052,269
Subtotal: Other Expenditures	\$ 367,630	\$ -	\$ 140,038	\$ 229,039	\$ 968,017	\$ 1,262,326
Total Uses of Water Funds:	\$ 2,745,107	\$ 2,286,498	\$ 2,483,190	\$ 2,677,179	\$ 3,527,428	\$ 3,939,779
<i>plus: Revenue from Rate Increases³</i>	-	126,539	400,883	700,108	971,630	1,221,275
Annual Surplus/(Deficit)	\$ (107,630)	\$ 370,823	\$ 514,424	\$ 704,167	\$ 214,897	\$ 147,018
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 2,258,907	\$ 2,032,298	\$ 2,238,186	\$ 2,427,275	\$ 3,272,526	\$ 3,679,779
Total Rate Revenue After Rate Increases (Water)	\$ 2,151,277	\$ 2,529,660	\$ 2,895,353	\$ 3,277,050	\$ 3,596,422	\$ 3,945,831
Projected Annual Rate Revenue Increase	0.00%	10.00%	10.00%	9.00%	6.00%	6.00%
<i>Cumulative Increase from Annual Revenue Increases</i>	<i>0.00%</i>	<i>10.00%</i>	<i>21.00%</i>	<i>31.89%</i>	<i>39.80%</i>	<i>48.19%</i>
<i>Debt Coverage After Rate Increase</i>	<i>N/A</i>	<i>N/A</i>	<i>4.67</i>	<i>6.66</i>	<i>5.63</i>	<i>6.71</i>

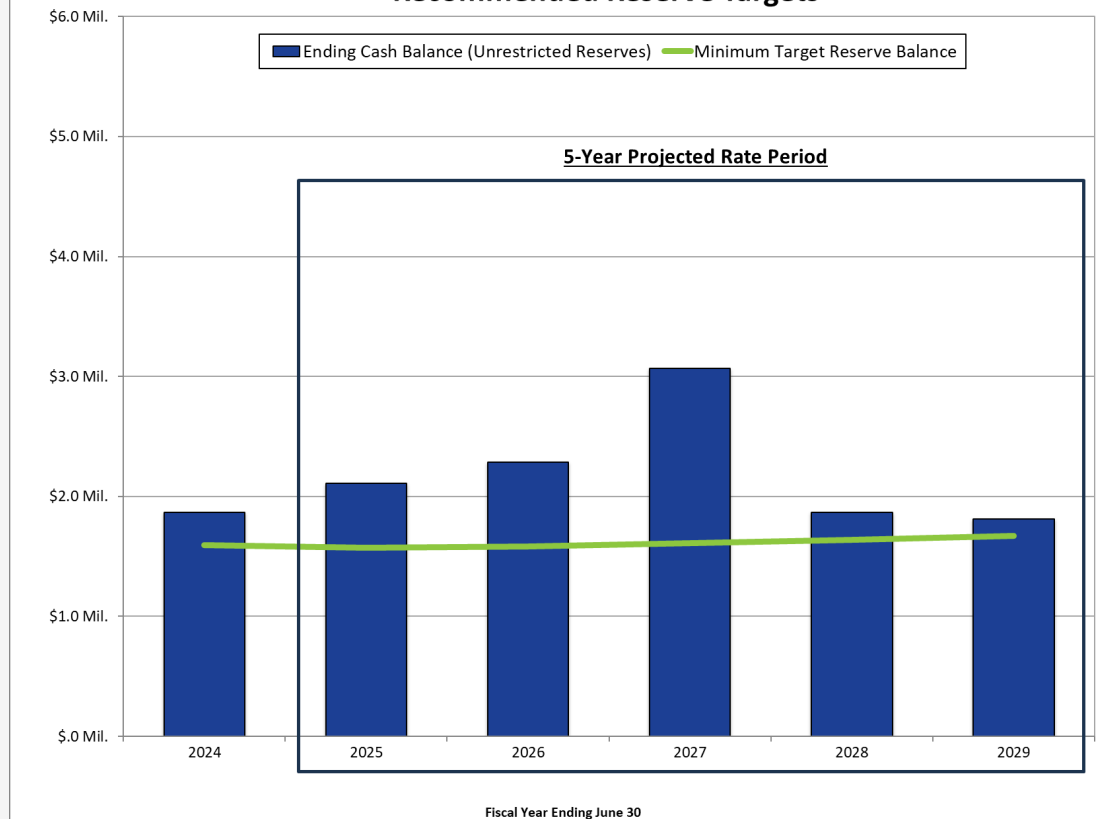
Note: Alternative #1 model assumes debt financing of \$1.5 million in FY 24/25 and additional debt financing of \$750k in FY 26/27

