



# Water & Wastewater Utility Rate Study

June 2023



**BARTLE WELLS ASSOCIATES**  
INDEPENDENT PUBLIC FINANCE ADVISORS

**FINAL DRAFT**

# City of Petaluma

## Water & Wastewater Utility Rate Study

### June 2023

Prepared by:



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June 12, 2023

City of Petaluma  
11 English Street  
Petaluma, 94952

Attn: Christopher Bolt, Director of Public Works and Utilities  
Corey Garberolio, Deputy City Manager/Finance Director

Re: Water & Wastewater Utility Rate Study

Bartle Wells Associates (BWA) is pleased to submit the attached *Water & Wastewater Utility Rate Study*. The study develops long-term financial projections for the City's water and wastewater utilities and recommends rates designed to fund the City's projected costs of providing service. The proposed rates are phased in over the next five years to fund water and wastewater utility operating and maintenance expenses, meet debt service requirements, and support adequate funding for high priority capital improvements to support safe and reliable service and replace aging infrastructure.

BWA recommends the City continue its historical practice of implementing small annual rate increases to gradually increase funding for operating and capital needs while also passing through annual adjustments for inflation and wholesale water rate increases. Proposed base City rate increases include 2.5% annual water rate increases and 2.0% annual wastewater rate increases for each of the next five years. These base increases would be supplemented by additional annual pass-throughs for inflation and wholesale water rate increases. With the proposed rate increases and projected annual pass-through rate adjustments, the combined water and wastewater bills for a typical single family home are projected to increase by an average of roughly 6% per year over the next 5 years.

Petaluma's combined water and wastewater bills for a typical single family home are in the middle range compared to other regional agencies and are projected to remain in the middle range with implementation of the proposed rate increases. Combined water and wastewater charges for customers with lower levels of billable use are expected to remain in the lower-middle range compared to other regional agencies.

I enjoyed working with the City on this assignment and appreciate the ongoing collaboration, input and assistance received from City staff. Please contact me anytime if you have questions about this report or other issues related to utility rates and finance.

BARTLE WELLS ASSOCIATES

Alex Handlers  
Principal/Vice-President

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# 1 BACKGROUND, OBJECTIVES & PROPOSED RATES

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## 1.1 Background & Summary of Recommendations

The City of Petaluma is located in Sonoma County, California, approximately 40 miles north of San Francisco, and has a population of roughly 60,000. The City provides water and wastewater service to over 20,300 residential, commercial, institutional, and industrial accounts in and adjacent to the City. The City was incorporated in 1858 and became a charter city in 1947.

The City's water and wastewater utilities are accounted for as self-supporting enterprise funds. Revenues are derived primarily from water and wastewater service charges and must be adequate to fund the cost of operations, maintenance, debt service, wholesale water supply from the Sonoma County Water Agency, and capital improvements needed to support safe and reliable service.

The City last conducted a water and wastewater rate study in 2017 leading to adoption of five years of rate increases. The recommended rates included overall rate increases as well as rate structure modifications designed to realign rates with the cost of providing service. To help provide rate relief during Covid, the City temporarily deferred water rate increases in 2020 and wastewater rate increases in 2020 and 2021. Current water rates have been effective since August 1, 2021; wastewater rates have been effective since March 1, 2022.

The City has historically provided strong financial stewardship via adoption of gradual annual water and wastewater rate increases most years over the past 20 years. These increases have helped keep rates aligned with the cost of providing service and put the water and wastewater enterprises on a stronger financial footing.

However, the City is facing financial challenges that will require the City to continue its historical practice of implementing gradual annual water and wastewater rate increases. Key financial challenges include:

- **Capital Improvement Needs of Aging Infrastructure** – The City has been working with an independent engineering consulting firm to develop updated Water and Wastewater Master Plans to evaluate and prioritize capital improvement needs. The City's water and wastewater systems are both in need of substantial capital improvements to address current deficiencies and rehabilitate, upgrade and/or replace aging infrastructure to support safe and reliable service. Updated capital improvement programs identify over \$150 million of utility infrastructure funding needs over the next five fiscal years. The City has been successful in obtaining grant funding to help fund some projects and is in process of seeking additional grant funding. However, the City anticipates needing to fund over \$120 million of water, recycled water, and wastewater capital projects over approximately the next five years.
- **Wholesale Water Rate Increases** – The City purchases almost all of its water supply from Sonoma County Water Agency (SCWA). SCWA has gradually increased wholesale water rates in 19 of the past



20 years. Wholesale rates are scheduled to increase 9.4% effective July 1, 2023 and are projected to continue increasing at similar rates in subsequent years.

- **Keep Up with Cost Inflation** – The City’s utility enterprises are facing rising costs for operations, maintenance, and capital improvements due to inflation. Small annual rate adjustments are needed to keep up with cost inflation.

In fiscal year 2022/23, Petaluma retained Bartle Wells Associates (BWA) to develop an updated water and wastewater rate study with the goal of developing rate recommendations for the next five years. Key objectives include:

- Recommend water and wastewater rates designed to recover each utility’s cost of providing service including operating and maintenance expenses, debt service funding requirements, and adequate funding for capital improvement needs of the City’s aging water and wastewater infrastructure.
- Aim for steady, gradual annual rate increases to help minimize the annual impact on customers and mitigate the potential for larger, periodic rate spikes.
- Support the long-term financial stability of the water and wastewater utilities and maintain prudent levels of fund reserves.
- Develop new Water Shortage Contingency Plan Rate Adjustments for both water and wastewater rates designed to support the financial stability of the City’s water and wastewater enterprises during periods of drought and water shortage emergencies.

As part of the study, BWA developed updated financial projections to identify future funding needs and evaluate rate increases needed to support water and wastewater utility operating and capital funding needs. Final recommendations were developed with substantial input from City staff.

Based on the updated financial projections, BWA recommends the City continue its historical practice of implementing small annual rate increases to gradually increase funding for operating and capital needs while also passing through annual adjustments for inflation and wholesale water rate increases. Proposed base City rate increases include 2.5% annual water rate increases and 2.0% annual wastewater rate increases for each of the next five years. These base increases would be supplemented by additional annual pass-throughs for SCWA wholesale water rate increases and inflation up to CPI. With the proposed rate increases and annual pass-throughs, the combined water and wastewater bills for a typical single family home are projected to increase by an average of roughly 6% per year over the next 5 years.

Petaluma’s combined water and wastewater bills for a typical single family home are in the middle range compared to other regional agencies and are projected to remain in the middle range with implementation of the proposed rate increases. Combined utility charges for customers with lower levels of billable use are expected to remain in the lower-middle range compared to other regional agencies. Many other regional agencies have adopted or are anticipating rate increases in upcoming years. The City bills customers for water and wastewater service via a combined monthly utility bill.

## 1.2 Water & Wastewater Systems

The City owns and operates a water system consisting of 5 pressure zones, 11 storage tanks/reservoirs, 9 pump stations, and over 270 miles of water distribution pipelines. Almost all of the City's water supply is purchased on a wholesale basis from the Sonoma County Water Agency (SCWA), with a small amount supplied by groundwater production from wells which the City anticipates operating mainly during droughts.

The City also owns and operates a wastewater system that includes over 190 miles of sewer pipelines, 9 sewer pump stations, and the Ellis Creek Water Recycling Facility, a wastewater treatment plant with 6.7 million gallons per day of dry weather flow capacity. Wastewater effluent is treated to stringent regulatory standards and disposed to the Petaluma River during the winter, or subjected to additional treatment and distributed through the City's recycled water system for agricultural or landscape irrigation uses. The City anticipates expanding its recycled water distribution system in future years with a long-term goal of recycling 100% of wastewater effluent with zero discharge to the Petaluma River.

As noted, the City's water and wastewater systems are both in need of a substantial amount of capital improvements to address deficiencies and rehabilitate, upgrade and/or replace aging infrastructure to support safe and reliable service.

### 1.3 Regional Water & Wastewater Rate Survey

The following charts compare Petaluma's combined water and wastewater bills to those of other regional agencies for a typical single family home and a low use residential customer. Based on analysis of water and wastewater utility billing data from recent years, a typical home uses 7 hundred cubic feet (hcf) of water per month (on average) and is billed for 5 hcf of wastewater based on use during two low-use winter months.

Utility rates can vary widely from agency to agency due to a wide range of factors. The City's combined water and wastewater charges for a typical home are in the middle range compared to other regional agencies while charges for customers with lower levels of billable use are in the lower-middle range.

Figure 1 – Single Family Residential Water & Wastewater Rate Survey: Typical Use

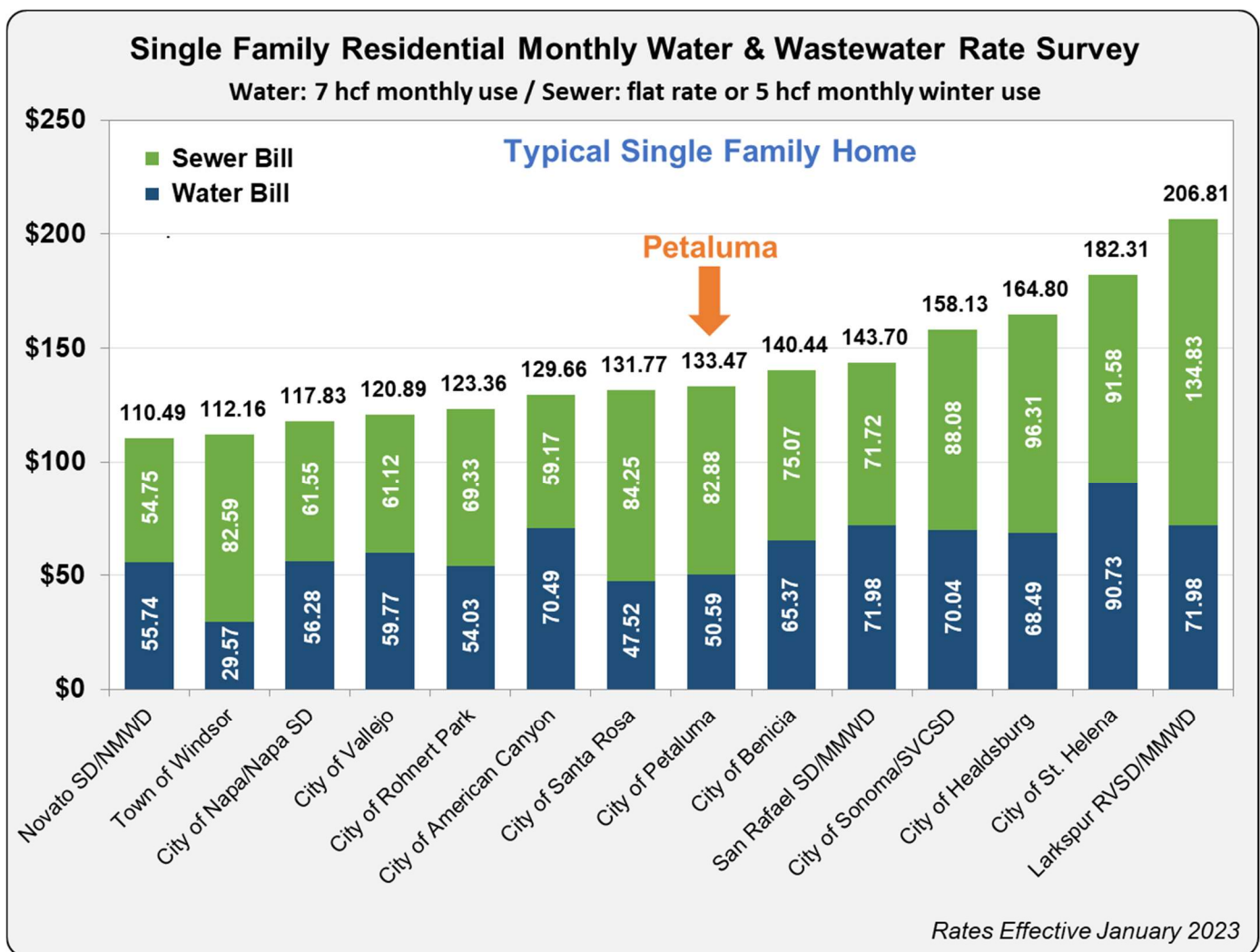
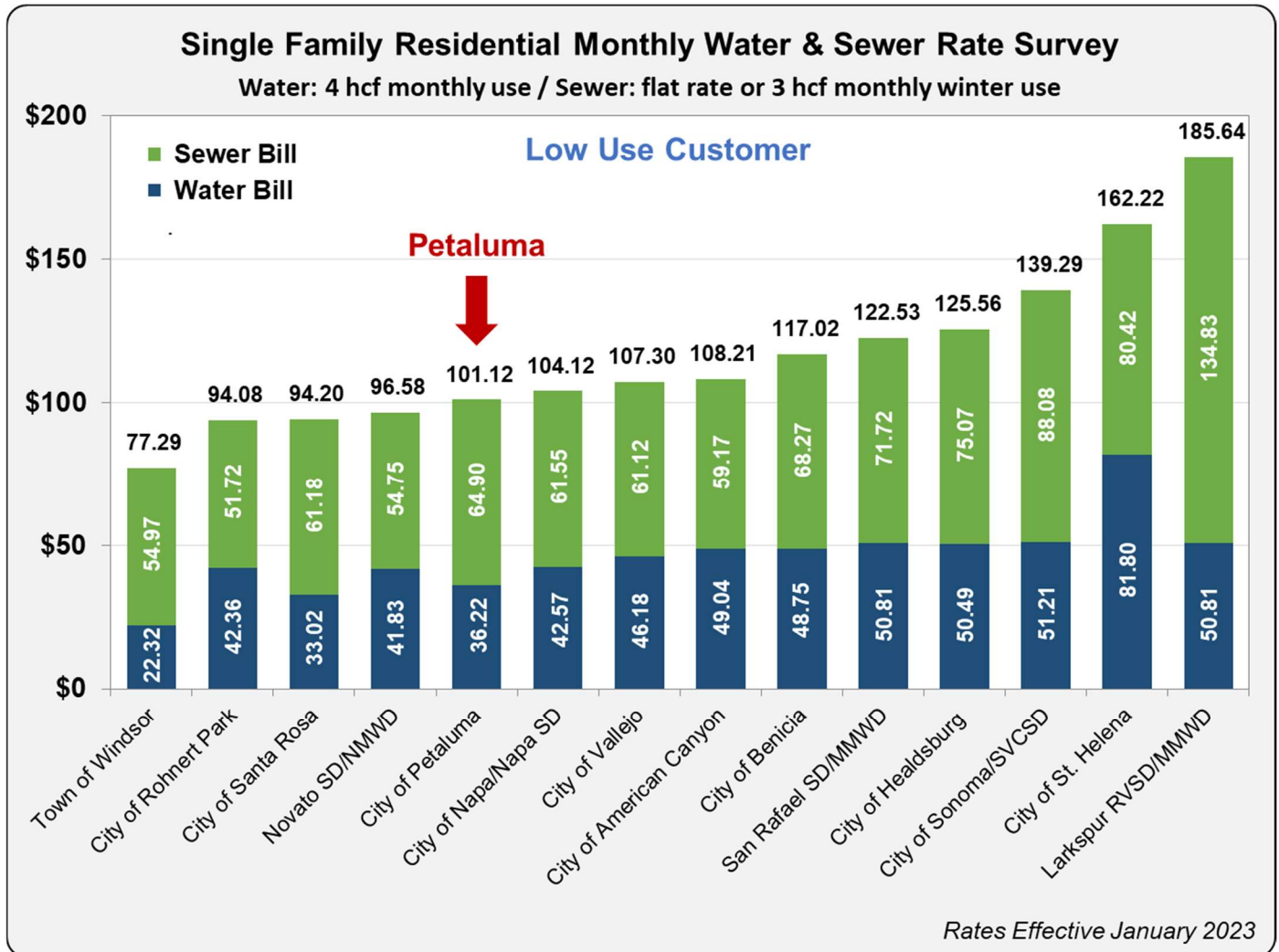


Figure 2 – Single Family Residential Water & Wastewater Rate Survey: Low Use



## 1.4 Proposed Rate Increases

In line with the City's historical practice, proposed rate increases include two components.

### A) Base City Rate Increases

These base rate increases are needed to gradually increase funding for the City's operating and capital programs including upgrades and replacement of aging infrastructure. Proposed base City rate increases are shown below:

Projected Base City Water & Wastewater Rate Increases					
	Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
<b>WATER</b>					
Base Rate Increases	2.5%	2.5%	2.5%	2.5%	2.5%
<i>Plus pass-through adjustments for a) SCWA wholesale water rates &amp; b) CPI inflation</i>					
<b>WASTEWATER</b>					
Base Rate Increases	2.0%	2.0%	2.0%	2.0%	2.0%
<i>Plus pass-through adjustments for CPI inflation</i>					

### B) Annual Pass-Through Rate Adjustments

In addition, each year the City would pass through rate adjustments to account for SCWA wholesale water rate increases and inflation (not to exceed CPI). The annual inflation pass-through rate adjustment would not exceed the change in the Consumer Price Index (CPI) from the index for December 2022 to the index for December immediately preceding an upcoming fiscal year. As such the CPI inflation adjustment would account for the change in CPI since the base year. In addition, the City's usage-based Water Consumption Charges would be adjusted each year to account for any increases in SCWA wholesale water rates for the Petaluma Aqueduct rounded to the nearest one cent per hcf. The pass-through adjustments would be in addition to the base City rate increases shown above.

As required by Government Code 53756, which authorizes automatic annual pass-through rate adjustments, the City will provide notice of the annual rate adjustments to customers at least 30 days prior to the effective date of the adjustment.

## 1.5 Proposed Water & Wastewater Rates

The tables on the following pages show schedules of proposed water and wastewater rates. The first rate increase would become effective on September 1, 2023 with future increases effective July 1 of each year. As such, the initial rate increase will be the City's first water rate increase in roughly two years and the first wastewater rate increase in a year and a half.

### Proposed Water Rates

The proposed water rates effective September 1, 2023 include the first base annual 2.5% rate increase and also account for an additional 3.0% inflation adjustment and a \$0.23 per hcf increase in SCWA's wholesale water rates passed through to the City's Water Consumption Charges. The proposed rates shown for subsequent years starting July 1, 2024 will be adjusted annually to account for future pass-through rate adjustments for inflation and wholesale water rate increases

### Proposed Wastewater Rates

The proposed wastewater rates effective September 1, 2023 include the first base annual 2.0% rate increase and also account for an additional 3.0% inflation adjustment. The proposed rates shown for subsequent years starting July 1, 2024 will be adjusted annually to account for future pass-through rate adjustments for inflation.

**Table 1 – Proposed Water Rates**

Proposed Water Rates						
	Current Water Rates	Proposed Rates Effective On or After				
		Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
FIXED MONTHLY CHARGES						
Fixed monthly charges billed per residential dwelling unit or based on non-residential meter size.						
<b><u>Residential</u></b>						
Single Family: Up to 1-inch meter	\$18.98	\$20.03	\$20.54	\$21.05	\$21.58	\$22.11
Multi-Family: Per Dwelling Unit	11.39	12.02	12.32	12.63	12.95	13.27
<b><u>All Other Customers</u></b>						
5/8 & 3/4-inch meter	\$18.98	\$20.03	\$20.54	\$21.05	\$21.58	\$22.11
1-inch meter	30.13	31.81	32.60	33.41	34.25	35.10
1-1/2-inch meter	58.02	61.25	62.79	64.35	65.96	67.61
2-inch meter	91.47	96.57	98.98	101.46	103.99	106.58
3-inch meter	169.56	179.01	183.49	188.08	192.79	197.61
4-inch meter	281.10	296.77	304.19	311.79	319.59	327.58
6-inch meter	559.96	591.18	605.96	621.11	636.64	652.56
WATER CONSUMPTION CHARGES						
Volumetric charges billed per hundred cubic feet (hcf) of metered water use.						
<b><u>Single Family Residential</u></b>						
Tier 1      0 - 4 hcf	\$4.31	\$4.78	\$4.90	\$5.01	\$5.13	\$5.26
Tier 2      4.01 - 8 hcf	4.79	5.29	5.41	5.54	5.68	5.81
Tier 3      8.01 - 16 hcf	5.48	6.02	6.16	6.31	6.46	6.62
Tier 4      >16 hcf	6.42	7.01	7.17	7.35	7.52	7.71
<b>All Other Customers</b>	4.79	5.29	5.41	5.54	5.68	5.81
<b>Temporary Service &amp; Water Haulers</b>	7.18	7.81	8.00	8.19	8.39	8.59

Note: The Proposed Water Rates will be adjusted each year to account for annual pass-through rate increases for inflation and SCWA wholesale water rate increases.