Financial Plan – Draft Alternative 1

Water Revenue Requirements vs. Revenue Under Existing and Increased Rates



Ending Cash Balances vs. Recommended Reserve Targets

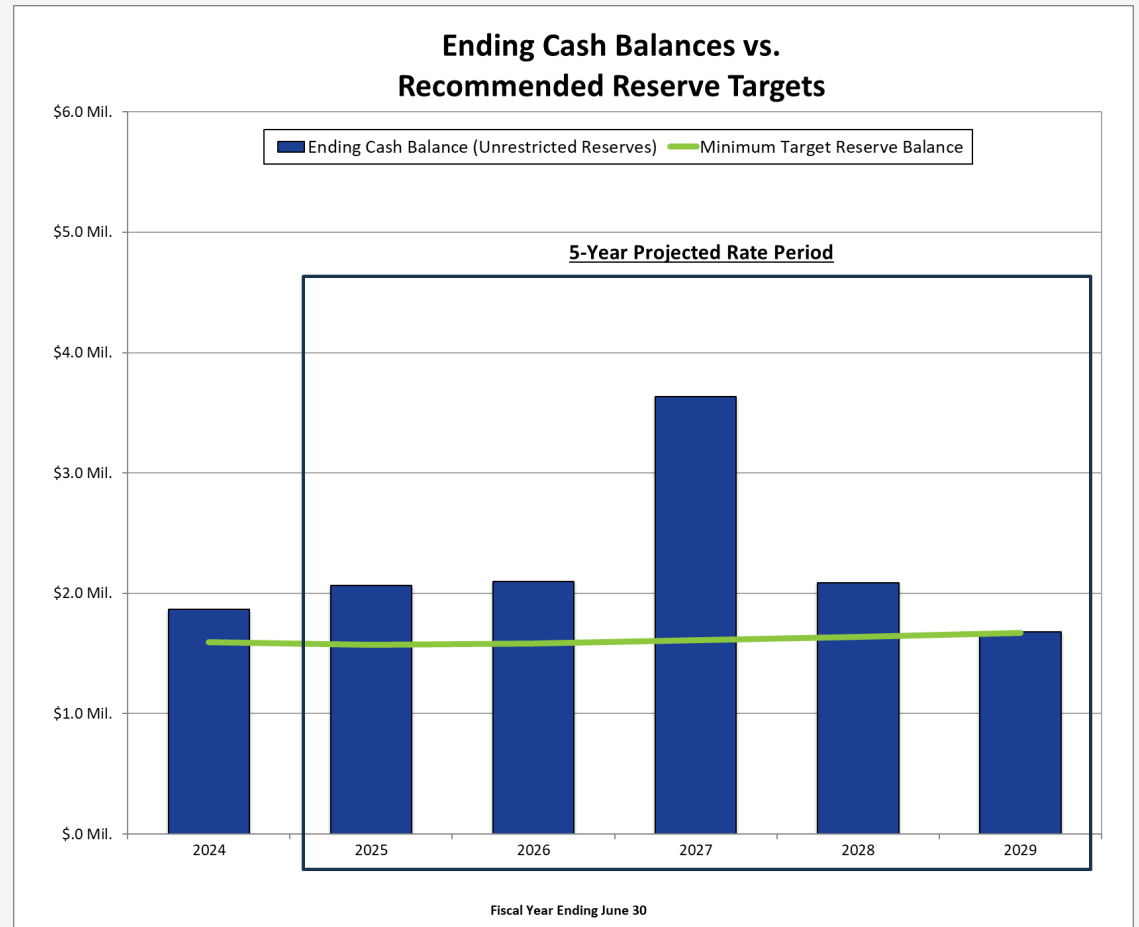
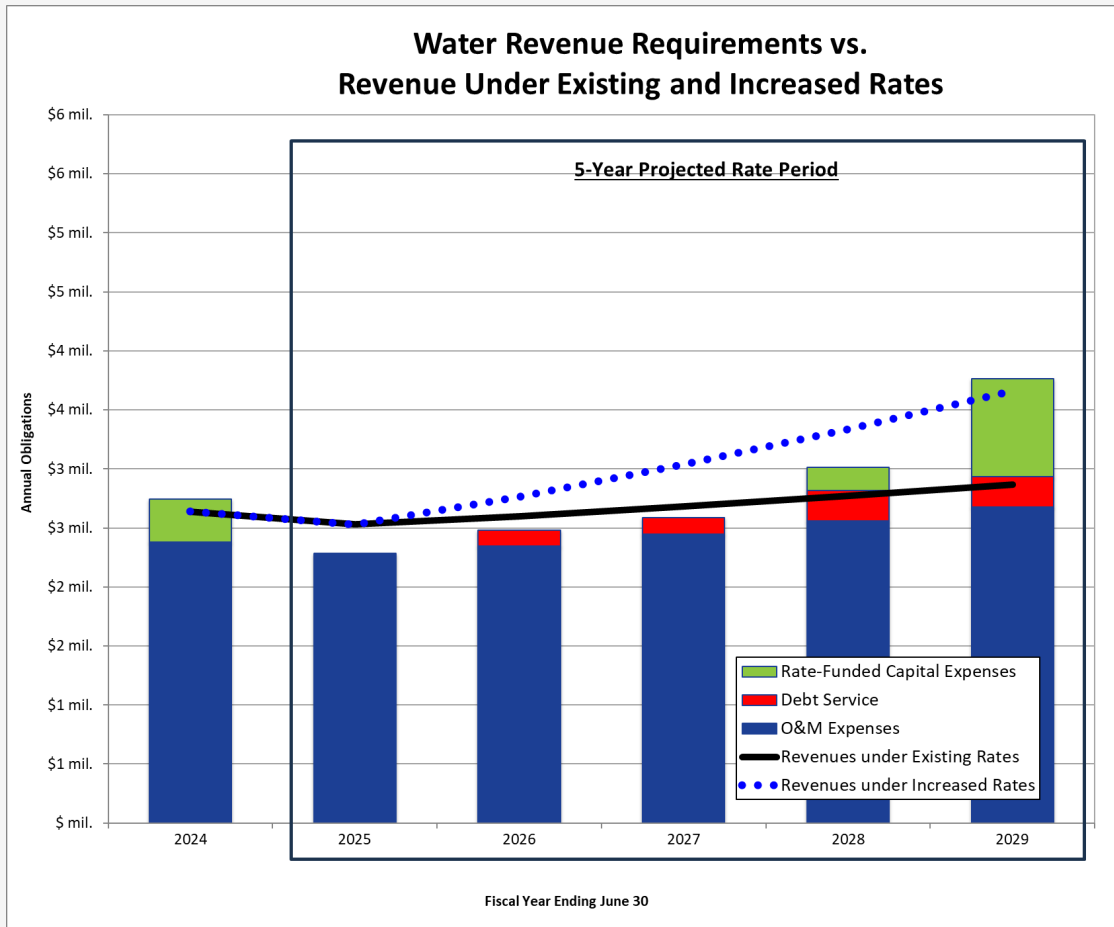


Financial Plan – Draft Alternative 2

RATE REVENUE REQUIREMENTS SUMMARY	Budget	5-Year Projected Rate Period				
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29
Sources of Water Funds¹						
Water Sales	\$ 2,151,277	\$ 2,276,582	\$ 2,351,726	\$ 2,431,335	\$ 2,515,792	\$ 2,605,523
Connection Fees	56,000	14,000	-	-	-	-
Non-Operating Revenue	430,200	240,200	245,004	249,904	254,902	260,000
Total Sources of Funds:	\$ 2,637,477	\$ 2,530,782	\$ 2,596,730	\$ 2,681,239	\$ 2,770,695	\$ 2,865,523
Uses of Water Funds¹						
<i>Operating Expenses:</i>						
Water System	\$ 2,377,477	\$ 2,286,498	\$ 2,343,152	\$ 2,448,140	\$ 2,559,411	\$ 2,677,453
Subtotal: Operating Expenses	\$ 2,377,477	\$ 2,286,498	\$ 2,343,152	\$ 2,448,140	\$ 2,559,411	\$ 2,677,453
<i>Other Expenditures:</i>						
Existing Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Debt Service	-	-	140,038	140,038	256,736	256,736
Rate-Funded Capital Expenses	367,630	-	-	-	195,504	829,745
Subtotal: Other Expenditures	\$ 367,630	\$ -	\$ 140,038	\$ 140,038	\$ 452,240	\$ 1,086,482
Total Uses of Water Funds:	\$ 2,745,107	\$ 2,286,498	\$ 2,483,190	\$ 2,588,178	\$ 3,011,651	\$ 3,763,935
<i>plus: Revenue from Rate Increases³</i>	-	82,250	257,638	453,094	671,126	914,023
Annual Surplus/(Deficit)	\$ (107,630)	\$ 326,535	\$ 371,178	\$ 546,155	\$ 430,170	\$ 15,611
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 2,258,907	\$ 2,032,298	\$ 2,238,186	\$ 2,338,274	\$ 2,756,748	\$ 3,503,935
Total Rate Revenue After Rate Increases (Water)	\$ 2,151,277	\$ 2,441,083	\$ 2,699,211	\$ 2,983,088	\$ 3,295,257	\$ 3,638,514
Projected Annual Rate Revenue Increase	0.00%	6.50%	6.50%	6.50%	6.50%	6.50%
<i>Cumulative Increase from Annual Revenue Increases</i>	0.00%	6.50%	13.42%	20.79%	28.65%	37.01%
<i>Debt Coverage After Rate Increase</i>	N/A	N/A	3.65	4.90	3.44	4.29

Note: Alternative #1 model assumes debt financing of \$1.5 million in FY 24/25 and additional debt financing of \$1.25 million in FY 26/27

Financial Plan – Draft Alternative 2



Methodology – COSA and Rate Design

What are the objectives?

- Rates are ***proportional to cost of service*** (i.e., the cost to serve each customer or customer class)
- The San Juan Capistrano court decision (2015) mandated that rates “demonstrate the cost basis” to ***comply with Prop 218***
 - Primarily related to tiered water rates
 - Basic principles apply to all rates
- ***Equitable & non-discriminating***
- ***Ease of administration*** and understanding
- Provide ***revenue stability***



Overview: Cost-of-Service Analysis (COSA)

How Are Water Costs Assigned to Customers?

Cost of Service Analysis (COSA) allocates costs based on the cost to serve each type of customer.

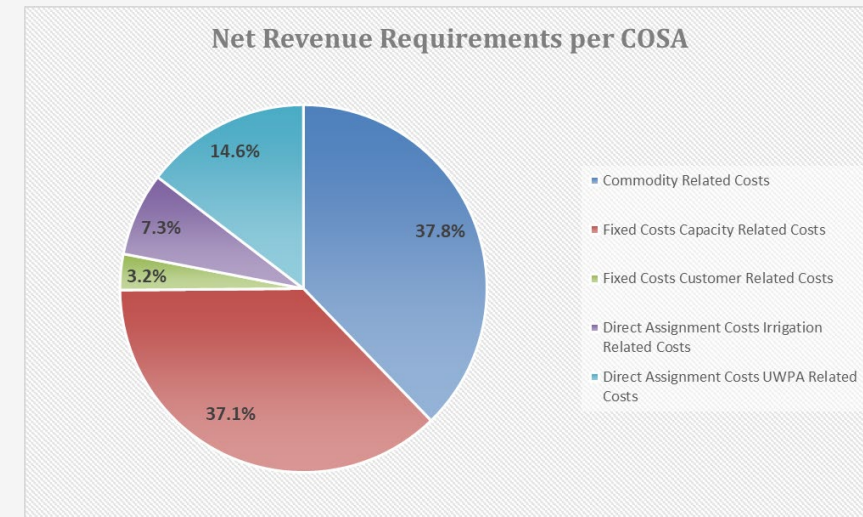
- **Water Costs** are typically allocated by:
 1. System Capacity Costs (based on system peaking factors)
 2. Commodity Costs (annual consumption)
 3. Customer Costs (number of accounts)

- **Cost Allocations** – Costs are then allocated to each customer class based on their proportional share of the above criteria.