Annual inflation pass-through rate adjustments will be based on the percentage change in the Consumer Price Index for the San Francisco Bay Area from the index for December 2022 to the index for December immediately preceding the upcoming fiscal year.

Annual pass-through adjustments for SCWA wholesale water rate increases will be based on the increase in SCWA's charges for the Petaluma Aqueduct rounded to the nearest one cent per hcf and applied to the City's Water Consumption Charges.

**Table 2 – Proposed Wastewater Rates**

Proposed Wastewater Rates						
	Current Wastewater Rates	Proposed Rates Effective on or After				
		Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
FIXED MONTHLY CHARGES						
Fixed monthly charges billed per residential dwelling unit or based on non-residential meter size.						
RESIDENTIAL						
Fixed monthly charge per dwelling unit						
Single Family Residential	\$37.93	\$39.85	\$40.64	\$41.46	\$42.29	\$43.14
Multi-Unit Residential	32.24	33.88	34.55	35.24	35.95	36.67
Unmetered Residential	100.88	105.99	108.11	110.27	112.48	114.72
NON-RESIDENTIAL						
Fixed monthly charge based on meter size						
Up to 3/4-inch meter	\$37.93	\$39.85	\$40.64	\$41.46	\$42.29	\$43.14
1-inch meter	62.43	65.59	66.90	68.24	69.61	71.00
1-1/2 inch meter	123.66	129.91	132.51	135.16	137.86	140.62
2-inch meter	197.15	207.12	211.26	215.49	219.79	224.19
3-inch meter	368.63	387.28	395.03	402.93	410.98	419.20
4-inch meter	613.30	644.34	657.22	670.37	683.78	697.45
6-inch meter	1,226.00	1,288.04	1,313.80	1,340.07	1,366.87	1,394.21
METERED INDUSTRIAL						
Fixed monthly charge based on meter size						
2-inch ultrasonic meter	\$552.36	\$580.31	\$591.92	\$603.76	\$615.83	\$628.15
10-inch ultrasonic meter	1,226.00	1,288.04	1,313.80	1,340.07	1,366.87	1,394.21
2-inch magnetic meter	368.63	387.28	395.03	402.93	410.98	419.20
3-inch magnetic meter	809.57	850.53	867.55	884.90	902.60	920.66
4-inch magnetic meter	1,287.24	1,352.37	1,379.42	1,407.00	1,435.14	1,463.85
6-inch magnetic meter	2,573.31	2,703.52	2,757.60	2,812.75	2,869.01	2,926.39
WASTEWATER COMMODITY CHARGES						
Volumetric charges billed per hundred cubic feet (hcf) of estimated sewer discharge.						
RESIDENTIAL						
Based on a) average of two lowest of four low use months of metered winter water use or b) actual water use						
Single Family Residential	\$8.99	\$9.45	\$9.63	\$9.83	\$10.02	\$10.22
Multi-Unit Residential	8.99	9.45	9.63	9.83	10.02	10.22
COMMERCIAL						
Billed based on metered water use						
Low Strength	\$8.66	\$9.09	\$9.28	\$9.47	\$9.65	\$9.85
Medium Strength	11.78	12.38	12.63	12.89	13.14	13.41
High Strength	16.01	16.82	17.16	17.50	17.85	18.21
METERED INDUSTRIAL						
Based on metered use & estimated wastewater loadings						
Flow (\$/hcf)	\$7.44	\$7.82	\$7.97	\$8.13	\$8.29	\$8.46
BOD (\$/lb)	1.26	1.33	1.36	1.39	1.42	1.45
SS (\$/lb)	1.43	1.50	1.53	1.57	1.60	1.63

Note: The Proposed Wastewater Rates will be adjusted each year to account for annual pass-through rate increases for inflation based on the percentage change in the Consumer Price Index for the San Francisco Bay Area from the index for December 2022 to the index for December immediately preceding the upcoming fiscal year.



## 1.6 Projected Water & Wastewater Rates with Future Pass-Throughs

The tables on the following pages show projected water and wastewater rates that account for the base rate increases plus projections of future pass-through adjustments for inflation and SCWA wholesale water rate increases. These tables include estimates of future rates and are shown for informational purposes only. Actual future rates will be determined in future years.

The City retains the authority to implement rates that are lower than adopted, or to only partially implement or defer the annual pass-through rate adjustments. As proposed, if the City ever partially or fully defers an annual pass-through adjustment, the adjustment can be accounted for in a subsequent year to bring rates in line where they would have been if all the authorized adjustments had been implemented.

**Table 3 – Projected Water Rates with Future Annual Pass-Throughs**

Projected Water Rates with Future Annual Pass-Throughs						
Current Water Rates		Projected Rates Effective				
		Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
CITY WATER RATE INCREASES		2.5%	2.5%	2.5%	2.5%	2.5%
ESTIMATED CPI PASSTHROUGH ADJUSTMENTS		3.0%	2.5%	2.5%	2.5%	2.5%
Compounded CPI Adjustments		3.00%	5.58%	8.21%	10.92%	13.69%
PROJECTED SCWA WHOLESALE RATE INCREASES						
SCWA Wholesale Rate Projection	\$2.44	\$2.67	\$2.91	\$3.17	\$3.45	\$3.77
Annual Increase		<u>0.23</u>	<u>0.24</u>	<u>0.26</u>	<u>0.29</u>	<u>0.31</u>
Wholesale Rate Increase from Base Year Rates		0.23	0.47	0.73	1.02	1.33
FIXED MONTHLY CHARGES						
Fixed monthly charges billed per residential dwelling unit or based on non-residential meter size.						
Residential						
Single Family: Up to 1-inch meter	\$18.98	\$20.03	\$21.05	\$22.12	\$23.24	\$24.41
Multi-Family: Per Dwelling Unit	11.39	12.02	12.63	13.27	13.94	14.64
All Other Customers						
5/8 & 3/4-inch meter	\$18.98	\$20.03	\$21.05	\$22.12	\$23.24	\$24.41
1-inch meter	30.13	31.81	33.41	35.10	36.88	38.75
1-1/2-inch meter	58.02	61.25	64.36	67.61	71.03	74.63
2-inch meter	91.47	96.57	101.46	106.59	111.98	117.65
3-inch meter	169.56	179.01	188.08	197.60	207.61	218.12
4-inch meter	281.10	296.77	311.79	327.58	344.16	361.59
6-inch meter	559.96	591.18	621.11	652.55	685.59	720.30
WATER CONSUMPTION CHARGES						
Volumetric charges billed per hundred cubic feet (hcf) of metered water use.						
Single Family Residential						
Tier 1 0 - 4 hcf	\$4.31	\$4.78	\$5.25	\$5.75	\$6.30	\$6.88
Tier 2 4.01 - 8 hcf	4.79	5.29	5.78	6.32	6.88	7.49
Tier 3 8.01 - 16 hcf	5.48	6.02	6.55	7.12	7.73	8.38
Tier 4 >16 hcf	6.42	7.01	7.59	8.21	8.87	9.58
All Other Customers	4.79	5.29	5.78	6.32	6.88	7.49
Temporary Service & Water Haulers	7.18	7.81	8.43	9.10	9.80	10.56

Note: The table shows projections of future rates with base City rate increases plus estimates of future pass-through rate adjustments for SCWA wholesale water rate increases and inflation.

**Table 4 – Projected Wastewater Rates with Future Annual Pass-Throughs**

Projected Wastewater Rates with Future Annual Passthroughs						
Current Wastewater Rates	Proposed Base Rates Effective on or After					
	Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027	
<b>CITY SEWER RATE INCREASES</b>	2.0%	2.0%	2.0%	2.0%	2.0%	
<b>ESTIMATED CPI PASSTHROUGH ADJUSTMENTS</b>						
Estimated Annual CPI Passthrough Adjustments	3.0%	2.5%	2.5%	2.5%	2.5%	
Compounded CPI Adjustments	3.0%	5.6%	8.2%	10.9%	13.7%	
<b>FIXED MONTHLY CHARGES</b>						
<i>Fixed monthly charges billed per residential dwelling unit or based on non-residential meter size.</i>						
<b>RESIDENTIAL</b>						
<i>Fixed monthly charge per dwelling unit</i>						
Single Family Residential	\$37.93	\$39.85	\$41.66	\$43.56	\$45.54	\$47.61
Multi-Unit Residential	32.24	33.88	35.41	37.02	38.71	40.47
Unmetered Residential	100.88	105.99	110.81	115.85	121.12	126.63
<b>NON-RESIDENTIAL</b>						
<i>Fixed monthly charge based on meter size</i>						
Up to 3/4-inch meter	\$37.93	\$39.85	\$41.66	\$43.56	\$45.54	\$47.61
1-inch meter	62.43	65.59	68.57	71.69	74.96	78.37
1-1/2 inch meter	123.66	129.91	135.82	142.00	148.45	155.21
2-inch meter	197.15	207.12	216.54	226.40	236.69	247.46
3-inch meter	368.63	387.28	404.90	423.32	442.58	462.72
4-inch meter	613.30	644.34	673.65	704.30	736.35	769.86
6-inch meter	1,226.00	1,288.04	1,346.64	1,407.91	1,471.97	1,538.94
<b>METERED INDUSTRIAL</b>						
<i>Fixed monthly charge based on meter size</i>						
2-inch ultrasonic meter	\$552.36	\$580.31	\$606.72	\$634.32	\$663.18	\$693.36
10-inch ultrasonic meter	1,226.00	1,288.04	1,346.64	1,407.91	1,471.97	1,538.94
2-inch magnetic meter	368.63	387.28	404.90	423.32	442.58	462.72
3-inch magnetic meter	809.57	850.53	889.24	929.70	972.00	1,016.23
4-inch magnetic meter	1,287.24	1,352.37	1,413.90	1,478.23	1,545.49	1,615.81
6-inch magnetic meter	2,573.31	2,703.52	2,826.54	2,955.15	3,089.61	3,230.19
<b>WASTEWATER COMMODITY CHARGES</b>						
<i>Volumetric charges billed per hundred cubic feet (hcf) of estimated sewer discharge.</i>						
<b>RESIDENTIAL</b>						
<i>Based on a) average of two lowest of four low use months of metered winter water use or b) actual water use</i>						
Single Family Residential	\$8.99	\$9.45	\$9.87	\$10.32	\$10.79	\$11.28
Multi-Unit Residential	8.99	9.45	9.87	10.32	10.79	11.28
<b>COMMERCIAL</b>						
<i>Billed based on metered water use</i>						
Low Strength	8.66	9.09	9.51	9.94	10.39	10.87
Medium Strength	11.78	12.38	12.94	13.54	14.15	14.80
High Strength	16.01	16.82	17.59	18.39	19.22	20.10
<b>METERED INDUSTRIAL</b>						
<i>Based on metered use &amp; estimated wastewater loadings</i>						
Flow (\$/hcf)	7.44	7.82	8.17	8.54	8.93	9.33
BOD (\$/lb)	1.26	1.33	1.39	1.46	1.53	1.60
SS (\$/lb)	1.43	1.50	1.57	1.64	1.72	1.80

Note: The table shows projections of future rates with base City rate increases plus estimates of future pass-through rate adjustments for inflation.

## 1.7 Projected Rate Impacts

The following table shows projected monthly water and wastewater bills for single family homes with low, typical, and moderately-high levels of water and wastewater use. The bill projections include estimates of future pass-through adjustments for SCWA wholesale water rate increases and inflation and are provided for informational purposes only. Actual bills may vary depending on future SCWA wholesale rate increases and the level of annual inflation adjustment implemented.

**Table 5 – Projected Rate Impacts**

Projected Monthly Water & Wastewater Bills							
	Use (hcf)	Current Year	Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
<b>Low Use</b>							
Water	4	\$36.22	\$39.15	\$42.05	\$45.12	\$48.44	\$51.93
Wastewater	3	<u>64.90</u>	<u>68.19</u>	<u>71.27</u>	<u>74.53</u>	<u>77.92</u>	<u>81.45</u>
Total		101.12	107.34	113.32	119.65	126.36	133.38
<b>Typical Use</b>							
Water	7	\$50.59	\$55.02	\$59.39	\$64.08	\$69.08	\$74.40
Wastewater	5	<u>82.88</u>	<u>87.08</u>	<u>91.02</u>	<u>95.17</u>	<u>99.51</u>	<u>104.01</u>
Total		133.47	142.10	150.41	159.25	168.59	178.41
<b>Mod-High Use</b>							
Water	12	\$77.30	\$84.39	\$91.37	\$98.88	\$106.88	\$115.41
Wastewater	8	<u>109.85</u>	<u>115.41</u>	<u>120.63</u>	<u>126.15</u>	<u>131.88</u>	<u>137.84</u>
Total		187.15	199.80	212.00	225.03	238.76	253.25

Note: Projected bills include base City rate increases plus estimates of future annual pass-through rate adjustments for wholesale water rate increases and inflation.

With the proposed rate increases and annual pass-throughs, the combined water and wastewater bills for a typical single family home are projected to increase by an average of 6% per year over the next 5 years.

## 1.8 Water Shortage Contingency Plan Rate Adjustments

BWA also recommends adoption of new Water Shortage Contingency Plan Rate Adjustments designed to support the financial stability of the City's water and wastewater enterprises during periods of drought or water shortage emergencies which result in a significant decline in water use and corresponding water and wastewater service charge revenues. The goal is to enable the City to obtain authorization for the adjustments via the Proposition 218 rate increase process to give the City flexibility to phase in the rate adjustments as needed (up to the maximum levels adopted) in future years in response to escalating water shortages or droughts. The adjustments are developed to correspond with the Water Shortage Contingency Plan Levels from the City's 2020 Urban Water Management Plan.

Water Shortage Contingency Plan Rate Adjustments are proposed for both water rates and wastewater rates as both enterprises would be financially impacted by a decline in billed usage. The maximum authorized level of the adjustments are shown below and would be adjusted each year based on increases in the City's water and wastewater usage rates.

**Table 6 – Water Shortage Contingency Plan Rate Adjustments**

Proposed Maximum Water Shortage Contingency Plan Rate Adjustments					
	Water Shortage Level				
	Level 2	Level 3	Level 4	Level 5	Level 6
<b>Water Shortage or Mandated Reduction</b>	Up to 20%	Up to 30%	Up to 40%	Up to 50%	> 50%
<b>Maximum Rate Adjustment %</b>	8%	16%	27%	41%	62%
<b>Maximum Rate Adjustment* Effective Sept-1, 2023 (\$/hcf)</b>	\$0.42	\$0.85	\$1.43	\$2.17	\$3.28

Note: 1 unit = one hundred cubic feet (hcf), or approximately 748 gallons.

\* Each year, the Maximum Water Rate Adjustments will be adjusted on July 1 based on a) the Maximum Rate Adjustment % corresponding each Water Shortage Level multiplied by b) the Water Consumption Charge implemented for All Other Customers resulting in c) Maximum Water Rate Adjustment per hcf that would be applied to the City's Water Consumption Charges.

**Table 7 – Wastewater Rate Adjustments for Water Shortages**

Projected Maximum Wastewater Rate Adjustments for Water Shortages					
	Water Shortage Level				
	Level 2	Level 3	Level 4	Level 5	Level 6
<b>Water Shortage or Mandated Reduction</b>	Up to 20%	Up to 30%	Up to 40%	Up to 50%	> 50%
<b>Maximum Rate Adjustment %</b>	5%	7%	10%	14%	20%
<b>Maximum Rate Adjustment* Effective Sept-1, 2023 (\$/hcf)</b>	\$0.47	\$0.66	\$0.94	\$1.32	\$1.89

Note: 1 unit = one hundred cubic feet (hcf), or approximately 748 gallons.

\* Each year, the Maximum Wastewater Rate Adjustments will be adjusted on July 1 based on a) the Maximum Rate Adjustment % corresponding each Water Shortage Level multiplied by b) the Residential Wastewater Commodity Charge resulting in c) Maximum Wastewater Rate Adjustments per hcf that would be applied to all Wastewater Commodity Charges.

## 2 WATER FINANCIAL PLAN & RATES

### 2.1 Current & Historical Water Rates

The City has provided strong financial stewardship by gradually raising water rates most years over the past 20 years to keep rates in line with the costs of providing water service. Table 8 shows a 5-year history of the City's water rates. To help provide rate relief during Covid, the City temporarily deferred water rate increases in 2020. Current water rates have been effective since August 1, 2021

**Table 8 – Water Rates**

	2017 Jul-1	2018 Jul-1	2019 Jul-1	2020 Jul-1	2021 Aug-1
<b>FIXED MONTHLY CHARGES</b>					
<i>Fixed monthly charge billed per residential dwelling unit or based on non-residential meter size.</i>					
<b>RESIDENTIAL</b>					
<i>Fixed charge per residential dwelling unit.</i>				<u>no change</u>	
Single Family: Up to 1" Meter	\$9.57	\$11.86	\$14.40	\$14.40	\$18.98
Multi-Family: Per Dwelling Unit	5.74	7.11	8.64	8.64	11.39
<b>ALL OTHER CUSTOMERS</b>					
<i>Fixed charge based on water meter size.</i>					
Up to 3/4-inch meter	\$9.57	\$11.86	\$14.40	\$14.40	\$18.98
1-inch meter	14.40	18.22	22.44	22.44	30.13
1-1/2 inch meter	26.46	34.13	42.56	42.56	58.02
2-inch meter	40.98	53.25	66.73	66.73	91.47
3-inch meter	74.83	97.84	123.10	123.10	169.56
4-inch meter	123.20	161.55	203.63	203.63	281.10
6-inch meter	244.06	320.78	404.92	404.92	559.96
<b>WATER CONSUMPTION CHARGES</b>					
<i>Volumetric charge billed per hundred cubic feet (hcf) of metered water use.</i>					
<b>SINGLE FAMILY RESIDENTIAL</b>					
<u>Rate Tier</u>	<u>Use in Tier</u>			<u>no change</u>	
Tier 1	0 - 4 hcf	\$3.52	\$3.69	\$3.95	\$4.31
Tier 2	4.01 - 8 hcf	3.95	4.14	4.41	4.79
Tier 3	8.01 - 16 hcf	4.50	4.72	5.04	5.48
Tier 4	>16 hcf	5.35	5.60	5.96	6.42
<b>ALL OTHER CUSTOMERS</b>		\$3.95	\$4.14	\$4.41	\$4.79
<b>RECYCLED WATER</b>		\$3.95	\$2.07	\$2.21	\$2.40
<b>TEMPORARY SERVICE &amp; WATER HAULERS</b>		\$6.07	\$6.32	\$6.69	\$7.18

The City's water rates include two components:

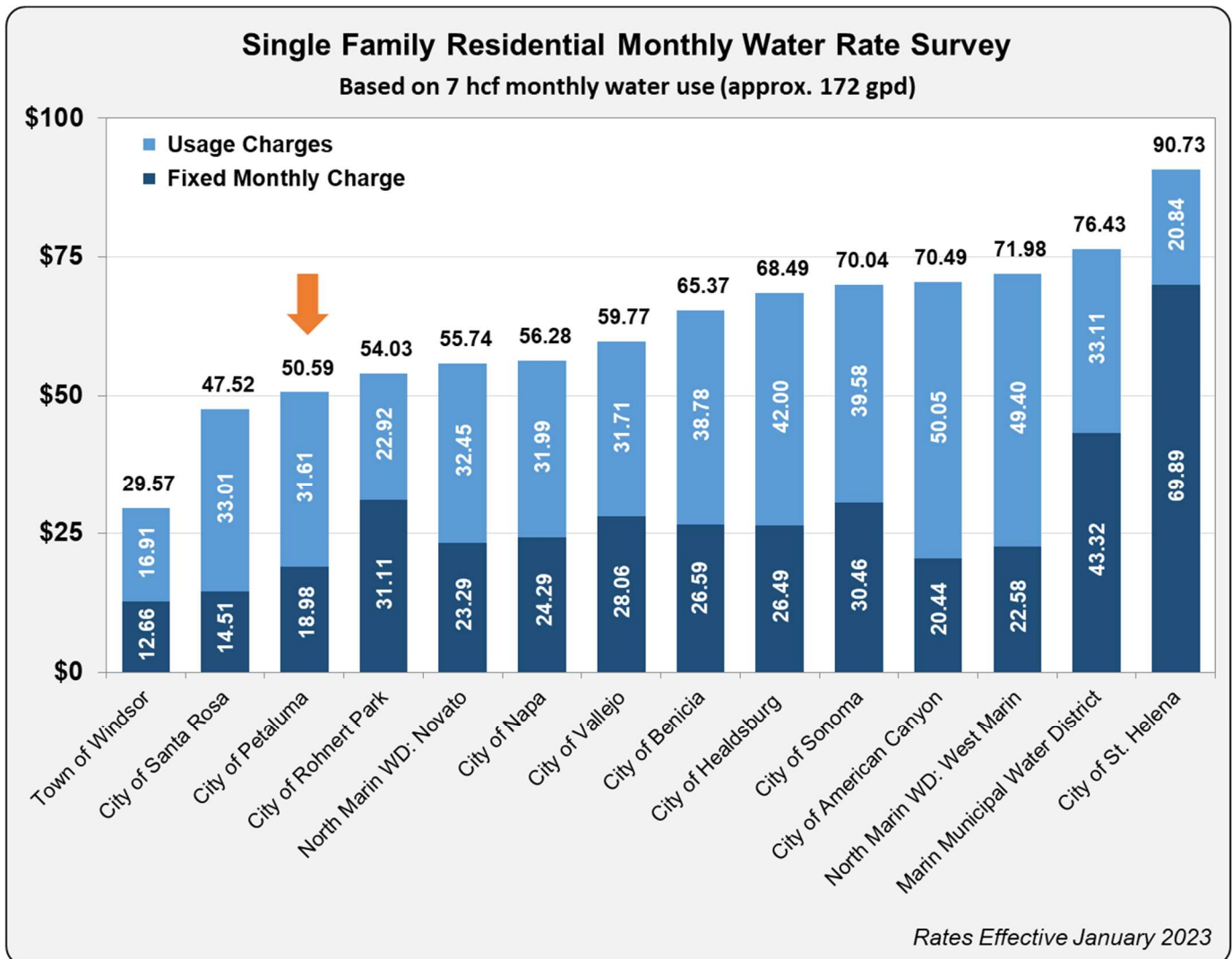
- **Fixed Monthly Charges** that vary based on meter size. These charges are levied independent of water use and recover a portion of the City's fixed costs for providing service. The City incurs a substantial amount of costs ensuring that water is available at all times to meet customer needs on demand. The fixed Monthly Service Charges vary by meter size, with larger meters paying higher charges based on each meter's capacity and associated demand placed on the water system.
- **Water Consumption Charges** billed based on metered water use. Single family residential customers are billed according to a 4-tiered inclining rate structure with water first billed in Tier 1 and subsequently billed in higher tiers as water use increases each billing period. All other customers are billed a uniform rate for all water use which applies to all other potable water use and also serves as the maximum authorized rate for recycled water use. In recent years, the City has been charging newer recycled water customers recycled water rates set at 50% of the City's potable rate for commercial use while customers with older contracts benefit from lower contractual rates. Water Consumption Charges are billed per hundred cubic feet (hcf), with 1 hcf equal to approximately 748 gallons of water. Hence, City's current tiered quantity charges for single family homes range from approximately 0.6 cents to 0.9 cents per gallon (less than a penny per gallon).

The City's existing water rate structure was developed in the 2017 Water & Sewer Rate Study which is incorporated by reference. The 2017 Rate Study derived water rates based on cost of service methodology that resulted in a number of rate structure modifications designed to realign rates with the cost of providing service including adjustments to both Fixed Monthly Charges and Water Consumption Charges. Since the prior study, there have not been substantial changes to the City's water supply, system operations or customer base. As such, no additional rate structure modifications are recommended at this time.

## 2.2 Regional Water Rate Survey

The following chart compares the City's current water rates to those of other regional agencies for a typical single family home using 7 hundred cubic feet of water per month. The City's water rates are currently in the lower-middle range compared to other regional agencies.

Figure 3 – Single Family Residential Water Rate Survey





## **2.3 Financial Challenges / Key Drivers of Rate Increases**

Going forward, the City's water enterprise is facing a number of financial challenges that will require the City to continue its historical practice of implementing gradual annual water rates increases over the next 5 years. Key drivers of future rate increases are summarized as follows.

### **2.3.1 Capital Improvements & Replacement of Aging Infrastructure**

The City has been working with an independent engineering consulting firm to develop updated Water and Wastewater Master Plans to evaluate and prioritize capital improvement needs. The City's water system is in need of substantial capital improvements to address current deficiencies and rehabilitate, upgrade and/or replace aging infrastructure to support safe and reliable service. A table summarizing the City's projected Water System Capital Improvement Program (CIP) is shown on the following page.

The Water CIP identifies \$104 million of improvements through fiscal year 2033/34. With estimated 3% construction cost inflation, total costs are projected at \$119 million, with approximately \$54 million needed over the next 5 fiscal years. The City has been successful in obtaining grant funding to help fund some projects, including a \$7.5 million grant for Advanced Meter Infrastructure, and is in process of seeking additional grant funding. Accounting for projected grants, the City anticipates needing to fund roughly \$33 million of water capital projects over approximately the next five years. In addition, the water enterprise will be responsible for funding roughly \$5 million of recycled water system capital improvements over the next 5 years.

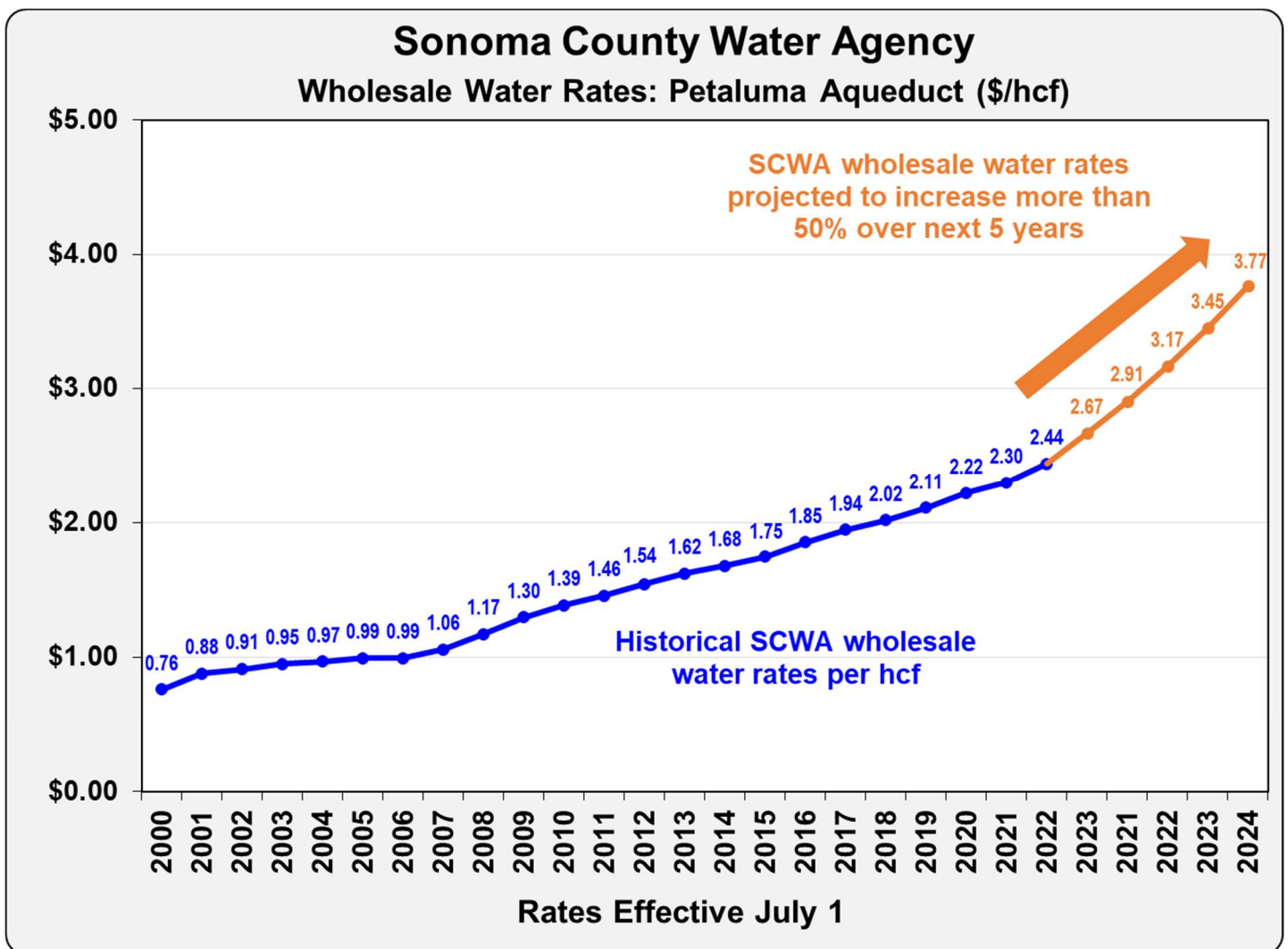
**Table 9 – Water Capital Improvement Program**

Water System Capital Improvement Plan													
	CIP Number	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	TOTAL
Construction Cost Escalation		1.00	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30	1.34	
REPLACEMENTS & UPGRADES													
Water Master Plan 10-YR Rehab & Replace Program	N/A												
Water Main Replacement- Payran and Madison	C67502225	1,560,000				2,706,000	3,279,000	3,069,000	2,918,000	2,898,000	2,901,000	2,901,000	\$20,672,000
Water Main Replacement- Howard St	C67502326	833,000	792,000										1,560,000
Water Main Replacement- D St	New	55,000	1,250,000	1,000,000									1,625,000
Water Main Replacement- Washington at Highway 101	New					120,000	505,000						2,305,000
Water Main Replacement- Bodega and N Webster	C67502012			103,000	2,564,000								625,000
Water Main Replacement Program	Projected												2,667,000
Water Services Replacement - St Francis	New	350,000	1,550,000	150,000	750,000								0
Water Services Replacement - Daniel Dr	C67502327												1,900,000
Water Service Replacement Program	Projected					1,900,000	1,900,000	1,900,000	1,900,000	1,900,000	1,900,000	1,900,000	13,300,000
Hardin Tank Recoating	C67502328	1,000,000	487,000										1,487,000
La Cresta Tank	C67402122	175,000	275,000	1,500,000	950,000								2,900,000
Oak Hill Tank Replacement	Projected	80,000	133,000	250,000	250,000	2,500,000	2,500,000						5,713,000
Water Booster PS Upgrades	New		125,000	500,000	750,000		1,180,000						2,555,000
SCADA Upgrades	C67502224	90,000	100,000	100,000	100,000	100,000	1,510,000	2,000,000					4,000,000
Pressure Reducing Valve Resiliency Program	New		50,000	515,000	350,000								915,000
Advanced Metering Infrastructure (AMI) could be ww bo	E67502242	7,503,000	1,498,500				1,000,000	1,500,000					9,001,500
Bulk Potable/Recycled Water Fill Stations & Security Imp.	New	137,000	363,000				2,000,000		2,000,000				1,500,000
Washington Tanks Recoating													3,500,000
Mountain View Tank Recoating													2,000,000
Country Club Tank Recoating													1,000,000
Subtotal		11,783,000	6,623,500	4,118,000	5,714,000	7,326,000	13,874,000	8,469,000	6,818,000	4,798,000	4,801,000	5,801,000	80,125,500
CAPACITY PROJECTS													
Well Construction	C67501611	650,000	50,000	650,000	50,000		650,000	50,000	650,000	50,000	650,000	50,000	3,500,000
Aquifer Storage & Recov (ASR) Plan + Injection Well (future)	E67502243	339,000			500,000								839,000
Well Treatment	New	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000						12,000,000
Develop Alternative Source of Potable Water Supply [5]	Projected		750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000	7,500,000
Water Truck Fill Stations (3 stations)	New	287,000	287,000	287,000									861,000
Subtotal		3,276,000	2,800,000	3,400,000	3,300,000	2,750,000	3,400,000	800,000	1,400,000	800,000	1,400,000	800,000	24,126,000
TOTAL WATER CIP		15,059,000	9,423,500	7,518,000	9,014,000	10,076,000	17,274,000	9,269,000	8,218,000	5,598,000	6,201,000	6,601,000	104,251,500
TOTAL WITH 3% COST ESCALATION		15,059,000	9,706,000	7,976,000	9,850,000	11,341,000	20,025,000	11,068,000	10,107,000	7,091,000	8,091,000	8,871,000	119,185,000
GRANTS FUNDING (ANTICIPATED)													
Grant for La Cresta Tank (pending)	Status												
DWR Grant for Advanced Metering Infrastructure (AMI)	Applied/Pending	175,000	1,800,000	285,000									2,260,000
Wtr Ent & DWR Grant Aquifer Storage & Recov (ASR) Plan	Awarded	7,503,000			111,000								7,503,000
Grant for Well Construction (pending)	Awarded	339,000											450,000
Grant for Well Treatment (pending)	Applied/Pending	487,500											487,500
IWMP	Applied/Pending	2,000,000	2,000,000	2,000,000	2,000,000	1,000,000							9,000,000
IWMP (recycled water planning)	Applied/Pending	2,000,000	583,000										583,000
Grant for Water Truck Fill Stations (3 stations)	Awarded	212,000	212,000	212,000									226,000
Subtotal	Applied/Pending	10,716,500	4,821,000	2,497,000	2,111,000	1,000,000	0	0	0	0	0	0	21,145,500
NET CITY WATER CIP FUNDING REQUIREMENT		4,342,500	4,885,000	5,479,000	7,739,000	10,341,000	20,025,000	11,068,000	10,107,000	7,091,000	8,091,000	8,871,000	98,039,500

### 2.3.2 Wholesale Water Rate Increases

The City purchases almost all of its potable water supply from the Sonoma County Water Agency (SCWA). Wholesale water supply is delivered via the Petaluma Aqueduct, an underground pipeline that runs from Santa Rosa to southern Petaluma and serves the City of Petaluma and a number of other regional agencies. The following chart shows historical and projected SCWA wholesale water rates. As proposed, the City would continue its historical practice of passing through SCWA wholesale water increases via the same increases (in cents) to the City's Water Consumption Charges. The SCWA wholesale water rate for the Petaluma Aqueduct is scheduled to increase by 9.4% effective July 1, 2023. Over the next 5 years, SCWA wholesale rates are projected to increase more than 50%.

Figure 4 – Historical & Projected SFPUC Wholesale Water Rates



### 2.3.3 Ongoing Operating Cost Inflation

In addition, the City faces ongoing cost inflation for operating and maintenance expenses. Water and wastewater utility cost inflation has historically been significantly higher than the Consumer Price Index (CPI) for consumer goods and services. In addition to rate increases for capital needs and other purposes, gradual annual rate increases will be needed to support the City's operating expenses and keep up with cost inflation.

## 2.4 Outstanding Debt Service

The following table shows a debt service repayment schedule by fiscal year for the City's water enterprise, which includes one outstanding debt obligation, the 2012 Water Refunding Loan.

**Table 10 – Outstanding Water Debt Service**

Year Ending June 30	2012 Water Refunding Loan
2023	\$545,066
2024	548,019
2025	549,330
2026	549,035
2027	549,134
2028	547,629
2029	549,462
2030	545,653
2031	447,056

## 2.5 Water Enterprise Financial Projections

Bartle Wells Associates developed 10-year water enterprise cash flow projections to identify future funding needs and evaluate water rate increases. The table on the following page shows 10-year water enterprise cash flow projections. The projections incorporate the latest information available as well as a number of reasonable and slightly conservative assumptions. Key assumptions include:

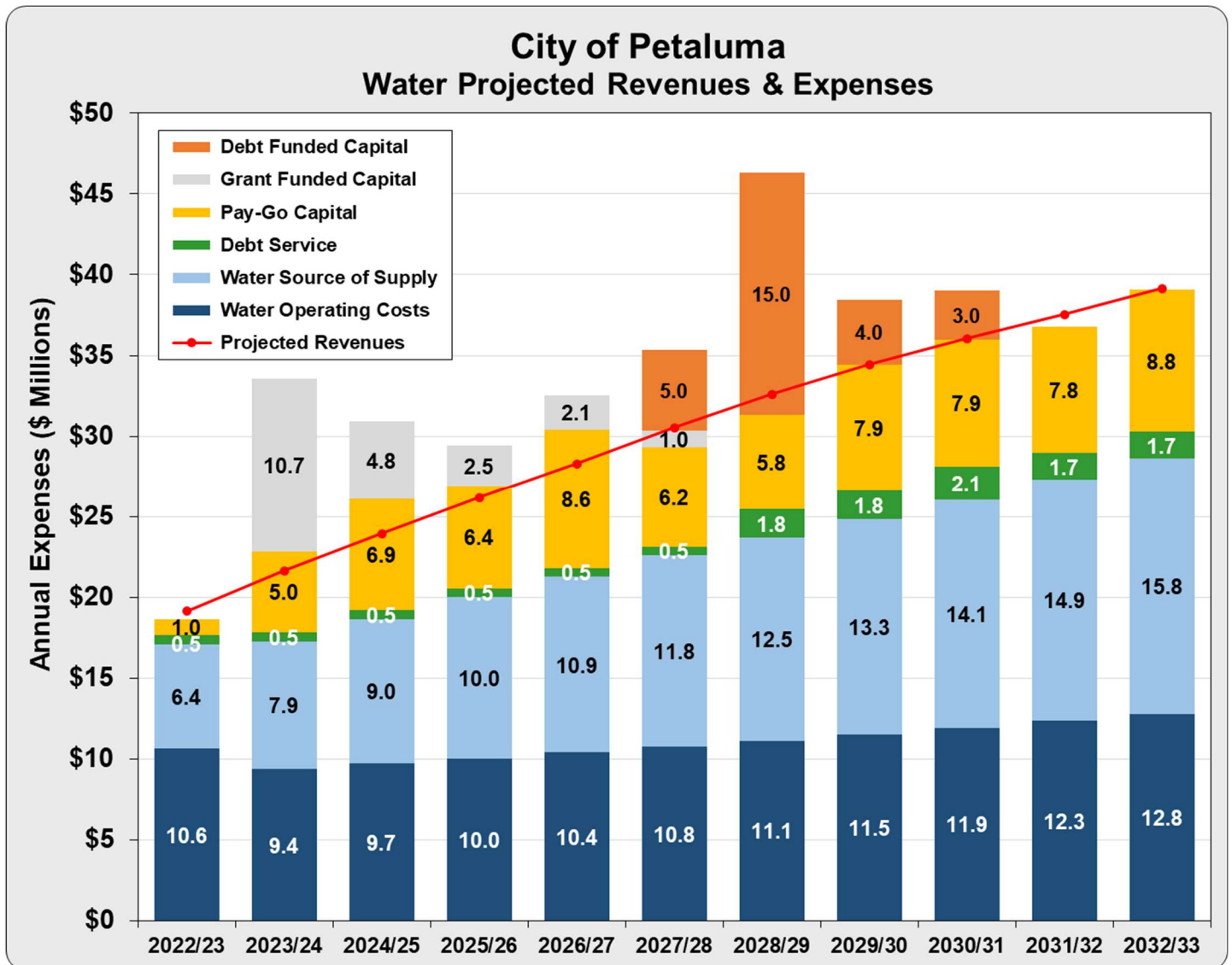
- Operating and maintenance costs are based on the 2022/23 budget with various adjustments based on detailed review of expenses with City staff and escalate at the annual rate of 3.5% to account for future cost inflation.
- Growth from new development and/or redevelopment is projected at the equivalent of 50 new single family homes per year for financial planning purposes.
- Water sales are projected to partially rebound from low levels experienced in the prior fiscal year towards conservative estimates of normal-year demand. Water use had decreased in recent years partially due to declaration of a Level 2 drought and associated water use restrictions.
- SCWA wholesale water rates are scheduled to increase 9.4% effective July 1, 2023, are projected to increase 9% per year for the next 4 years, and subsequently are projected to increase by 6% per year.
- Capital improvement costs are based on the projections shown in the Water CIP, which includes roughly \$54 million of capital funding needs over the next 5 years. Accounting for projected grant funding, the City anticipates needing to fund roughly \$33 million of water capital projects over approximately the next five years from rates supplemented by a partial drawdown of fund reserves. In addition, the water enterprise will be responsible for funding roughly \$5 million of recycled water system capital improvements reflecting a partial allocation of costs for some recycled water projects such as urban recycled water pipeline extensions that provide benefit to the water system by offsetting potable water demands and improving potable water supply reliability.
- The financial projections include debt issuances in years 5 and 7 to generate \$27 million to help fund capital improvement funding needs starting year 5. The actual amount and timing of these potential future debt issues may vary based on the financing needs at the time debt is issued and would be determined in future years, if and when any debt financing is needed. Debt service is estimated based on a 4.5% average interest rate and assumes a 30-year repayment term.
- For financial planning purposes, the financial projections assume a minimum fund reserve target equal to 25% of annual operating and maintenance expenses, plus \$4 million for emergency capital reserves. Maintaining a prudent minimal level of fund reserves provides a financial cushion for dealing with unanticipated expenses, revenue shortfalls, and non-catastrophic emergency capital repairs. The fund reserve target will escalate over time as the City's expenses gradually increase.
- The table also calculates annual debt service coverage based on a) total revenues less operating and maintenance expenses, divided by b) annual debt service.