Net Revenue Requirements - Per COSA Results	Total Rate Revenue Requirements FY 2025/26	Commodity Related Costs	Fixed Costs		Direct Assignment Costs	
			Capacity Related Costs	Customer Related Costs	Irrigation Related Costs	UWPA Related Costs
Rate-Design Adjustments to Fixed/Variable %	100.0%	37.8%	37.1%	3.2%	7.3%	14.6%
Rate-Design Adjustments to Fixed/Variable (\$)	\$2,783,860	\$1,051,096	\$1,033,238	\$87,930	\$204,595	\$407,000

Summary of Key Considerations in COSA

- **Cost Allocations for Domestic Customers vs. Irrigation Customers**
 - NBS worked closely with staff to determine cost allocations for domestic vs. irrigation customers based on District’s latest budget
 - Cost allocations are reflected in cost-of-service analysis and the draft rate design
- **Monthly fixed service charges aligned with AWWA hydraulic capacity factors**
- **ADU’s charged additional monthly fixed service charge at 5/8” meter rate**
- **Incorporating annual increase in Utica contribution (10% annually)**



Meter Size	Standard Meters	
	Meter Capacity (GPM) ¹	Equivalency to 3/4 inch
	<i>Displacement Meters</i>	
3/4 inch	30	1.00
1 inch	50	1.67
1 1/2 inch	100	3.33
2 inch	160	5.33
	<i>Compound Class I Meters</i>	
3 inch	320	10.67
4 inch	500	16.67
6 inch	1,000	33.33
8 inch	1,600	53.33
	<i>Turbine Class II Meters</i>	
10 inch	4,200	140.00
12 inch	5,300	176.67

1. Per AWWA, M1 Manual, Table B-1.

COSA – Monthly Fixed Meter Service Charges

Calculation of Monthly Fixed Meter Service Charges

Number of Meters by Class and Size ¹	FY 2024/25							Total
	5/8 - 3/4" meter	1" meter	1.5" meter	2" meter	3" meter	4" meter	6" meter	
Residential	1,563	16	1	2	0	0	0	1,582
Commercial	135	16	3	5	1	1	0	161
Total Meters/Accounts	1,698	32	4	7	1	1	0	1,743
<i>Hydraulic Capacity Factor²</i>	<i>1.00</i>	<i>1.67</i>	<i>3.33</i>	<i>5.33</i>	<i>10.67</i>	<i>16.67</i>	<i>33.33</i>	
Total Equivalent Meters	1,698	53	13	37	11	17	0	1,829
Monthly Fixed Service Charges								
Customer Costs (\$/Acct/month) ³	\$3.97	\$3.97	\$3.97	\$3.97	\$3.97	\$3.97	\$3.97	
Capacity Costs (\$/Acct/month) ⁴	\$65.89	\$109.82	\$219.64	\$351.43	\$702.86	\$1,098.22	\$2,196.43	
Total Monthly Meter Charge	\$69.86	\$113.79	\$223.61	\$355.40	\$706.83	\$1,102.18	\$2,200.40	

Number of Meters by Class and Size ¹	FY 2024/25							Total
	5/8 - 3/4" meter	1" meter	1.5" meter	2" meter	3" meter	4" meter	6" meter	
Irrigation Only	8	36	37	13	8	2	0	104
Total Meters/Accounts	8	36	37	13	8	2	0	104
<i>Hydraulic Capacity Factor²</i>	<i>1.00</i>	<i>1.67</i>	<i>3.33</i>	<i>5.33</i>	<i>10.67</i>	<i>16.67</i>	<i>33.33</i>	
Total Equivalent Meters	8	60	123	69	85	33	0	379
Monthly Fixed Service Charges								
Customer Costs (\$/Acct/month) ³	\$3.97	\$3.97	\$3.97	\$3.97	\$3.97	\$3.97	\$3.97	
Capacity Costs (\$/Acct/month) ⁴	\$32.18	\$53.63	\$107.27	\$171.63	\$343.25	\$536.33	\$1,072.67	
Total Monthly Meter Charge	\$36.15	\$57.60	\$111.23	\$175.59	\$347.22	\$540.30	\$1,076.63	

1. Meter by Class and Size are based on UPUD customer billing data.
2. Source: Principles of Water Rates, Fees, and Charges, Manual M1, AWWA, Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

COSA – Volumetric Charges

Calculation of Volumetric Charges (FY 24/25)

Customer Classes	Water Consumption (HCF/yr)	Total Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/HCF)	Proposed Rate Structure
Residential	275,136	\$ 547,214	19.7%	\$1.96	Uniform
Commercial	49,543	90,620	3.3%	\$1.96	Uniform
Irrigation Only	509,576	58,131	2.1%	\$0.11	Uniform
Total Water	834,255	\$ 695,965	25.0%		