Table 11 – 10-Year Water Cash Flow Projections

Water Cash Flow Projections												
	Current 2022/23	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33	
Projected Rate Adjustments		Sep 1	July 1	July 1	July 1	July 1	July 1	July 1	July 1	July 1	July 1	
	City Rate Increase %	2.5%	2.5%	2.5%	2.5%	2.5%	2.0%	1.0%	0.0%	0.0%	0.0%	
	CPI Rate Adjustment %	3.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.0%	2.0%	
	SCWA Rate Increase Pastthrough (\$/hcf)	\$0.23	\$0.24	\$0.26	\$0.29	\$0.31	\$0.23	\$0.24	\$0.25	\$0.27	\$0.29	
	Total Net Rate Increase (City+CPI+SCWA)	8.83%	8.23%	8.27%	8.29%	8.31%	6.73%	5.68%	4.67%	4.19%	4.23%	
	Growth (EDUs)	50	50	50	50	50	50	50	50	50	50	
	Growth in Accounts %	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	
	Change in Water Sales %	6.0%	4.0%	2.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Water Sales (hcf)	2,540,000	2,692,000	2,800,000	2,856,000	2,856,000	2,856,000	2,856,000	2,856,000	2,856,000	2,856,000	
	Supply from Well Production	150,000	-	-	-	-	-	-	-	-	-	
SCWA Wholesale Water Rate per hcf	2,644,000	2,961,000	3,080,000	3,142,000	3,142,000	3,142,000	3,142,000	3,142,000	3,142,000	3,142,000	3,142,000	
	\$2.44	\$2.67	\$2.91	\$3.17	\$3.45	\$3.77	\$3.99	\$4.23	\$4.49	\$4.75	\$5.04	
	\$4,794	\$4,890	\$4,988	\$5,088	\$5,190	\$5,294	\$5,400	\$5,508	\$5,618	\$5,730	\$5,845	
	-	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
	Operating Cost Escalation	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	
	Interest Earnings Rate											
	Beginning Fund Reserves	\$14,844,000	\$15,347,000	\$14,139,000	\$11,983,000	\$11,240,000	\$9,120,000	\$10,343,000	\$11,641,000	\$11,640,000	\$11,690,000	\$12,470,000
	REVENUES											
	Fixed Monthly Charges (est.)	6,046,000	6,395,000	6,731,000	7,085,000	7,458,000	7,850,000	8,223,000	8,529,000	8,759,000	8,951,000	9,147,000
	Water Consumption Charges	12,200,000	14,271,000	16,265,000	18,178,000	19,913,000	21,809,000	23,447,000	24,958,000	26,307,000	27,602,000	28,969,000
Subtotal	18,246,000	20,666,000	22,996,000	25,263,000	27,371,000	29,659,000	31,670,000	33,487,000	35,066,000	36,553,000	38,116,000	
Interest Earnings	297,000	307,000	283,000	240,000	225,000	182,000	207,000	233,000	233,000	234,000	249,000	
Connection Fees/Capacity Charges	200,000	245,000	249,000	254,000	260,000	265,000	270,000	275,000	281,000	287,000	292,000	
Other/Miscellaneous	400,000	408,000	416,000	424,000	432,000	441,000	450,000	459,000	468,000	477,000	487,000	
Total Revenues	19,143,000	21,626,000	23,944,000	26,181,000	28,288,000	30,547,000	32,597,000	34,454,000	36,048,000	37,551,000	39,144,000	
Anticipated Grants		10,716,500	4,821,000	2,497,000	2,111,000	1,000,000	15,000,000	4,000,000	3,000,000			
Projected Debt Proceeds (30-Yr, 4.5% Bonds)												
EXPENSES												
Operating & Maintenance		Adm & City Input										
Administration (Excl Capital Transfer & Debt)	Budget	2,978,000	3,082,000	3,190,000	3,302,000	3,418,000	3,538,000	3,662,000	3,790,000	3,923,000	4,060,000	
Water Conservation	3,505,000	774,000	801,000	829,000	858,000	888,000	919,000	951,000	984,000	1,018,000	1,054,000	
Water Customer Service	1,364,000	851,000	881,000	912,000	944,000	977,000	1,011,000	1,046,000	1,083,000	1,121,000	1,160,000	
New AMI Cell Service (50% Water)	822,000	0	80,000	86,000	89,000	92,000	95,000	98,000	101,000	105,000	109,000	
Water Leak Detect/Cross Connect	133,000	138,000	143,000	148,000	153,000	158,000	164,000	170,000	176,000	182,000	188,000	
Water Pumping	657,000	680,000	704,000	729,000	755,000	781,000	808,000	836,000	865,000	895,000	926,000	
Water Source of Supply (SCWA)	6,446,000	7,899,000	8,956,000	9,959,000	10,855,000	11,832,000	12,542,000	13,295,000	14,092,000	14,938,000	15,834,000	
Water Transmission & Distribution	4,168,000	3,875,000	4,011,000	4,151,000	4,296,000	4,446,000	4,602,000	4,763,000	4,930,000	5,103,000	5,282,000	
Subtotal	17,095,000	17,275,000	18,661,000	20,004,000	21,252,000	22,592,000	23,679,000	24,821,000	26,021,000	27,285,000	28,613,000	
Debt Service												
2012 Water Refunding Loan	545,000	548,000	549,000	549,000	549,000	548,000	549,000	546,000	447,000	0	0	
2028 Bonds, Projected (30-Yr, 4.5% Bonds)	0	0	0	0	0	0	1,228,000	1,228,000	1,228,000	1,228,000	1,228,000	
2030 Bonds, Projected (30-Yr, 4.5% Bonds)									430,000	430,000	430,000	
Subtotal	545,000	548,000	549,000	549,000	549,000	548,000	1,777,000	1,774,000	2,105,000	1,658,000	1,658,000	
Capital & Other Non-Operating												
Water CIP: Cash Funded	1,000,000	4,342,500	4,885,000	5,479,000	7,739,000	5,341,000	5,025,000	7,068,000	7,107,000	7,091,000	8,091,000	
Water CIP: Grant & Debt Funded	0	10,716,500	4,821,000	2,497,000	2,111,000	6,000,000	15,000,000	4,000,000	3,000,000	0	0	
Water Share of Recycled Water CIP (Net)	0	669,000	2,005,000	892,000	868,000	843,000	818,000	792,000	765,000	737,000	709,000	
Subtotal	1,000,000	15,728,000	11,711,000	8,868,000	10,718,000	12,184,000	20,843,000	11,860,000	10,872,000	7,828,000	8,800,000	
Total Expenses	18,640,000	33,551,000	30,921,000	29,421,000	32,519,000	35,324,000	46,299,000	38,455,000	38,998,000	36,771,000	39,071,000	
Revenues Less Expenses & Transfers	503,000	(1,208,500)	(2,156,000)	(743,000)	(2,120,000)	1,223,000	1,298,000	(1,000)	50,000	780,000	73,000	
Ending Fund Reserves	15,347,000	14,138,500	11,983,000	11,240,000	9,120,000	10,343,000	11,641,000	11,640,000	11,690,000	12,470,000	12,543,000	
Min Fund Rsrv Target: 25% O&M + \$4M CIP	8,270,000	8,320,000	8,670,000	9,000,000	9,310,000	9,650,000	9,920,000	10,210,000	10,510,000	10,820,000	11,150,000	
Debt Service Coverage	3.76	7.94	9.62	11.25	12.82	14.52	5.02	5.43	4.76	6.19	6.35	
Annual Funding Generated for CIP	1,503,000	3,803,000	4,734,000	5,628,000	6,487,000	7,407,000	7,141,000	7,859,000	7,922,000	8,608,000	8,873,000	

The following chart graphically shows a 10-year breakdown of projected water enterprise revenues and expenses. The proposed rate increases are designed to put the City on a long-term path toward supporting balanced budgets while providing adequate funding for operating and capital needs.

**Figure 5 – Water Utility Projected Revenues & Expenses**





## 2.6 Projected Water Rate Increases

The cash flow projections indicate the need for gradual annual rate increases year over the next 5 years in order to meet the water utility's projected operating and capital funding needs. As proposed, the City would continue its historical practice of adopting base City rate increases that would be supplemented by additional annual pass-through rate adjustments for SCWA wholesale water rate increases and inflation.

The following table shows projected base City water increases only, excluding the additional annual pass-through rate adjustments for SCWA wholesale water rates and inflation.

**Table 12 – Projected Base City Water Rate Increases**  
(Excluding Annual SCWA & CPI Inflation Rate Adjustments)

Projected Base City Water Rate Increases				
Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
2.5%	2.5%	2.5%	2.5%	2.5%

## 2.7 Annual Pass-Through Rate Adjustments

The method for adjusting water rates each year is summarized as follows:

- **STEP 1 – Annual CPI Inflation Pass-Through Rate Adjustments** – The proposed water rates effective each year (which account only for the base City rate increases) will be adjusted by an amount not to exceed the percentage change in the Consumer Price Index from the December 2022 index to the index for the December immediately preceding the upcoming fiscal year. For example, on July 1, 2027, the proposed water rates would be adjusted by the change in the CPI from the December 2022 index to the December 2026 index.
- **STEP 2 – Annual SCWA Wholesale Water Rate Pass-Through Adjustments** – After completing Step 1, the future Water Consumption Charges will also be adjusted by the cumulative increase in the SCWA wholesale water rate (based on cents per hcf) from the current equivalent rate of \$2.44 per hcf. For example, if SCWA wholesale water rates increase by 25 cents each year, then the Water Consumption Rates calculated for July 1, 2027 in Step 1 above (which accounts for the base City rate increase plus cost inflation) would be subsequently adjusted by the cumulative increase in the wholesale water rate from the current rate through the rate adopted by SCWA for July 1, 2027, or \$1.25 in this example. The SCWA wholesale pass-through rate adjustments only apply to Water Consumption Charges and do not affect the Fixed Monthly Charges.



## 2.8 Proposed Water Rates

The table on the following pages shows a schedule of proposed water rates. The first rate increase would become effective on September 1, 2023 with future increases effective July 1 of each year. As such, the initial rate increase will be the City's first water rate increase in roughly two years.

The proposed water rates effective September 1, 2023 include the first base annual 2.5% rate increase and also account for an additional 3.0% inflation adjustment and a \$0.23 per hcf increase in SCWA's wholesale water rates passed through to the City's Water Consumption Charges. The proposed rates shown for subsequent years starting July 1, 2024 will be adjusted annually to account for future pass-through rate adjustments for inflation and wholesale water rate increases.

In recent years, the City has been charging newer recycled water customers recycled water rates set at 50% of the City's potable rate for commercial use while customers with older contracts benefit from lower contractual rates. As proposed, the City would be authorized to set recycled water rates up to the potable Water Consumption Charges for All Other Customers as recycled water sales fall under this rate class.

The City's existing water rate structure was developed in the 2017 Water & Sewer Rate Study which is incorporated by reference. The 2017 Rate Study derived water rates based on a cost of service methodology that resulted in a number of rate structure modifications designed to realign rates with the cost of providing service. Since the prior study, the City has not experienced substantial changes to the City's water supply, system operations or customer base. As such, no additional rate structure modifications are recommended at this time.

The 2017 Rate Study recommended adjustments to both Fixed Monthly Charges and Water Consumption Charges. The tiered Water Consumption Charges for Single Family Residential customers were developed based on a cost of service methodology that recovers higher costs associated with providing extra system capacity from higher levels of water use that require infrastructure to be upsized to meet peak demands. Water system facilities, including water transmission and distribution pipelines and storage tanks, are sized to meet peak demands similar to the need for building additional lanes on a highway to meet peak rush hour traffic even though fewer lanes would otherwise be adequate for non-rush hour traffic.

The Water Consumption Charge for customers other than single family homes is a uniform rate that reflects the weighted average rate of the single family residential tiered consumption charges. Due to a number of challenges deriving an equitable system of tiered rates for customers other than single family homes, the City levies a uniform rate on all water use from these customers, consistent with almost all agencies in California. These customers do not benefit from the lowest single family residential rate tier and also do not pay higher rates for higher levels of water use. However, the uniform rate charged to these customers does provide substantial conservation incentive as reflected in the marginal cost of purchasing each additional unit of water.

**Table 13 – Proposed Water Rates**

Proposed Water Rates						
	Current Water Rates	Proposed Rates Effective On or After				
		Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
FIXED MONTHLY CHARGES						
Fixed monthly charges billed per residential dwelling unit or based on non-residential meter size.						
<b><u>Residential</u></b>						
Single Family: Up to 1-inch meter	\$18.98	\$20.03	\$20.54	\$21.05	\$21.58	\$22.11
Multi-Family: Per Dwelling Unit	11.39	12.02	12.32	12.63	12.95	13.27
<b><u>All Other Customers</u></b>						
5/8 & 3/4-inch meter	\$18.98	\$20.03	\$20.54	\$21.05	\$21.58	\$22.11
1-inch meter	30.13	31.81	32.60	33.41	34.25	35.10
1-1/2-inch meter	58.02	61.25	62.79	64.35	65.96	67.61
2-inch meter	91.47	96.57	98.98	101.46	103.99	106.58
3-inch meter	169.56	179.01	183.49	188.08	192.79	197.61
4-inch meter	281.10	296.77	304.19	311.79	319.59	327.58
6-inch meter	559.96	591.18	605.96	621.11	636.64	652.56
WATER CONSUMPTION CHARGES						
Volumetric charges billed per hundred cubic feet (hcf) of metered water use.						
<b><u>Single Family Residential</u></b>						
Tier 1      0 - 4 hcf	\$4.31	\$4.78	\$4.90	\$5.01	\$5.13	\$5.26
Tier 2      4.01 - 8 hcf	4.79	5.29	5.41	5.54	5.68	5.81
Tier 3      8.01 - 16 hcf	5.48	6.02	6.16	6.31	6.46	6.62
Tier 4      >16 hcf	6.42	7.01	7.17	7.35	7.52	7.71
<b><u>All Other Customers</u></b>	4.79	5.29	5.41	5.54	5.68	5.81
<b><u>Temporary Service &amp; Water Haulers</u></b>	7.18	7.81	8.00	8.19	8.39	8.59

Note: The Proposed Water Rates will be adjusted each year to account for annual pass-through rate increases for inflation and SCWA wholesale water rate increases.

Annual inflation pass-through rate adjustments will be based on the percentage change in the Consumer Price Index for the San Francisco Bay Area from the index for December 2022 to the index for December immediately preceding the upcoming fiscal year.

Annual pass-through adjustments for SCWA wholesale water rate increases will be based on the increase in SCWA's charges for the Petaluma Aqueduct rounded to the nearest one cent per hcf and applied to the City's Water Consumption Charges.

## 2.9 Projected Water Rates with Annual Pass-Throughs

The following table shows projected rate increases accounting for the base City water rate increases as well as projections of future annual pass-through rate adjustments for inflation and wholesale water rate increases. The table on the following page shows a scheduled of projected water rates for informational purposes only. Actual future rates may vary depending on the level of future pass-through rate adjustments implemented by the City each year.

**Table 14 – Projected Water Rate Increases**

<b>Projected Water Rate Increases with SCWA &amp; Inflation Pass-Throughs</b>					
	<b>Sept 1 2023</b>	<b>July 1 2024</b>	<b>July 1 2025</b>	<b>July 1 2026</b>	<b>July 1 2027</b>
<b>Base City Rate Increases</b>	2.5%	2.5%	2.5%	2.5%	2.5%
<b>Est. Inflation Pass-Through</b>	3.0%	2.5%	2.5%	2.5%	2.5%
<b>SCWA Wholesale Rate Increase*</b>	\$0.23	\$0.24	\$0.26	\$0.29	\$0.31
<b>Net Increase</b>	8.8%	8.2%	8.3%	8.3%	8.3%

\* Pass-through to Water Consumption Charges only.

**Table 15 – Projected Water Rates with Future Annual Pass-Throughs**

Projected Water Rates with Future Annual Pass-Throughs						
Current Water Rates	Projected Rates Effective					
	Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027	
<b>CITY WATER RATE INCREASES</b>	2.5%	2.5%	2.5%	2.5%	2.5%	
<b>ESTIMATED CPI PASSTHROUGH ADJUSTMENTS</b>	3.0%	2.5%	2.5%	2.5%	2.5%	
Compounded CPI Adjustments	3.00%	5.58%	8.21%	10.92%	13.69%	
<b>PROJECTED SCWA WHOLESALE RATE INCREASES</b>						
SCWA Wholesale Rate Projection \$2.44	\$2.67	\$2.91	\$3.17	\$3.45	\$3.77	
Annual Increase	<u>0.23</u>	<u>0.24</u>	<u>0.26</u>	<u>0.29</u>	<u>0.31</u>	
Wholesale Rate Increase from Base Year Rates	0.23	0.47	0.73	1.02	1.33	
<b>FIXED MONTHLY CHARGES</b>						
<i>Fixed monthly charges billed per residential dwelling unit or based on non-residential meter size.</i>						
<b>Residential</b>						
Single Family: Up to 1-inch meter \$18.98	\$20.03	\$21.05	\$22.12	\$23.24	\$24.41	
Multi-Family: Per Dwelling Unit 11.39	12.02	12.63	13.27	13.94	14.64	
<b>All Other Customers</b>						
5/8 & 3/4-inch meter \$18.98	\$20.03	\$21.05	\$22.12	\$23.24	\$24.41	
1-inch meter 30.13	31.81	33.41	35.10	36.88	38.75	
1-1/2-inch meter 58.02	61.25	64.36	67.61	71.03	74.63	
2-inch meter 91.47	96.57	101.46	106.59	111.98	117.65	
3-inch meter 169.56	179.01	188.08	197.60	207.61	218.12	
4-inch meter 281.10	296.77	311.79	327.58	344.16	361.59	
6-inch meter 559.96	591.18	621.11	652.55	685.59	720.30	
<b>WATER CONSUMPTION CHARGES</b>						
<i>Volumetric charges billed per hundred cubic feet (hcf) of metered water use.</i>						
<b>Single Family Residential</b>						
Tier 1 0 - 4 hcf \$4.31	\$4.78	\$5.25	\$5.75	\$6.30	\$6.88	
Tier 2 4.01 - 8 hcf 4.79	5.29	5.78	6.32	6.88	7.49	
Tier 3 8.01 - 16 hcf 5.48	6.02	6.55	7.12	7.73	8.38	
Tier 4 >16 hcf 6.42	7.01	7.59	8.21	8.87	9.58	
<b>All Other Customers</b> 4.79	5.29	5.78	6.32	6.88	7.49	
<b>Temporary Service &amp; Water Haulers</b> 7.18	7.81	8.43	9.10	9.80	10.56	

Note: The table shows projections of future rates with base City rate increases plus estimates of future pass-through rate adjustments for SCWA wholesale water rate increases and inflation.