Summary of COSA Net Revenue Requirements by Customer Class (FY 24/25)

Customer Class	Estimated Consumption (HCF)	Estimated Variable Revenue	% of Variable Rate Revenue	Estimated Fixed Revenue	Total Estimated Revenue	Cost of Service Net Revenue Req'ts
Residential	275,136	\$ 540,522	77.7%	\$ 1,641,631	\$ 2,182,153	\$ 2,188,842
Commercial	49,543	97,331	14.0%	271,927	369,258	362,570
Irrigation Only	509,576	58,112	8.3%	174,336	232,449	232,449
Grand Total	834,255	\$ 695,965	100.0%	\$ 2,087,895	\$ 2,783,860	\$ 2,783,860

UPUD Adopted Rate Schedule

Effective Date	January 1, 2023	January 1, 2024 REVISED 2/28/2024	January 1, 2025	January 1, 2026	January 1, 2027
Water Usage Charges (per HCF)					
Domestic/Potable Water	\$ 0.94	\$ 1.04	\$ 1.14	\$ 1.25	\$ 1.38
Irrigation/Non-potable Water	\$ 0.17	\$0.19/ \$0.09	\$0.21/ \$0.10	\$0.23/ \$0.11	\$0.25/ \$0.12
Fixed Monthly Service Charge					
Domestic Service Charge					
Meter Size					
5/8" or 3/4"	\$ 56.63	\$ 62.86	\$ 69.15	\$ 76.07	\$ 83.68
1"	\$ 84.82	\$ 94.15	\$ 103.57	\$ 113.93	\$ 125.32
1.5"	\$ 155.31	\$ 172.39	\$ 189.63	\$ 208.59	\$ 229.45
2"	\$ 239.89	\$ 266.28	\$ 292.91	\$ 322.20	\$ 354.42
3"	\$ 437.24	\$ 485.34	\$ 533.87	\$ 587.26	\$ 645.99
4"	\$ 719.17	\$ 798.28	\$ 878.11	\$ 965.92	\$ 1,062.51
6"	\$ 1,424.01	\$ 1,580.65	\$ 1,738.72	\$ 1,912.59	\$ 2,103.85
Irrigation Service Charge (Revised 2/28/2024)					
Meter Size					
5/8" or 3/4"	\$ 32.83	\$36.44/ \$32.83	\$40.09/ \$36.11	\$44.09/ \$39.72	\$48.50/ \$43.70
1"	\$ 45.16	\$50.13/ \$45.16	\$55.14/ \$49.68	\$60.65/ \$54.64	\$66.72/ \$60.11
1.5"	\$ 75.97	\$84.33/ \$75.97	\$92.76/ \$83.57	\$102.04/ \$91.92	\$112.24/ \$101.12
2"	\$ 112.95	\$125.37/ \$112.95	\$137.91/ \$124.25	\$151.70/ \$136.67	\$166.87/ \$150.34
3"	\$ 199.24	\$221.16/ \$199.24	\$243.27/ \$219.16	\$267.61/ \$241.08	\$294.36/ \$265.19
4"	\$ 322.51	\$357.99/ \$322.51	\$393.79/ \$354.76	\$433.16/ \$390.24	\$476.48/ \$429.26
6"	\$ 630.67	\$700.04/ \$630.67	\$770.05/ \$693.74	\$847.05/ \$763.11	\$931.76/ \$839.42