## 2.10 Projected Rate Impacts

The following table shows projected monthly water bills for single family residential customers with a range of monthly water use. The projected bills for future years starting July 1, 2024 include estimates of future annual pass-through rate adjustments for inflation and wholesale water rate increases for informational purposes only. Actual bills may vary depending on the amount of future pass-through rate adjustments implemented by the City.

**Table 16 – Projected Single Family Residential Water Rate Impacts**

Monthly Use (hcf)	Current Monthly Bill	Projected Monthly Bills					5-Year Increase per Bill
		Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027	
0	\$18.98	\$20.03	\$21.05	\$22.12	\$23.24	\$24.41	\$5.43
1	23.29	24.81	26.30	27.87	29.54	31.29	8.00
2	27.60	29.59	31.55	33.62	35.84	38.17	10.57
3 Lowest 25%	31.91	34.37	36.80	39.37	42.14	45.05	13.14
4	36.22	39.15	42.05	45.12	48.44	51.93	15.71
5	41.01	44.44	47.83	51.44	55.32	59.42	18.41
6 Median	45.80	49.73	53.61	57.76	62.20	66.91	21.11
7 Average	50.59	55.02	59.39	64.08	69.08	74.40	23.81
8	55.38	60.31	65.17	70.40	75.96	81.89	26.51
9	60.86	66.33	71.72	77.52	83.69	90.27	29.41
10	66.34	72.35	78.27	84.64	91.42	98.65	32.31
11	71.82	78.37	84.82	91.76	99.15	107.03	35.21
12	77.30	84.39	91.37	98.88	106.88	115.41	38.11
13	82.78	90.41	97.92	106.00	114.61	123.79	41.01
14 Top 10%	88.26	96.43	104.47	113.12	122.34	132.17	43.91
15	93.74	102.45	111.02	120.24	130.07	140.55	46.81
16	99.22	108.47	117.57	127.36	137.80	148.93	49.71
17	105.64	115.48	125.16	135.57	146.67	158.51	52.87
18	112.06	122.49	132.75	143.78	155.54	168.09	56.03
19	118.48	129.50	140.34	151.99	164.41	177.67	59.19
20	124.90	136.51	147.93	160.20	173.28	187.25	62.35

## 2.11 Water Use

The following tables show historical water use by class, tier, and by month. The tables below also show estimates of normal-year water use. Water use can vary from year to year due to many factors such as weather and conservation efforts. Water use declined over the prior and current fiscal years but is projected to partially bounce back over the next few years to slightly-conservative estimates of normal year use.

**Table 17 – Water Use by Class (hcf)**

Use Code	Customer Class	Actual 2018/19	Actual 2019/20	Actual 2020/21	Actual 2021/22	Estimated 2022/23	Projected Normal Yr
sf-000	Single Family	1,676,552	1,824,717	1,910,222	1,497,617	1,431,861	1,620,000
mf-000	Multifamily	357,458	375,038	393,679	353,343	335,745	355,000
cm-000	Commercial	443,202	432,542	424,251	388,335	353,901	410,000
is-000	Institutional	104,244	108,147	102,896	69,512	66,642	90,000
id-000	Industrial	220,903	183,662	191,310	199,420	157,400	180,000
sf-irr	Single Family Irrigation	865	1,056	1,016	846	440	1,000
cm-irr	Commercial Irrigation	221,320	269,289	272,549	162,465	130,464	180,000
is-irr	Institutional Irrigation	103,160	112,425	119,767	54,657	59,040	80,000
sc-000	SCWA Metered	1,145	1,080	1,700	1,314	1,039	1,000
Total		3,128,849	3,307,957	3,417,391	2,727,509	2,536,532	2,917,000
Annual % Change			5.7%	3.3%	-20.2%	-7.0%	

**Table 18 – Single Family Water Use by Tier (hcf)**

		2018/19	2019/20	2020/21	2021/22	2022/23	Est Normal Yr
<b>Single Family Residential Use by Tier</b>						estimated	estimated
Tier 1	0 - 4 hcf	750,807	764,712	772,214	737,109	730,000	750,000
Tier 2	4.01 - 8 hcf	429,714	472,099	492,085	385,708	370,000	420,000
Tier 3	8.01 - 16 hcf	321,240	378,682	411,741	257,107	235,000	300,000
Tier 4	>16 hcf	185,915	210,485	235,385	118,697	100,000	150,000
Total		1,687,676	1,825,978	1,911,425	1,498,621	1,435,000	1,620,000
Annual Change %			8.2%	4.7%	-21.6%	-4.2%	12.9%
<b>% of Water Use in Tier</b>							
Tier 1	0 - 4 hcf	44.5%	41.9%	40.4%	49.2%	50.9%	46.3%
Tier 2	4.01 - 8 hcf	25.5%	25.9%	25.7%	25.7%	25.8%	25.9%
Tier 3	8.01 - 16 hcf	19.0%	20.7%	21.5%	17.2%	16.4%	18.5%
Tier 4	>16 hcf	11.0%	11.5%	12.3%	7.9%	7.0%	9.3%

Table 19 – Water Use by Month

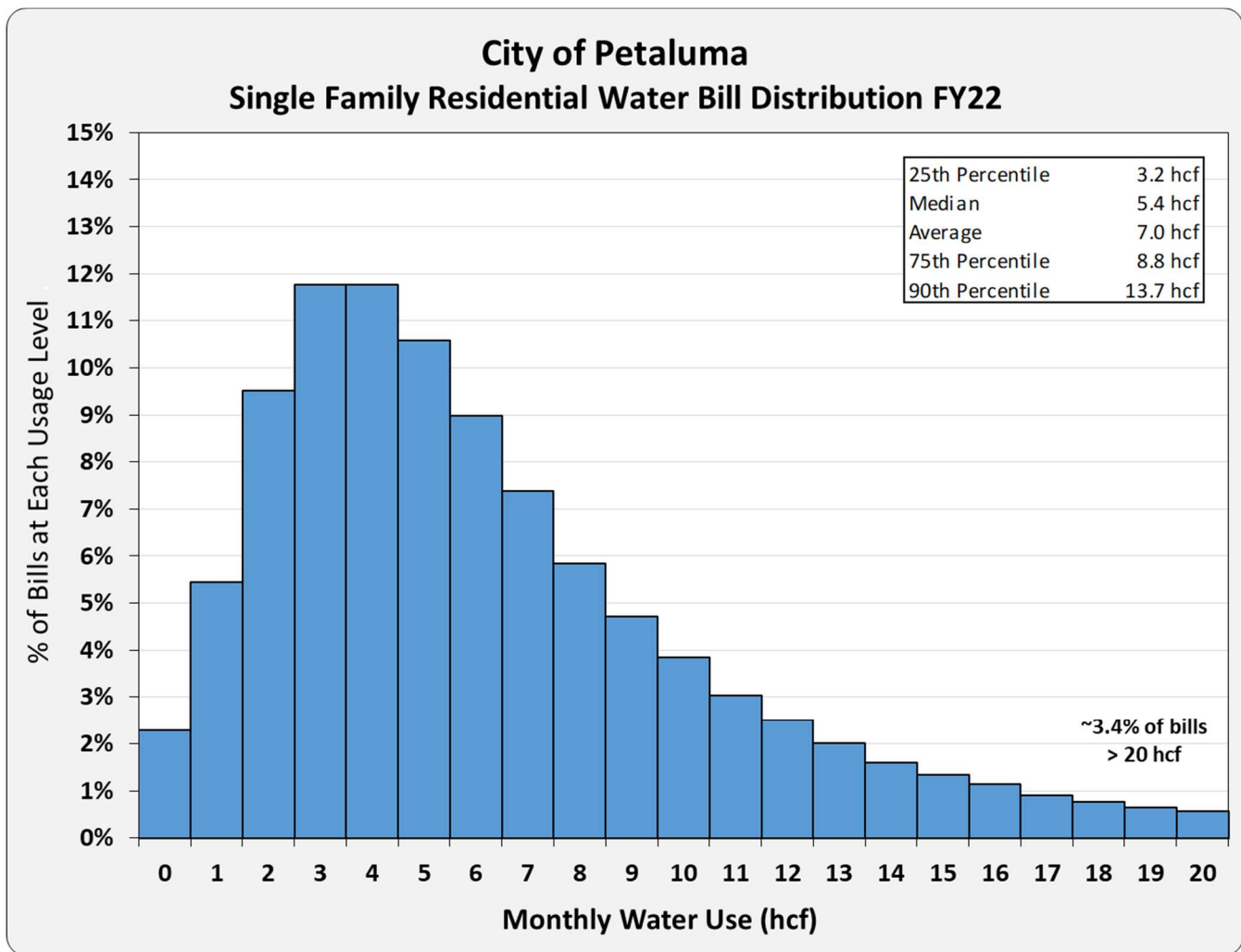
Water Use by Month & Class (hcf)												
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
										Estimated	Estimated	Estimated
<b>FY 2022/23</b>												
sf-000 Single Family	169,035	137,056	141,608	162,664	119,232	97,057	109,619	77,589	78,000	90,000	110,000	140,000
mf-000 Multifamily	34,347	28,325	28,847	33,560	27,022	24,800	30,945	23,428	22,471	25,000	27,000	30,000
cm-000 Commercial	41,275	33,226	34,732	40,096	31,030	24,632	27,044	20,582	19,286	25,000	27,000	30,000
is-000 Institutional	6,652	4,704	6,637	7,717	6,034	4,849	5,806	3,877	4,367	5,000	5,000	6,000
id-000 Industrial	16,412	13,262	13,069	16,246	11,923	10,886	13,666	11,273	11,664	12,000	13,000	14,000
sf-irr Single Family Irrigation	38	44	43	68	97	16	5	0	0	0	50	80
cm-irr Commercial Irrigation	19,543	16,511	16,779	19,734	15,355	6,420	3,447	1,604	2,070	4,000	10,000	15,000
is-irr Institutional Irrigation	8,261	8,341	9,038	10,362	6,392	2,116	1,241	619	670	1,000	3,000	8,000
sc-000 SCWA Metered	119	109	89	114	100	103	61	44	59	60	80	100
Total	295,681	241,578	250,840	290,561	217,185	170,879	191,836	139,018	138,586	162,060	195,130	243,180
<b>FY 2021/22</b>												
sf-000 Single Family	164,317	191,884	149,253	172,821	105,031	79,075	107,747	82,484	95,158	123,316	102,341	124,190
mf-000 Multifamily	32,216	37,692	29,286	35,291	26,300	23,675	31,980	24,767	26,259	31,404	25,235	29,238
cm-000 Commercial	42,560	50,350	38,836	45,231	28,530	22,117	27,639	20,357	23,996	31,125	26,397	31,198
is-000 Institutional	9,707	10,855	6,848	6,146	4,718	3,502	4,038	4,027	4,531	5,335	4,434	5,370
id-000 Industrial	17,769	21,612	16,204	19,808	16,392	15,161	17,974	13,646	14,548	18,590	14,398	13,320
sf-irr Single Family Irrigation	108	116	120	116	52	16	29	25	31	81	69	82
cm-irr Commercial Irrigation	25,838	29,012	21,642	25,214	10,707	8,019	2,024	1,916	4,286	10,653	9,389	13,764
is-irr Institutional Irrigation	14,165	11,031	6,383	4,616	2,005	608	965	2,866	1,605	2,609	2,546	5,259
sc-000 SCWA Metered	74	206	154	136	100	117	72	95	83	89	123	67
Total	306,755	352,758	268,726	309,380	193,834	152,290	192,468	150,182	170,497	223,200	184,933	222,487
<b>FY 2020/21</b>												
sf-000 Single Family	188,677	242,925	196,885	182,039	204,016	128,965	132,391	95,413	95,607	108,025	176,759	158,518
mf-000 Multifamily	32,362	43,900	34,579	33,039	38,809	28,941	33,635	26,140	26,374	27,051	37,043	31,805
cm-000 Commercial	36,859	50,937	41,616	38,677	45,155	29,972	27,154	22,015	24,134	25,815	44,133	37,785
is-irr Institutional	16,242	24,258	15,736	14,718	13,257	4,925	2,858	1,178	1,068	2,467	11,112	11,948
id-000 Industrial	13,536	17,231	14,094	14,215	16,241	13,962	16,655	15,492	15,527	16,786	19,889	17,682
sf-irr Single Family Irrigation	229	160	106	91	87	65	40	11	43	30	71	85
cm-irr Commercial Irrigation	30,107	43,753	34,554	35,866	35,284	15,766	11,366	4,198	4,251	6,348	24,774	26,283
is-000 Institutional Irrigation	9,594	13,154	9,795	11,237	12,809	7,986	6,070	5,107	5,409	4,623	8,053	9,060
sc-000 SCWA Metered	123	110	83	173	101	303	364	82	87	68	91	115
Total	327,729	436,429	347,447	330,055	365,759	230,884	230,531	169,636	172,501	191,212	321,924	293,282
<b>FY 2019/20</b>												
sf-000 Single Family	169,510	183,185	234,634	173,586	191,411	122,473	95,462	109,847	102,713	105,901	166,145	169,851
mf-000 Multifamily	29,595	31,760	40,873	31,095	37,211	26,969	26,416	30,216	25,692	26,477	35,923	32,811
cm-000 Commercial	39,696	45,686	55,482	41,299	46,518	31,496	24,809	29,739	34,355	24,212	28,773	30,477
is-000 Institutional	9,920	11,957	16,493	11,859	12,266	7,660	5,017	8,522	4,498	5,711	6,739	7,506
id-000 Industrial	14,728	14,160	18,744	16,900	19,586	13,281	13,305	14,795	13,675	12,768	17,248	14,473
sf-irr Single Family Irrigation	115	113	139	137	187	121	15	6	33	38	27	124
cm-irr Commercial Irrigation	28,999	35,070	45,912	32,977	37,159	19,454	4,317	3,203	7,107	12,049	18,118	24,923
is-irr Institutional Irrigation	13,936	16,620	22,233	14,481	13,431	7,046	1,099	917	2,261	2,719	5,554	12,128
sc-000 SCWA Metered	77	76	119	106	99	125	91	85	47	56	90	110
Total	306,576	338,627	434,630	322,439	357,866	228,624	170,532	197,331	190,380	189,930	278,617	292,404
<b>FY 2018/19</b>												
sf-000 Single Family	168,265	184,403	222,759	164,247	140,347	147,622	91,441	105,703	82,633	84,015	114,025	171,093
mf-000 Multifamily	28,906	31,584	39,339	30,710	27,924	33,942	24,704	30,113	23,822	24,359	27,065	34,991
cm-000 Commercial	46,017	48,656	56,386	41,377	36,333	38,061	24,916	29,643	24,044	24,574	29,368	43,826
is-000 Institutional	10,263	11,223	15,256	11,042	8,882	9,315	5,232	5,582	4,934	4,934	6,673	10,103
id-000 Industrial	20,384	19,713	23,983	18,848	18,260	23,408	14,337	17,490	14,592	14,639	15,113	20,135
sf-irr Single Family Irrigation	61	126	175	173	58	63	11	18	15	5	25	137
cm-irr Commercial Irrigation	28,595	35,361	41,330	30,702	23,243	18,105	3,507	2,864	1,993	2,094	7,791	25,735
is-irr Institutional Irrigation	16,277	19,906	20,875	12,582	8,827	6,457	899	757	516	501	3,268	12,296
sc-000 SCWA Metered	81	103	151	168	120	134	105	87	71	30	39	55
Total	318,848	351,074	420,253	309,848	263,993	277,108	165,153	192,256	153,426	155,152	203,367	318,371
												3,128,849

**Table 20 – Single Family Residential Water Bill Distribution FY2022**

Monthly Use (hcf)	Number of Bills				Water Use (hcf)				Use Through Break	
	In Block	% of Total	Cumulative	Cumulative %	In Block	% of Ttl	Cumulative	Cumulative %	Use (hcf)	% of Ttl
0	4,885	2.3%	4,885	2.3%	0	0.0%	0	0.0%	0	0.0%
1	11,659	5.4%	16,544	7.7%	11,659	0.8%	11,659	0.8%	209,537	14.0%
2	20,421	9.5%	36,965	17.2%	40,842	2.7%	52,501	3.5%	407,415	27.2%
3	25,220	11.8%	62,185	29.0%	75,660	5.0%	128,161	8.6%	584,872	39.0%
4	25,223	11.8%	87,408	40.8%	100,892	6.7%	229,053	15.3%	737,109	49.2%
5	22,681	10.6%	110,089	51.3%	113,405	7.6%	342,458	22.9%	864,123	57.7%
6	19,245	9.0%	129,334	60.3%	115,470	7.7%	457,928	30.6%	968,456	64.6%
7	15,815	7.4%	145,149	67.7%	110,705	7.4%	568,633	37.9%	1,053,544	70.3%
8	12,504	5.8%	157,653	73.5%	100,032	6.7%	668,665	44.6%	1,122,817	74.9%
9	10,125	4.7%	167,778	78.2%	91,125	6.1%	759,790	50.7%	1,179,586	78.7%
10	8,237	3.8%	176,015	82.1%	82,370	5.5%	842,160	56.2%	1,226,230	81.8%
11	6,508	3.0%	182,523	85.1%	71,588	4.8%	913,748	61.0%	1,264,637	84.4%
12	5,379	2.5%	187,902	87.6%	64,548	4.3%	978,296	65.3%	1,296,536	86.5%
13	4,319	2.0%	192,221	89.6%	56,147	3.7%	1,034,443	69.0%	1,323,056	88.3%
14	3,426	1.6%	195,647	91.2%	47,964	3.2%	1,082,407	72.2%	1,345,257	89.8%
15	2,883	1.3%	198,530	92.6%	43,245	2.9%	1,125,652	75.1%	1,364,032	91.0%
16	2,460	1.1%	200,990	93.7%	39,360	2.6%	1,165,012	77.7%	1,379,924	92.1%
17	1,953	0.9%	202,943	94.6%	33,201	2.2%	1,198,213	80.0%	1,393,356	93.0%
18	1,626	0.8%	204,569	95.4%	29,268	2.0%	1,227,481	81.9%	1,404,835	93.7%
19	1,379	0.6%	205,948	96.0%	26,201	1.7%	1,253,682	83.7%	1,414,688	94.4%
20	1,208	0.6%	207,156	96.6%	24,160	1.6%	1,277,842	85.3%	1,423,162	95.0%
21	982	0.5%	208,138	97.1%	20,622	1.4%	1,298,464	86.6%	1,430,428	95.4%
22	828	0.4%	208,966	97.5%	18,216	1.2%	1,316,680	87.9%	1,436,712	95.9%
23	691	0.3%	209,657	97.8%	15,893	1.1%	1,332,573	88.9%	1,442,168	96.2%
24	551	0.3%	210,208	98.0%	13,224	0.9%	1,345,797	89.8%	1,446,933	96.6%
25	500	0.2%	210,708	98.3%	12,500	0.8%	1,358,297	90.6%	1,451,147	96.8%
26	452	0.2%	211,160	98.5%	11,752	0.8%	1,370,049	91.4%	1,454,861	97.1%
27	389	0.2%	211,549	98.7%	10,503	0.7%	1,380,552	92.1%	1,458,123	97.3%
28	315	0.1%	211,864	98.8%	8,820	0.6%	1,389,372	92.7%	1,460,996	97.5%
29	269	0.1%	212,133	98.9%	7,801	0.5%	1,397,173	93.2%	1,463,554	97.7%
30	246	0.1%	212,379	99.0%	7,380	0.5%	1,404,553	93.7%	1,465,843	97.8%
31	198	0.1%	212,577	99.1%	6,138	0.4%	1,410,691	94.1%	1,467,886	97.9%
32	192	0.1%	212,769	99.2%	6,144	0.4%	1,416,835	94.5%	1,469,731	98.1%
33	165	0.1%	212,934	99.3%	5,445	0.4%	1,422,280	94.9%	1,471,384	98.2%
34	153	0.1%	213,087	99.4%	5,202	0.3%	1,427,482	95.3%	1,472,872	98.3%
35	110	0.1%	213,197	99.4%	3,850	0.3%	1,431,332	95.5%	1,474,207	98.4%
36	94	0.0%	213,291	99.5%	3,384	0.2%	1,434,716	95.7%	1,475,432	98.5%
37	102	0.0%	213,393	99.5%	3,774	0.3%	1,438,490	96.0%	1,476,563	98.5%
38	82	0.0%	213,475	99.6%	3,116	0.2%	1,441,606	96.2%	1,477,592	98.6%
39	81	0.0%	213,556	99.6%	3,159	0.2%	1,444,765	96.4%	1,478,539	98.7%
40	68	0.0%	213,624	99.6%	2,720	0.2%	1,447,485	96.6%	1,479,405	98.7%
41	68	0.0%	213,692	99.7%	2,788	0.2%	1,450,273	96.8%	1,480,203	98.8%
42	62	0.0%	213,754	99.7%	2,604	0.2%	1,452,877	96.9%	1,480,933	98.8%
43	51	0.0%	213,805	99.7%	2,193	0.1%	1,455,070	97.1%	1,481,601	98.9%
44	37	0.0%	213,842	99.7%	1,628	0.1%	1,456,698	97.2%	1,482,218	98.9%
45	30	0.0%	213,872	99.7%	1,350	0.1%	1,458,048	97.3%	1,482,798	98.9%
46	34	0.0%	213,906	99.8%	1,564	0.1%	1,459,612	97.4%	1,483,348	99.0%
47	34	0.0%	213,940	99.8%	1,598	0.1%	1,461,210	97.5%	1,483,864	99.0%
48	22	0.0%	213,962	99.8%	1,056	0.1%	1,462,266	97.6%	1,484,346	99.0%
49	37	0.0%	213,999	99.8%	1,813	0.1%	1,464,079	97.7%	1,484,806	99.1%
50	19	0.0%	214,018	99.8%	950	0.1%	1,465,029	97.8%	1,485,229	99.1%
51-100	339	0.2%	214,357	100.0%	22,341	1.5%	1,487,370	99.2%	1,492,245	99.6%
101-200	53	0.0%	214,410	100.0%	6,704	0.4%	1,494,074	99.7%	1,495,274	99.8%
>200	12	0.0%	214,422	100.0%	4,547	0.3%	1,498,621	100.0%	1,498,621	100.0%
Total	214,422	100.0%			1,498,621	100.0%				



Figure 6 – Single Family Residential Water Bill Distribution FY2022



## 2.12 Water Consumption Rate Cost of Service Verification

As previously noted, the City's existing water rate structure was developed in the 2017 Water & Sewer Rate Study which is incorporated by reference. The 2017 Rate Study derived water rates based on an updated methodology designed to realign rates with the cost of providing service. Since the prior study, there have not been substantial changes to the City's water supply, system operations or customer base. As such, no rate structure modifications are recommended at this time. However, BWA developed an updated cost of service derivation to verify that the proposed water consumption charges continue to reasonably reflect the cost of service.

The table on the following page shows an updated cost of service derivation that allocates costs to each water consumption rate class including each of the single family residential rate tiers. The table is based on projected expenses for fiscal year 2023/24 and estimated normal year water use. Costs are divided into three categories as described below:

- **Wholesale Water Supply** costs are based on normal year water use and the projected SCWA wholesale rate effective 2023/24. These costs are allocated to each rate class and tier based on the percentage share of total water use associated with each rate class.
- **Other Base Expenses** are allocated on a pro-rata basis to all rate classes and tiers based on the percentage of water use for each class. Similar to wholesale water supply costs, each unit of water pays the same amount for these Other Base Expenses.
- **Extra Capacity Expenses** include the City's water conservation program expenses, 5% of water transmission and distribution costs, and 10% of cash-funded capital improvement and debt service expenses. These costs represent a conservative estimate of operating and capital expenses incurred by the City for meeting peak water demands in excess of average water use and promoting water conservation, which is largely targeted at reducing inefficient outdoor water use including water use in the higher single family residential rate tiers. For single family residential customers, these Extra Capacity Expenses are allocated progressively more to water use in higher tiers. Extra Capacity Expenses are allocated to water use from all other customers on a pro-rata basis that equates to the weighted average of the single family residential tiers to maintain parity between single family and other water consumption charges.

The table demonstrates that the City's water consumption rate structure is still in very good alignment with the cost of service as the proposed rates are extremely close to the estimated cost of service allocations developed on the table based on conservative assumptions, and well within a reasonable margin of error. The table also demonstrates that the proposed water consumption charges effective September 1, 2023, including the tiered rates for single family residences, are all a little below the projected cost of service. This reflects that the proposed rates effective September 1, 2023 are below the cost of service as the City anticipates drawing down fund reserves to help fund expenses in fiscal year 2023/24.

**Table 21 – Water Consumption Rate Cost of Service Verification**

Water Consumption Rate Cost of Service Verification							
	Single Family Residential				Multi-Family Residential	Commercial	Irrigation
	Tier 1 0 - 4	Tier 2 4 - 8	Tier 3 8 - 16	Tier 4 17+	Subtotal		
Projected Normal Year Water Use (hcf)	750,000	420,000	300,000	150,000	1,620,000	355,000	261,000
A) Base Cost Allocation							
% of Total Use	25.7%	14.4%	10.3%	5.1%	55.5%	12.2%	8.9%
B) Extra Capacity Cost Allocation							
% of Water in Class/Tier for Peak Cost Recovery	0.0%	20.0%	50.0%	90.0%	22.8%	22.8%	22.8%
Volume of Water for Peak Cost Recovery	0	84,000	150,000	135,000	369,000	80,861	59,450
% of Total Water for Peak Cost Recovery	0.0%	12.6%	22.6%	20.3%	55.5%	12.2%	8.9%
VARIABLE RATE COST RECOVERY							
Wholesale Water Supply (1)	2,200,928	1,232,520	880,371	440,186		1,041,773	765,923
Other Base Expenses (2)	1,557,285	872,080	622,914	311,457		737,115	541,935
Extra Capacity Expenses (3)(4)	0	192,633	343,988	309,589		185,435	136,334
Total	3,758,213	2,297,232	1,847,273	1,061,232		1,964,322	1,444,192
Water Use (hcf)	750,000	420,000	300,000	150,000		355,000	261,000
Quantity Charge Components							
Wholesale Water Supply	\$2.93	\$2.93	\$2.93	\$2.93		\$2.93	\$2.93
Other Base Expenses	2.08	2.08	2.08	2.08		2.08	2.08
Extra Capacity Expenses	0.00	0.46	1.15	2.06		0.52	0.52
Total Charge per hcf	5.01	5.47	6.16	7.07		5.53	5.53
Proposed Rates Effective Sept-1, 2023	4.78	5.29	6.02	7.01		5.29	5.29
Difference from Cost of Service Estimates	(0.23)	(0.18)	(0.14)	(0.06)		(0.24)	(0.24)

1 Based on projected normal year water use and SCWA wholesale rate effective July 1, 2023.

2 Includes all other expenses to be recovered from water consumption charges which exclude water supply costs, expenses recovered from fixed monthly service charges and other revenue sources, and costs allocated as Extra Capacity Expenses.

3 Includes water conservation program expenses, 5% of water transmission and distribution costs, and 10% of cash-funded capital improvement and debt service expenses. These costs represent a conservative estimate of operating and capital expenses incurred by the City for meeting peak water demands in excess of average water use.

## 3 WASTEWATER FINANCIAL PLAN & RATES

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### 3.1 Current & Historical Wastewater Rates

The City has provided strong financial stewardship by gradually raising wastewater rates most years over the past 20 years to keep rates in line with the costs of providing service. The table on the following page shows a 5-year history of the City's wastewater rates. To help provide rate relief during Covid, the City temporarily deferred any wastewater rate increases in 2020 and 2021. Current wastewater rates have been effective since March 1, 2022.

The City's wastewater rates include two components:

- **Fixed Monthly Charges** that vary based on customer class and meter size. These fixed charges are levied independent of usage and recover a portion of the City's fixed costs for providing service. The City incurs a substantial amount of costs ensuring that wastewater system capacity is available at all times to meet customer needs on demand. Residential fixed charges are billed per dwelling unit with a standard charge for single family homes and a reduced charge for multi-family residential dwelling units. Fixed charges for commercial and non-residential customers vary by water meter size. The City's large metered industrial customers pay fixed charges based on the size and type of wastewater meter.
- **Sewer Commodity Charges** billed based on metered usage. Residential accounts are billed based on either a) average winter water use from two of the four lowest billing periods between January and April, or b) monthly water use, whichever is lower. Residential use during the winter period excludes most outdoor irrigation and is a reasonable reflection of residential wastewater discharge. The amount established by winter use is the maximum that can get charged. If a customer uses less water than the winter average in a given month, then their wastewater bill reflects the lower level of actual use. Commercial customers are billed according to 3 wastewater strength-based customer classes based on water used each billing period. Metered industrial users are billed based on metered wastewater flow and wastewater strength loadings as estimated for each individual customer.

Sewer Commodity Charges are billed per hundred cubic feet (hcf), with 1 hcf equal to approximately 748 gallons. As such, the City's current Residential Commodity Charge of \$8.99 per hcf equates to a charge of approximately \$1.20 per hundred gallons, or 1.2 cents per gallon.

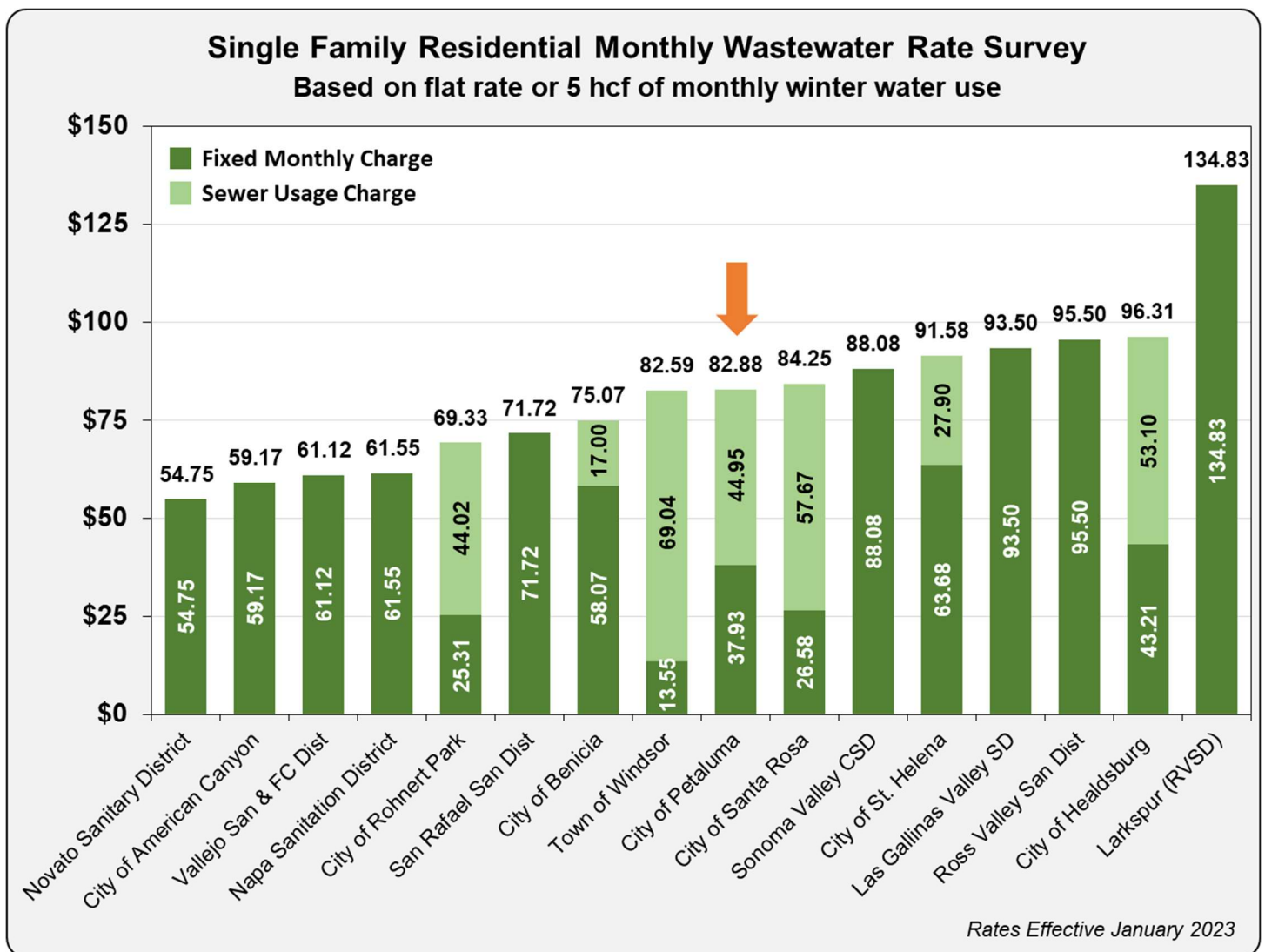
**Table 22 – Wastewater Rates**

	2017 Jul-1	2018 Jul-1	2019 Jul-1	2020 Jul-1	2021 Jul-1	2022 Mar- 1
<b>FIXED MONTHLY CHARGES</b>						
<i>Fixed monthly charge billed per residential dwelling unit or based on non-residential meter size.</i>						
<b>RESIDENTIAL</b>						
<i>Fixed monthly charge per dwelling unit</i>				<u>no change</u>	<u>no change</u>	
Single Family Residential	\$23.41	\$26.94	\$30.99	\$30.99	\$30.99	\$37.93
Multi-Unit Residential	19.90	22.89	26.35	26.35	26.35	32.24
Unmetered Residential	86.69	89.99	94.92	94.92	94.92	100.88
<b>NON-RESIDENTIAL</b>						
<i>Fixed monthly charge based on meter size</i>						
Up to 3/4-inch meter	\$23.41	\$26.94	\$30.99	\$30.99	\$30.99	\$37.93
1-inch meter	36.33	42.67	49.87	49.87	49.87	62.43
1-1/2 inch meter	68.45	81.86	96.96	96.96	96.96	123.66
2-inch meter	107.09	128.95	153.50	153.50	153.50	197.15
3-inch meter	197.29	238.89	285.49	285.49	285.49	368.63
4-inch meter	326.13	395.93	474.05	474.05	474.05	613.30
6-inch meter	648.05	788.38	945.34	945.34	945.34	1,226.00
<b>METERED INDUSTRIAL</b>						
<i>Fixed monthly charge based on meter size</i>						
2-inch ultrasonic meter	\$293.89		\$426.90	\$426.90	\$426.90	\$552.36
10-inch ultrasonic meter	648.08		945.35	945.35	945.35	1,226.00
2-inch magnetic meter	197.29		285.49	285.49	285.49	368.63
3-inch magnetic meter	425.04		622.72	622.72	622.72	809.57
4-inch magnetic meter	681.47		993.08	993.08	993.08	1,287.24
6-inch magnetic meter	1,519.78		2,066.67	2,066.67	2,066.67	2,573.31
<b>WASTEWATER COMMODITY CHARGES</b>						
<i>Volumetric charge billed per hundred cubic feet (hcf) of estimated wastewater discharge.</i>						
<b>RESIDENTIAL</b>						
<i>Based on estimated wastewater discharge from low-use wet weather months.</i>				<u>no change</u>	<u>no change</u>	
Single Family Residential	\$9.04	\$9.01	\$9.13	\$9.13	\$9.13	\$8.99
Multi-Unit Residential	9.04	9.01	9.13	9.13	9.13	8.99
<b>COMMERCIAL</b>						
<i>Billed based on metered water use</i>						
Low Strength	\$8.83	\$8.79	\$8.89	\$8.89	\$8.89	\$8.66
Medium Strength	11.04	11.21	11.56	11.56	11.56	11.78
High Strength	14.51	14.88	15.48	15.48	15.48	16.01
<b>METERED INDUSTRIAL</b>						
<i>Based on metered use &amp; estimated wastewater loadings</i>						
Flow (\$/hcf)	\$7.13		\$7.39	\$7.39	\$7.39	\$7.44
BOD (\$/lb)	0.79		1.04	1.04	1.04	1.26
SS (\$/lb)	0.91		1.19	1.19	1.19	1.43

### 3.2 Regional Sewer Rate Survey

The chart below compares the City's current sewer service charges to those of other regional agencies for a typical single family home with 5 hundred cubic feet of monthly winter water use (billed wastewater use). This level of use equates to almost 125 gallons per day. About half of the regional agencies have 100% fixed residential wastewater charges that do not vary based on volume of wastewater discharge. The other half of agencies, like Petaluma, levy wastewater rates that include both fixed and usage-based rate components with the volumetric component based on metered water use during the wet winter months, a period of minimal outdoor irrigation. The City's sewer rates are currently in the middle range compared to other regional agencies and are expected to remain in the middle range as many other regional agencies are anticipating rate increases in upcoming years.

Figure 7 – Single Family Residential Sewer Rate Survey



### 3.3 Financial Challenges / Key Drivers of Rate Increases

Going forward, the City's wastewater enterprise is facing a number of financial challenges that will require the City to continue its historical practice of implementing gradual annual wastewater rates increases over the next 5 years. Key drivers of future rate increases are summarized as follows.

#### 3.3.1 Capital Improvements & Replacement of Aging Infrastructure

The City has been working with an independent engineering consulting firm to develop updated Water and Wastewater Master Plans to evaluate and prioritize capital improvement needs. The City's wastewater system is in need of substantial capital improvements to address current deficiencies and rehabilitate, upgrade and/or replace aging infrastructure to support safe and reliable service. A table summarizing the City's projected Wastewater System Capital Improvement Program (CIP) is shown on the following page. The wastewater enterprise is also primarily responsible for funding capital improvements to the City's recycled water system which was constructed for the purpose of disposing treated wastewater effluent and diverting discharge from the Petaluma River.

The Wastewater CIP identifies \$91 million of improvements through fiscal year 2033/34. With estimated 3% construction cost inflation, total costs are projected at almost \$100 million, with approximately \$70 million needed over the next 5 fiscal years corresponding with the term of proposed wastewater rates.

For longer-term planning purposes, the Wastewater CIP also includes a preliminary placeholder cost estimate for a major future rehabilitation and upgrade of the Ellis Creek Water Reclamation Facility which is projected to occur after the next 5 years and be phased in over a number of years. The future cost of these improvements is estimated at \$200 million, roughly equal to \$100 million with 25 years of 3% cost escalation. The financial projections assume that this major future rehabilitation project would be funded from a combination of annual revenues supplemented by hypothetical future debt. Some of the potential new debt service would phase in at the same time outstanding debt will be phasing down. The City can reevaluate wastewater funding needs and rates in future years.