Proposed Draft Rates – Alternative 1

Water Rate Schedule	Current Rates	Proposed Rates				
		January 1, 2025	January 1, 2026	January 1, 2027	January 1, 2028	January 1, 2029
<i>Projected Increase in Rate Revenue :</i>		10.00%	10.00%	9.00%	6.00%	6.00%
Water Usage Charges (in \$/HCF)						
Domestic/Potable Water	\$1.04	\$1.96	\$2.16	\$2.36	\$2.50	\$2.65
Irrigation/Non-potable Water	\$0.09	\$0.11	\$0.13	\$0.14	\$0.14	\$0.15
Monthly Fixed Service Charges (in \$/mo)						
Domestic Service Charge						
5/8" or 3/4"	\$62.86	\$69.86	\$76.85	\$83.76	\$88.79	\$94.12
1"	\$94.15	\$113.75	\$125.13	\$136.39	\$144.57	\$153.24
1.5"	\$172.39	\$223.48	\$245.83	\$267.95	\$284.03	\$301.07
2"	\$266.28	\$355.15	\$390.66	\$425.82	\$451.37	\$478.46
3"	\$485.34	\$706.27	\$776.90	\$846.82	\$897.63	\$951.49
4"	\$798.28	\$1,101.29	\$1,211.42	\$1,320.45	\$1,399.67	\$1,483.65
6"	\$1,580.65	\$2,198.55	\$2,418.41	\$2,636.06	\$2,794.23	\$2,961.88
Irrigation Service Charge						
5/8" or 3/4"	\$32.83	\$36.20	\$39.82	\$43.40	\$46.01	\$48.77
1"	\$45.16	\$57.65	\$63.42	\$69.12	\$73.27	\$77.67
1.5"	\$75.97	\$111.28	\$122.41	\$133.42	\$141.43	\$149.91
2"	\$112.95	\$175.63	\$193.19	\$210.58	\$223.22	\$236.61
3"	\$199.24	\$347.24	\$381.96	\$416.34	\$441.32	\$467.80
4"	\$322.51	\$540.30	\$594.33	\$647.82	\$686.69	\$727.89
6"	\$630.67	\$1,076.58	\$1,184.23	\$1,290.82	\$1,368.26	\$1,450.36
UPWA Fee (\$/mo)						
UPWA Fee - All Customers	\$18.00	\$17.52	\$18.89	\$20.37	\$21.97	\$23.70

Proposed Draft Rates – Alternative 2

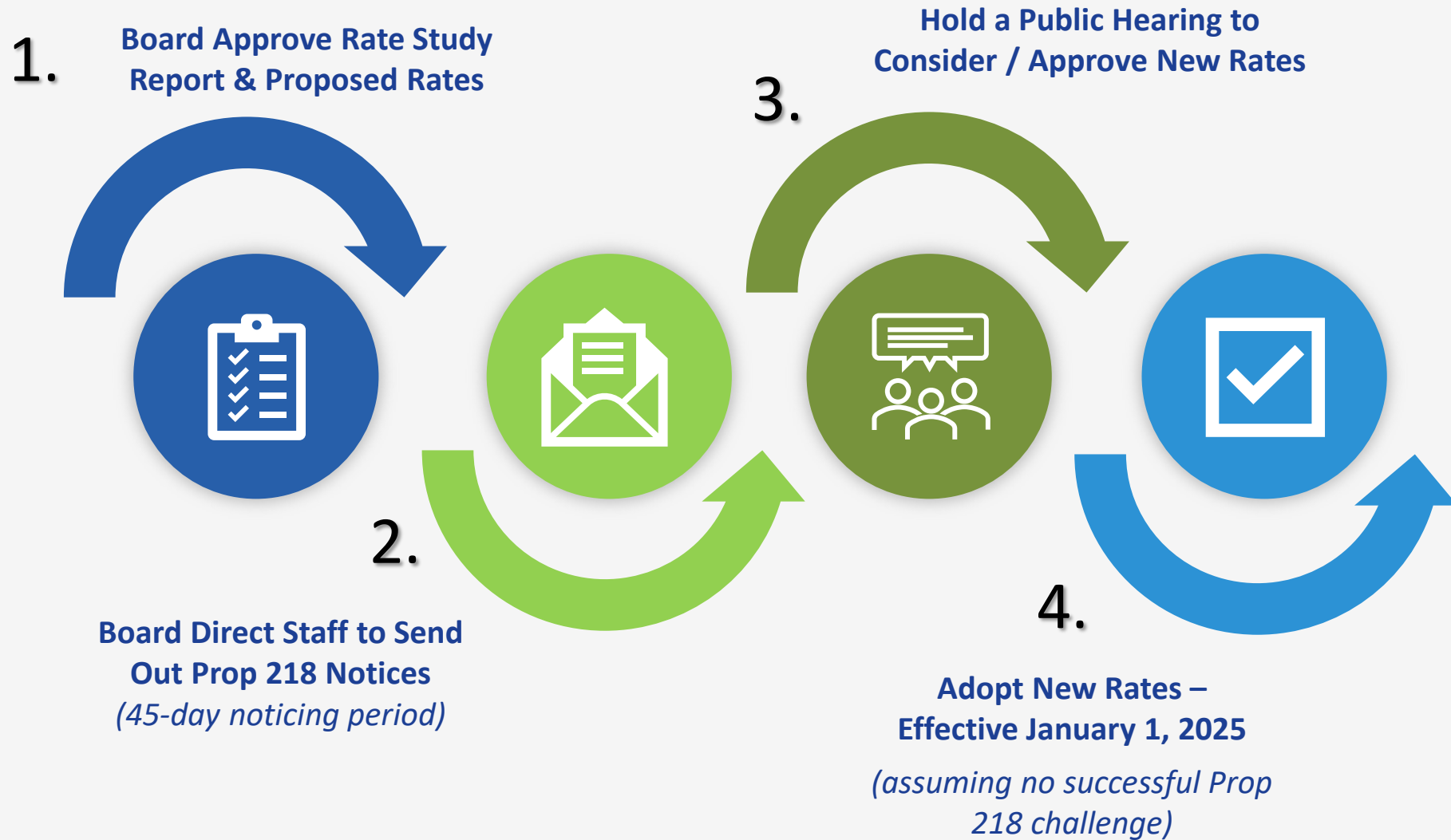
Water Rate Schedule	Current Rates	Proposed Rates				
		January 1, 2025	January 1, 2026	January 1, 2027	January 1, 2028	January 1, 2029
<i>Projected Increase in Rate Revenue :</i>		6.50%	6.50%	6.50%	6.50%	6.50%
Water Usage Charges (in \$/HCF)						
Domestic/Potable Water	\$1.04	\$1.91	\$2.03	\$2.16	\$2.30	\$2.45
Irrigation/Non-potable Water	\$0.09	\$0.11	\$0.12	\$0.12	\$0.13	\$0.14
Monthly Fixed Service Charges (in \$/mo)						
Domestic Service Charge						
5/8" or 3/4"	\$62.86	\$67.25	\$71.62	\$76.27	\$81.23	\$86.51
1"	\$94.15	\$109.44	\$116.55	\$124.13	\$132.20	\$140.79
1.5"	\$172.39	\$214.92	\$228.89	\$243.77	\$259.61	\$276.49
2"	\$266.28	\$341.50	\$363.69	\$387.34	\$412.51	\$439.33
3"	\$485.34	\$679.04	\$723.17	\$770.18	\$820.24	\$873.56
4"	\$798.28	\$1,058.77	\$1,127.59	\$1,200.88	\$1,278.94	\$1,362.07
6"	\$1,580.65	\$2,113.58	\$2,250.96	\$2,397.28	\$2,553.10	\$2,719.05
Irrigation Service Charge						
5/8" or 3/4"	\$32.83	\$34.15	\$36.37	\$38.73	\$41.25	\$43.93
1"	\$45.16	\$54.27	\$57.80	\$61.56	\$65.56	\$69.82