The Recycled Water CIP identifies \$67 million of improvements through fiscal year 2033/34. With estimated 3% construction cost inflation, total costs are projected at roughly \$76 million, with approximately \$42 million needed over the next 5 fiscal years. The City has been successful in obtaining grant funding to help fund some of its recycled water projects, including an \$8.3 million grant for tertiary treatment upgrades at the treatment plant and \$5.1 million of grants for recycled water pipeline construction and expansion. The City is in the process of seeking additional grant funding. Accounting for projected grants, the City anticipates needing to fund roughly \$23 million of recycled water capital projects over approximately the next five years. Of this total, the wastewater enterprise is allocated to fund \$17.7 million and the water enterprise will be responsible for funding \$5.3 million of recycled water system capital improvements over the next 5 years.

Petaluma historically constructed its recycled water system to minimize wastewater treatment plant discharge into the Petaluma River by instead supplying highly treated effluent for landscaping and agricultural irrigation. As such, most recycled water system capital improvement costs are allocated to the City's wastewater enterprise, consistent with the function of the recycled water system and historical practice. However, some of the planned recycled water projects, mainly urban recycled water pipeline extensions, also provide substantial benefit to the City's water system by offsetting potable water demands and improving potable water supply reliability. As such, the costs of these projects are allocated partially to both the water and wastewater enterprises. For example, costs for urban water pipeline extensions are allocated 75% to the water enterprise and 25% to the wastewater enterprise based on City estimates of the share of each project benefitting each system. Accounting for capital costs allocated to each enterprise as well anticipated grants that will offset some of these funding needs, the net share of recycled water capital improvement funding needs are allocated roughly 78% to the wastewater enterprise and 22% to the water enterprise based on the sum of project costs allocated to each enterprise less anticipated grant funding corresponding with each project.

Wastewater and Recycled Water CIPs are shown on the following pages. The CIPs reflect staff efforts to prioritize capital needs and spread costs over multiple years.



**Table 23 – Wastewater Capital Improvement Program**

Wastewater System Capital Improvement Plan													
	CIP Number	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	TOTAL
Construction Cost Escalation		1.00	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30	1.34	
REPLACEMENTS & UPGRADES	Sewer Master Plan 10-YR Rehab & Replace Program												
	Manhole Rehabilitation	C66501003	350,000		1,253,000	1,253,000	1,253,000	1,253,000	1,253,000	1,253,000	1,253,000	1,253,000	\$11,277,000
	Sewer Main Replacement - Payran and Madison	C66402245	3,000,000		356,000							356,000	2,130,000
	Sewer Main Replacement - Howard St	C66402348	1,580,000	1,463,000									3,043,000
	Sewer Main Replacement - D St	New	628,000	2,466,000									3,094,000
	Sewer Main Replacement Program	Projected			2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000		22,500,000
	Oakmead, Redwood, and Outlet Mall LS Upgrades				960,000	1,880,000							2,840,000
	PIPS Force main Replacement	C66502032	3,478,000	10,257,000	4,150,000								17,885,000
	Replace PIPS High Capacity Pumps	C66501930	370,000	2,499,000									2,869,000
	C Street PS and Collection System Upgrades	C66502042	115,000	1,100,000	2,905,000								4,120,000
	Sewer Force Main Replacement Program	C66402246	30,000	82,000	450,000	313,000							875,000
	Corp Yard Master Plan	C66402144	180,000	125,000									305,000
	Advanced Metering Infrastructure (AMI)	E67502242		1,499,000									1,499,000
	ECWRF: Outfall Replacement	C66501838	1,790,000										1,790,000
ECWRF: Chemical System Upgrade	C66501840	3,088,000	4,527,000									7,615,000	
ECWRF: Treatment Process System Energy Plan	New	485,000	560,000	500,000								1,545,000	
B2B: CNG Fueling Station	C66501518	305,000										305,000	
B2B: High Strength Waste Facilities	C66401728	220,000										220,000	
Subtotal		15,619,000	24,578,000	12,114,000	5,026,000	5,989,000	3,753,000	4,109,000	3,753,000	4,109,000	3,753,000	4,109,000	86,912,000
CAPACITY PROJECTS	ECWRF: Oxidation Pond Flow Structure Rehab	C66402349	329,000	3,923,000									4,252,000
	Subtotal		329,000	3,923,000	0	0	0	0	0	0	0	0	4,252,000
	SUBTOTAL WASTEWATER CIP (Excluding ECWRF Rehab/Upgrade)		15,948,000	28,501,000	12,114,000	5,026,000	5,989,000	3,753,000	4,109,000	4,109,000	3,753,000	4,109,000	91,164,000
SUBTOTAL WITH 3% COST ESCALATION			15,948,000	29,356,000	12,852,000	5,492,000	6,741,000	4,906,000	4,616,000	5,205,000	4,897,000	5,522,000	99,886,000
ECWRF Treatment Process Rehab & Upgrade	Future Est						10,000,000	20,000,000	30,000,000	30,000,000	30,000,000	40,000,000	160,000,000
With 3% Cost Escalation							11,593,000	23,881,000	36,896,000	38,003,000	39,143,000	53,757,000	203,273,000
TOTAL WASTEWATER CIP WITH 3% COST ESCALATION													
WASTEWATER CIP		15,948,000	29,356,000	12,852,000	5,492,000	6,741,000	4,351,000	4,906,000	4,616,000	5,205,000	4,897,000	5,522,000	99,886,000
ECWRF REHAB & UPGRADE		0	0	0	0	0	11,593,000	23,881,000	36,896,000	38,003,000	39,143,000	53,757,000	203,273,000
TOTAL		15,948,000	29,356,000	12,852,000	5,492,000	6,741,000	15,944,000	28,787,000	41,512,000	43,208,000	44,040,000	59,279,000	303,159,000

**Table 24 – Recycled Water Capital Improvement Program**

Recycled Water Capital Improvement Plan														
	CIP Number	Allocation	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	TOTAL
Construction Cost Escalation			1.00	1.03	1.06	1.09	1.13	1.16	1.19	1.23	1.27	1.30	1.34	
<b>REPLACEMENTS &amp; UPGRADES</b>														
Turnout and Meter Replacements (Ag)	C66401302	50% RW / 50% Wtr	62,000	686,000									1,500,000	2,248,000
IWMP Integrated Water Master Plan [1]			400,000	400,000										800,000
Subtotal			462,000	1,086,000	0	0	0	0	0	0	0	0	1,500,000	3,048,000
<b>CAPACITY PROJECTS</b>														
ECWRF Tertiary Upgrades	C66401416		8,494,000	7,039,000										15,533,000
Ag Recycled Water Pipeline Expansions		25% RW / 75% Wtr		515,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	18,515,000
Urban Recycled Water Pipeline Expansions [2]	Future	25% RW / 75% Wtr		2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	18,000,000
Maria Recycled Water Pipeline Expn (urban) [2]	C66501834	25% RW / 75% Wtr	455,000	2,960,000										3,415,000
Park Irrigation Conversions [2]	New	25% RW / 75% Wtr	170,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,670,000
Adobe Road Pipeline Expansion (Ag)	C66501936		3,770,000	1,597,000										5,367,000
Recycled Water Truck Fill Station			287,000	287,000										574,000
Regional Recycled Water Storage	Future													8,000,000
Subtotal			13,176,000	12,648,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	4,250,000	64,074,000
<b>TOTAL RECYCLED WATER CIP</b>			<b>13,638,000</b>	<b>13,734,000</b>	<b>4,250,000</b>	<b>4,250,000</b>	<b>4,250,000</b>	<b>4,250,000</b>	<b>4,250,000</b>	<b>4,250,000</b>	<b>4,250,000</b>	<b>4,250,000</b>	<b>5,750,000</b>	<b>67,122,000</b>
<b>TOTAL WITH 3% COST ESCALATION</b>			<b>13,638,000</b>	<b>14,146,000</b>	<b>4,509,000</b>	<b>4,644,000</b>	<b>4,783,000</b>	<b>4,927,000</b>	<b>5,075,000</b>	<b>5,227,000</b>	<b>5,384,000</b>	<b>5,545,000</b>	<b>5,728,000</b>	<b>75,606,000</b>
Recycled Water (Wastewater) Share			12,969,000	11,460,000	2,719,000	2,800,000	2,884,000	2,971,000	3,060,000	3,152,000	3,246,000	3,343,000	3,460,000	54,064,000
Water Share			669,000	2,686,000	1,790,000	1,844,000	1,899,000	1,956,000	2,015,000	2,075,000	2,138,000	2,202,000	2,268,000	21,542,000
<b>GRANTS &amp; SUPPLEMENTAL FUNDING SOURCES</b>														
DWR & Title XVI Grants for ECWRF Tertiary	Awarded		3,600,000	4,716,000										8,316,000
Title XVI Grant for Maria RW Pipeline Exp [3]	Awarded	25% RW / 75% Wtr		804,000										804,000
DWR & Title XVI Grants Adobe Rd Pipeline	Awarded		2,903,000	1,402,000										4,305,000
Grant for Recycled Water Truck Fill Station	Applied/Pending		215,000	215,000										430,000
Grants for Urban Recycled Wtr Expansions [3]	Estimated 50%	25% RW / 75% Wtr	0	1,061,000	1,093,000	1,093,000	1,126,000	1,159,000	1,194,000	1,230,000	1,267,000	1,305,000	1,344,000	10,779,000
Grants for Ag Recycled Wtr Expansions	Estimated 25%		0	530,000	546,000	563,000	563,000	580,000	597,000	615,000	633,000	652,000	672,000	5,388,000
New Ag Customer Contributions	tdb													0
<b>TOTAL GRANT &amp; SUPPLEMENTAL FUNDING</b>			<b>6,718,000</b>	<b>7,137,000</b>	<b>1,591,000</b>	<b>1,639,000</b>	<b>1,689,000</b>	<b>1,739,000</b>	<b>1,791,000</b>	<b>1,845,000</b>	<b>1,900,000</b>	<b>1,957,000</b>	<b>2,016,000</b>	<b>30,022,000</b>
Recycled Water (Wastewater) Share			6,718,000	6,534,000	795,000	819,000	844,000	870,000	895,000	922,000	950,000	978,000	1,008,000	21,333,000
Water Share			0	603,000	796,000	820,000	845,000	869,000	896,000	923,000	950,000	979,000	1,008,000	8,689,000
<b>NET CITY RECYCLED WATER CIP FUNDING REQUIREMENT</b>			<b>6,920,000</b>	<b>7,009,000</b>	<b>2,918,000</b>	<b>3,005,000</b>	<b>3,094,000</b>	<b>3,188,000</b>	<b>3,284,000</b>	<b>3,382,000</b>	<b>3,484,000</b>	<b>3,588,000</b>	<b>5,712,000</b>	<b>45,584,000</b>
Recycled Water (Wastewater) Share [4]		78.5%	6,251,000	5,004,000	2,026,000	2,137,000	2,251,000	2,370,000	2,492,000	2,617,000	2,747,000	2,879,000	5,032,000	35,806,000
Water Share [4]		21.5%	669,000	2,005,000	892,000	868,000	843,000	818,000	792,000	765,000	737,000	709,000	680,000	9,778,000

1 Costs allocated 50% to recycled water and 50% to potable water based on City estimates of the share of the IWMP applicable to each type of water source.

2 Costs allocated 25% to recycled water and 75% to potable water based on City estimates of the share of each project benefitting each system.

3 Grant funding from these sources is allocated 25% to recycled water and 75% to potable water corresponding with the cost allocations for the capital projects partially funded by each grant.

4 Based on the sum of the share of each project benefitting recycled water vs. potable water offset by a corresponding share of grant funding applicable to each project.

### 3.3.2 Ongoing Operating Cost Inflation

In addition, the City faces ongoing cost inflation for operating and maintenance expenses. Water and wastewater utility cost inflation has historically been significantly higher than the Consumer Price Index (CPI) for consumer goods and services. In addition to rate increases for capital needs and other purposes, gradual annual rate increases will be needed to support the City's operating expenses and keep up with cost inflation.

### 3.4 Outstanding Debt Service

The following table shows a debt service repayment schedule by fiscal year for the City's wastewater enterprise.

**Table 25 – Outstanding Wastewater Debt Service**

Year Ending June 30	2005 State Revolving Fund Loan	2017 Wastewater Refunding Bonds	2019 Wastewater Refunding Bonds	Total
2016	\$8,364,647	-	-	\$8,364,647
2017	8,364,647	-	-	8,364,647
2018	8,364,647	706,891	-	9,071,538
2019	8,364,647	805,319	-	9,169,966
2020	-	805,319	7,645,510	8,450,829
2021	-	805,319	7,756,500	8,561,819
2022	-	805,319	7,756,500	8,561,819
2023	-	805,319	7,759,000	8,564,319
2024	-	805,319	7,758,250	8,563,569
2025	-	805,319	7,753,750	8,559,069
2026	-	805,319	7,755,000	8,560,319
2027	-	805,319	7,756,000	8,561,319
2028	-	805,319	7,756,000	8,561,319
2029	-	805,319	7,754,250	8,559,569
2030	-	4,075,319	-	4,075,319
2031	-	4,079,519	-	4,079,519
2032	-	4,078,319	-	4,078,319
2033	-	4,076,719	-	4,076,719
2034	-	4,076,319	-	4,076,319
2035	-	4,077,619	-	4,077,619
2036	-	1,830,469	-	1,830,469
2037	-	-	-	-

### 3.5 Wastewater Enterprise Financial Projections

Bartle Wells Associates developed 10-year wastewater enterprise cash flow projections to identify future funding needs and evaluate wastewater rate increases. The following table shows 10-year wastewater enterprise cash flow projections. The projections incorporate the latest information available as well as a number of reasonable and slightly conservative assumptions. Key assumptions include:

- Operating and maintenance costs are based on the 2022/23 budget with various adjustments based on detailed review of expenses with City staff and escalate at the annual rate of 3.5% to account for future cost inflation.
- Growth from new development and/or redevelopment is projected at the equivalent of 50 new single family homes per year for financial planning purposes.
- Billable wastewater usage is projected to partially rebound from low levels experienced in the current fiscal year towards estimates of normal-year demand starting 2024/25. Wastewater use decreased in recent years partially due to declaration of a Level 2 drought and associated water use restrictions. Since billed wastewater use is based on use from the prior winter, wastewater use is projected to remain at current year levels in 2023/24 before gradually increasing in subsequent years.
- Capital improvement costs over the next 5 years include roughly \$70.4 million of Wastewater CIP capital funding needs plus an additional roughly \$32.8 million of recycled water system capital improvements allocated to the wastewater enterprise of which \$15.7 million is projected to be funded by grants resulting in a net funding requirement of \$88 million over the next 5 years.
- In recent years, the wastewater enterprise has accrued a healthy level of fund reserves that includes some excess reserves available for capital projects that were deferred in recent years but are scheduled for completion over the next few years. The financial projections assume approximately \$34 million of these fund reserves will be drawn down in upcoming years to fund sewer system capital needs while rate increases are gradually phased in. After drawing down fund reserves to prudent minimum levels, the projections assume the City would need to issue \$14 million of debt within the next 5 years to supplement annual funding provided by rates. The actual amount and timing of any debt can be reevaluated in future years.
- After 5 years, the financial projections assume future debt financing would be needed to help fund a major rehabilitation and upgrade of the Ellis Creek Wastewater Reclamation Facility. Again, the actual amount and timing of this potential debt would be reevaluated in future years. This future debt is projected to be phased in starting 2029/30, when the City's outstanding wastewater debt decreases by about \$4.5 million per year freeing up substantial debt financing capacity for the projected treatment plant rehabilitation.

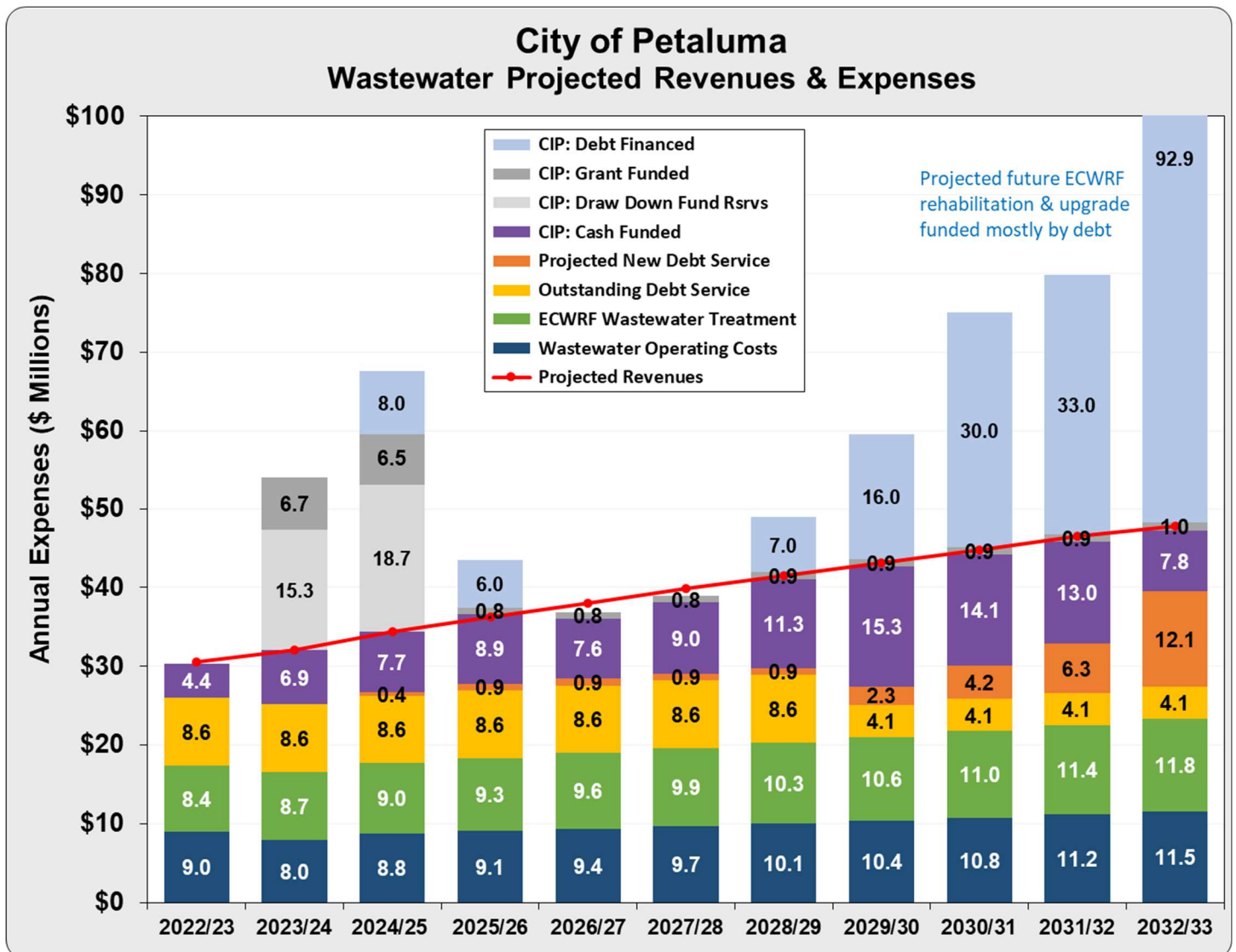
- For financial planning purposes, the financial projections assume a minimum fund reserve target equal to 25% of annual operating and maintenance expenses, plus \$8 million for emergency capital reserves. Maintaining a prudent minimal level of fund reserves provides a financial cushion for dealing with unanticipated expenses, revenue shortfalls, and non-catastrophic emergency capital repairs. The fund reserve target will escalate over time as the City's expenses gradually increase.
- The table also calculates annual debt service coverage based on a) total revenues less operating and maintenance expenses, divided by b) annual debt service.