1.5"	\$75.97	\$104.59	\$111.39	\$118.63	\$126.34	\$134.55
2"	\$112.95	\$164.97	\$175.69	\$187.11	\$199.28	\$212.23
3"	\$199.24	\$325.99	\$347.18	\$369.74	\$393.77	\$419.37
4"	\$322.51	\$507.13	\$540.09	\$575.20	\$612.59	\$652.40
6"	\$630.67	\$1,010.30	\$1,075.97	\$1,145.91	\$1,220.39	\$1,299.72
UPWA Fee (\$/mo)						
UPWA Fee - All Customers	\$18.00	\$17.52	\$18.89	\$20.37	\$21.97	\$23.70

UPWA Fee – Discussion Item

- Would like to hear feedback from the Committee on utilizing the UPWA Reserves to help offset monthly UPWA charge
- Example shown below of using \$20k annually of the UPWA Reserve to lower the monthly charge for customers

Category	January 1, 2025	January 1, 2026	January 1, 2027	January 1, 2028	January 1, 2029
Utica Contribution	\$ 388,500	\$ 427,350	\$ 470,085	\$ 517,094	\$ 568,803
Reserve Offset Contribution	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
Number of Accounts	1,848	1,885	1,923	1,961	2,000
UPWA Monthly Charge (full)	\$ 17.52	\$ 18.89	\$ 20.37	\$ 21.97	\$ 23.70
UPWA Monthly Charge (reduced)	\$ 16.62	\$ 18.01	\$ 19.51	\$ 21.12	\$ 22.86

Prop 218 Process for Utility Rates



Questions and Answers