Table 26 - 10-Year Wastewater Cash Flow Projections

Wastewater Cash Flow Projections											
	Current	1	2	3	4	5	6	7	8	9	10
	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33
Rate Adjustment Effective		Sept 1	July 1	July 1	July 1	July 1	July 1	July 1	July 1	July 1	July 1
City Rate Increase		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
CPI Adjustment		3.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Total Overall Rate Increase		5.06%	4.55%	4.55%	4.55%	4.55%	4.55%	4.55%	4.55%	4.55%	4.55%
Growth (EDUs)		50	50	50	50	50	50	50	50	50	50
Growth in Customer Base %		0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%
Change in Billed Wastewater Use (Res/Comm)		0.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Est. Billed Use (Res/Comm)	1,294,000	1,294,000	1,346,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000
Sewer Capacity Fee	\$9,846	\$10,043	\$10,244	\$10,449	\$10,658	\$10,871	\$11,088	\$11,310	\$11,536	\$11,767	\$12,002
Cost Escalation	-	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
<b>Beginning Fund Reserves</b>	\$46,773,000	\$46,973,000	\$31,625,000	\$12,926,000	\$12,508,000	\$14,423,000	\$16,207,000	\$16,580,000	\$16,939,000	\$17,495,000	\$18,121,000
<b>REVENUES</b>											
Wastewater Fixed Charges	11,800,000	12,421,000	13,011,000	13,629,000	14,276,000	14,954,000	15,511,000	16,088,000	16,687,000	17,308,000	17,774,000
Wastewater Usage Charges	12,400,000	13,027,000	14,165,000	15,402,000	16,103,000	16,836,000	17,429,000	18,043,000	18,679,000	19,337,000	19,820,000
Industrial Service Charges	3,100,000	3,257,000	3,405,000	3,560,000	3,722,000	3,891,000	4,028,000	4,170,000	4,317,000	4,469,000	4,581,000
Pennigrove Service Charges	550,000	578,000	604,000	631,000	660,000	690,000	714,000	739,000	765,000	792,000	812,000
Reclaimed Water Charges	680,000	750,000	900,000	1,050,000	1,200,000	1,400,000	1,600,000	1,800,000	2,000,000	2,200,000	2,400,000
Interest Earnings	935,000	939,000	939,000	939,000	939,000	939,000	939,000	939,000	939,000	939,000	939,000
Connection Fees/Capacity Charges	500,000	502,000	512,000	522,000	533,000	544,000	554,000	566,000	577,000	588,000	600,000
Biosolids to Biogas (B2B) Revenues	0	0	1,000,000	1,035,000	1,071,000	1,108,000	1,147,000	1,187,000	1,229,000	1,272,000	1,317,000
Interfund Loan Pymts (from Police/Fire)	398,000	398,000	0	0	0	0	0	0	0	0	0
Other/Miscellaneous	170,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000
Total Revenues	30,533,000	32,022,000	34,380,000	36,238,000	37,965,000	39,861,000	41,457,000	43,075,000	44,743,000	46,466,000	47,816,000
Recycled Water Grants (WW Allocation)	6,718,000	6,718,000	6,534,000	795,250	819,250	844,500	869,750	895,500	922,500	949,750	978,250
2024 WW Bonds			8,000,000	6,000,000							
ECWRF Energy Project Debt							7,000,000	16,000,000	30,000,000	33,000,000	92,900,000
<b>EXPENSES</b>											
<b>Operating &amp; Maintenance</b>											
Admin & Customer Service	3,413,000	3,118,000	3,227,000	3,340,000	3,457,000	3,578,000	3,703,000	3,833,000	3,967,000	4,106,000	4,250,000
Collection System	1,493,000	1,390,000	1,439,000	1,489,000	1,541,000	1,595,000	1,651,000	1,709,000	1,769,000	1,831,000	1,895,000
Sewage Pump Stations	865,000	792,000	820,000	849,000	879,000	910,000	942,000	975,000	1,009,000	1,044,000	1,081,000
Industrial	870,000	828,000	857,000	887,000	918,000	950,000	983,000	1,017,000	1,053,000	1,090,000	1,128,000
Reclamation	1,937,000	1,570,000	1,156,000	1,196,000	1,238,000	1,281,000	1,326,000	1,372,000	1,420,000	1,470,000	1,521,000
Storm Drain	423,000	179,000	185,000	191,000	198,000	205,000	212,000	219,000	227,000	235,000	243,000
New AMI Cell Service (50% Sewer)	0	80,000	83,000	86,000	89,000	92,000	95,000	98,000	101,000	105,000	109,000
Ellis Creek WWTP Operations	6,533,000	6,700,000	6,935,000	7,178,000	7,429,000	7,689,000	7,958,000	8,237,000	8,525,000	8,823,000	9,132,000
WWTP Electricity/Natural Gas	1,885,000	1,951,000	2,019,000	2,090,000	2,163,000	2,239,000	2,317,000	2,398,000	2,482,000	2,569,000	2,659,000
Biosolids to Biogas (B2B) Expenses	0	0	1,000,000	1,035,000	1,071,000	1,108,000	1,147,000	1,187,000	1,229,000	1,272,000	1,317,000
Subtotal	17,419,000	16,608,000	17,721,000	18,341,000	18,983,000	19,647,000	20,334,000	21,045,000	21,782,000	22,545,000	23,335,000
<b>Debt Service</b>											
2017 WW Refunding Bonds	805,000	805,000	805,000	805,000	805,000	805,000	805,000	805,000	805,000	805,000	805,000
2019 WW Refunding Bonds	7,759,000	7,758,000	7,754,000	7,755,000	7,756,000	7,756,000	7,754,000	-	-	-	-
2024 Bonds, Projected (30-Yr, 4.5%)	-	-	439,000	877,000	877,000	877,000	877,000	877,000	877,000	877,000	877,000
ECWRF Upgrade Bonds, Projected (30-Yr, 4.5%)	-	-	-	-	-	-	-	1,440,000	3,319,000	5,385,000	11,202,000
Subtotal	8,564,000	8,563,000	8,998,000	9,437,000	9,438,000	9,438,000	9,436,000	6,392,000	8,276,000	10,340,000	16,156,000
<b>Capital Improvements</b>											
Wastewater CIP: Cash Funded	1,750,000	15,948,000	21,356,000	6,852,000	5,492,000	6,741,000	4,351,000	4,906,000	4,616,000	5,205,000	4,897,000
Recycled Water CIP: Cash Funded	2,600,000	6,251,000	5,004,000	2,026,000	2,137,000	2,251,000	2,370,000	2,492,000	2,617,000	2,747,000	2,879,000
CIP Funded by Grants & Debt	0	6,718,000	14,534,000	6,795,250	819,250	844,500	869,750	895,500	922,500	949,750	978,250
ECWRF Rehab & Upgrade: Cash Funded	-	-	-	-	-	-	4,593,000	7,881,000	6,896,000	5,003,000	0
ECWRF Rehab & Upgrade: Debt Funded	-	-	-	-	-	-	7,000,000	16,000,000	30,000,000	33,000,000	92,900,000
Subtotal	4,350,000	28,917,000	40,894,000	15,673,250	8,448,250	9,886,500	19,183,750	32,174,500	45,051,500	46,904,750	101,654,250
Total Expenses	30,333,000	54,088,000	67,613,000	43,451,250	36,869,250	38,921,500	48,953,750	59,611,500	75,109,500	79,789,750	141,145,250
<b>Revenues Less Expenses</b>	200,000	(15,348,000)	(18,699,000)	(418,000)	1,915,000	1,784,000	373,000	359,000	556,000	626,000	549,000
<b>Ending Fund Reserves</b>	46,973,000	31,625,000	12,926,000	12,508,000	14,423,000	16,207,000	16,580,000	16,939,000	17,495,000	18,121,000	18,670,000
Min Rsvr Target: 25% O&M-S&M CIP	12,350,000	15,650,000	15,930,000	16,090,000	16,250,000	16,410,000	16,580,000	16,760,000	16,950,000	17,140,000	17,330,000
Debt Service Coverage	1.53	1.80	1.85	1.90	2.01	2.14	2.24	3.45	2.77	2.31	1.52
Annual Funding Generated for CIP	4,550,000	6,851,000	7,661,000	8,460,000	9,544,000	10,776,000	11,687,000	15,638,000	14,685,000	13,581,000	8,325,000

The following chart graphically shows a 10-year breakdown of projected wastewater utility revenues and expenses. The proposed rate increases are designed to put the City on a long-term path toward supporting balanced budgets while providing adequate funding for operating and capital needs.

**Figure 8 – Wastewater Utility Projected Revenues & Expenses**





### 3.6 Projected Wastewater Rate Increases

The cash flow projections indicate the need for gradual annual rate increases year over the next 5 years in order to meet the wastewater utility's projected operating and capital funding needs. As proposed, the City would continue its historical practice of adopting base City rate increases that would be supplemented by additional annual pass-through rate adjustments for inflation.

The following table shows projected base City wastewater rate increases only, excluding the additional future annual pass-through rate adjustments for inflation.

**Table 27 – Projected Base City Wastewater Rate Increases**  
(Excluding Annual CPI Inflation Rate Adjustments)

Projected Base City Wastewater Rate Increases				
Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
2.0%	2.0%	2.0%	2.0%	2.0%

### 3.7 Annual Inflation Pass-Through Rate Adjustments

Future annual pass-through rate adjustments for inflation will not exceed the percentage change in the Consumer Price Index from the December 2022 index to the index for the December immediately preceding the upcoming fiscal year. For example, on July 1, 2027, the proposed wastewater rates would be adjusted by the change in the CPI from the December 2022 index to the December 2026 index.

### 3.8 Proposed Wastewater Rates

The table on the following pages shows a schedule of proposed wastewater rates. The first rate increase would become effective on September 1, 2023 with future increases effective July 1 of each year. As such, the initial rate increase will be the City's first wastewater rate increase in one and a half years.

The proposed wastewater rates effective September 1, 2023 include the first base annual 2.0% rate increase and also account for an additional 3.0% inflation. The proposed rates shown for subsequent years starting July 1, 2024 will be adjusted annually to account for future pass-through rate adjustments for inflation.



**Table 28 – Proposed Wastewater Rates**

Proposed Wastewater Rates						
	Current Wastewater Rates	Proposed Rates Effective on or After				
		Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
FIXED MONTHLY CHARGES						
Fixed monthly charges billed per residential dwelling unit or based on non-residential meter size.						
RESIDENTIAL						
Fixed monthly charge per dwelling unit						
Single Family Residential	\$37.93	\$39.85	\$40.64	\$41.46	\$42.29	\$43.14
Multi-Unit Residential	32.24	33.88	34.55	35.24	35.95	36.67
Unmetered Residential	100.88	105.99	108.11	110.27	112.48	114.72
NON-RESIDENTIAL						
Fixed monthly charge based on meter size						
Up to 3/4-inch meter	\$37.93	\$39.85	\$40.64	\$41.46	\$42.29	\$43.14
1-inch meter	62.43	65.59	66.90	68.24	69.61	71.00
1-1/2 inch meter	123.66	129.91	132.51	135.16	137.86	140.62
2-inch meter	197.15	207.12	211.26	215.49	219.79	224.19
3-inch meter	368.63	387.28	395.03	402.93	410.98	419.20
4-inch meter	613.30	644.34	657.22	670.37	683.78	697.45
6-inch meter	1,226.00	1,288.04	1,313.80	1,340.07	1,366.87	1,394.21
METERED INDUSTRIAL						
Fixed monthly charge based on meter size						
2-inch ultrasonic meter	\$552.36	\$580.31	\$591.92	\$603.76	\$615.83	\$628.15
10-inch ultrasonic meter	1,226.00	1,288.04	1,313.80	1,340.07	1,366.87	1,394.21
2-inch magnetic meter	368.63	387.28	395.03	402.93	410.98	419.20
3-inch magnetic meter	809.57	850.53	867.55	884.90	902.60	920.66
4-inch magnetic meter	1,287.24	1,352.37	1,379.42	1,407.00	1,435.14	1,463.85
6-inch magnetic meter	2,573.31	2,703.52	2,757.60	2,812.75	2,869.01	2,926.39
WASTEWATER COMMODITY CHARGES						
Volumetric charges billed per hundred cubic feet (hcf) of estimated sewer discharge.						
RESIDENTIAL						
Based on a) average of two lowest of four low use months of metered winter water use or b) actual water use						
Single Family Residential	\$8.99	\$9.45	\$9.63	\$9.83	\$10.02	\$10.22
Multi-Unit Residential	8.99	9.45	9.63	9.83	10.02	10.22
COMMERCIAL						
Billed based on metered water use						
Low Strength	\$8.66	\$9.09	\$9.28	\$9.47	\$9.65	\$9.85
Medium Strength	11.78	12.38	12.63	12.89	13.14	13.41
High Strength	16.01	16.82	17.16	17.50	17.85	18.21
METERED INDUSTRIAL						
Based on metered use & estimated wastewater loadings						
Flow (\$/hcf)	\$7.44	\$7.82	\$7.97	\$8.13	\$8.29	\$8.46
BOD (\$/lb)	1.26	1.33	1.36	1.39	1.42	1.45
SS (\$/lb)	1.43	1.50	1.53	1.57	1.60	1.63

Note: The Proposed Wastewater Rates will be adjusted each year to account for annual pass-through rate increases for inflation based on the percentage change in the Consumer Price Index for the San Francisco Bay Area from the index for December 2022 to the index for December immediately preceding the upcoming fiscal year.

The City's existing wastewater rate structure was developed in the 2017 Water & Sewer Rate Study which is incorporated by reference. The 2017 Rate Study derived wastewater rates based on a cost of service methodology that aligned rates for each customer class with the cost of providing service. Since the prior study, the City has not experienced substantial changes to its wastewater system operations or customer base. As such, no additional rate structure modifications are recommended at this time.

### 3.9 Projected Wastewater Rate Increases

The following table shows projected rate increases accounting for the base City wastewater rate increases as well as projections of future annual pass-through rate adjustments for inflation. The table on the following page shows a scheduled of projected wastewater rates for informational purposes only. Actual future rates may vary depending on the level of future pass-through rate adjustments implemented by the City each year.

**Table 29 – Projected Wastewater Rate Increases**

Projected Wastewater Rate Increases with Inflation Pass-Throughs					
	Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
Base City Rate Increases	2.0%	2.0%	2.0%	2.0%	2.0%
Est. Inflation Pass-Through	3.0%	2.5%	2.5%	2.5%	2.5%
Net Increase	5.1%	4.6%	4.5%	4.5%	4.5%

### 3.10 Projected Wastewater Rates with Annual Pass-Throughs

The table on the following page shows a schedule of projected wastewater rates that account for the base City wastewater rate increases as well as projections of future annual inflation adjustments. This table is shown for informational purposes only. Actual future rates may vary depending on the level of future pass-through rate adjustments implemented by the City each year.

**Table 30 – Projected Wastewater Rates with Future Annual Pass-Throughs**

Projected Wastewater Rates with Future Annual Passthroughs						
Current Wastewater Rates	Proposed Base Rates Effective on or After					
	Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027	
<b>CITY SEWER RATE INCREASES</b>	2.0%	2.0%	2.0%	2.0%	2.0%	
<b>ESTIMATED CPI PASSTHROUGH ADJUSTMENTS</b>						
Estimated Annual CPI Passthrough Adjustments	3.0%	2.5%	2.5%	2.5%	2.5%	
Compounded CPI Adjustments	3.0%	5.6%	8.2%	10.9%	13.7%	
<b>FIXED MONTHLY CHARGES</b>						
<i>Fixed monthly charges billed per residential dwelling unit or based on non-residential meter size.</i>						
<b>RESIDENTIAL</b>						
<i>Fixed monthly charge per dwelling unit</i>						
Single Family Residential	\$37.93	\$39.85	\$41.66	\$43.56	\$45.54	\$47.61
Multi-Unit Residential	32.24	33.88	35.41	37.02	38.71	40.47
Unmetered Residential	100.88	105.99	110.81	115.85	121.12	126.63
<b>NON-RESIDENTIAL</b>						
<i>Fixed monthly charge based on meter size</i>						
Up to 3/4-inch meter	\$37.93	\$39.85	\$41.66	\$43.56	\$45.54	\$47.61
1-inch meter	62.43	65.59	68.57	71.69	74.96	78.37
1-1/2 inch meter	123.66	129.91	135.82	142.00	148.45	155.21
2-inch meter	197.15	207.12	216.54	226.40	236.69	247.46
3-inch meter	368.63	387.28	404.90	423.32	442.58	462.72
4-inch meter	613.30	644.34	673.65	704.30	736.35	769.86
6-inch meter	1,226.00	1,288.04	1,346.64	1,407.91	1,471.97	1,538.94
<b>METERED INDUSTRIAL</b>						
<i>Fixed monthly charge based on meter size</i>						
2-inch ultrasonic meter	\$552.36	\$580.31	\$606.72	\$634.32	\$663.18	\$693.36
10-inch ultrasonic meter	1,226.00	1,288.04	1,346.64	1,407.91	1,471.97	1,538.94
2-inch magnetic meter	368.63	387.28	404.90	423.32	442.58	462.72
3-inch magnetic meter	809.57	850.53	889.24	929.70	972.00	1,016.23
4-inch magnetic meter	1,287.24	1,352.37	1,413.90	1,478.23	1,545.49	1,615.81
6-inch magnetic meter	2,573.31	2,703.52	2,826.54	2,955.15	3,089.61	3,230.19
<b>WASTEWATER COMMODITY CHARGES</b>						
<i>Volumetric charges billed per hundred cubic feet (hcf) of estimated sewer discharge.</i>						
<b>RESIDENTIAL</b>						
<i>Based on a) average of two lowest of four low use months of metered winter water use or b) actual water use</i>						
Single Family Residential	\$8.99	\$9.45	\$9.87	\$10.32	\$10.79	\$11.28
Multi-Unit Residential	8.99	9.45	9.87	10.32	10.79	11.28
<b>COMMERCIAL</b>						
<i>Billed based on metered water use</i>						
Low Strength	8.66	9.09	9.51	9.94	10.39	10.87
Medium Strength	11.78	12.38	12.94	13.54	14.15	14.80
High Strength	16.01	16.82	17.59	18.39	19.22	20.10
<b>METERED INDUSTRIAL</b>						
<i>Based on metered use &amp; estimated wastewater loadings</i>						
Flow (\$/hcf)	7.44	7.82	8.17	8.54	8.93	9.33
BOD (\$/lb)	1.26	1.33	1.39	1.46	1.53	1.60
SS (\$/lb)	1.43	1.50	1.57	1.64	1.72	1.80

### 3.11 Projected Rate Impacts

The following table shows projected monthly wastewater bills for a range of customers accounting for proposed rates plus estimates of future additional pass-through rate adjustments for inflation starting July 1, 2024. Actual future bills may vary depending on the annual inflation adjustments implemented by the City each year.

**Table 31 – Projected Wastewater Rate Impacts**

Customer Class	Billed Sewer Use (hcf)	Current Monthly Bill	Projected Monthly Bills				
			Sept 1 2023	July 1 2024	July 1 2025	July 1 2026	July 1 2027
SINGLE FAMILY RESIDENCE							
Low	3	\$64.90	\$68.19	\$71.27	\$74.53	\$77.92	\$81.45
Monthly Increase			3.29	3.09	3.25	3.39	3.53
Average	5	82.88	87.08	91.02	95.17	99.51	104.01
Monthly Increase			4.20	3.94	4.16	4.33	4.50
Mod/High	8	109.85	115.41	120.63	126.15	131.88	137.84
Monthly Increase			5.56	5.22	5.52	5.74	5.96
MULTI-FAMILY APARTMENT BUILDING							
20 Unit Apartment	60	1,184.20	1,244.24	1,300.47	1,359.82	1,421.77	1,486.19
Per Dwelling Unit	3	59.21	62.21	65.02	67.99	71.09	74.31
Monthly Increase per Unit			3.00	2.81	2.97	3.10	3.22
COMMERCIAL							
	Meter Size						
Small Business, Low Strength	5/8" or 3/4"	10	124.53	130.80	136.78	143.01	149.48
Monthly Increase			6.27	5.98	6.22	6.47	6.83
Restaurant, High Strength	1"	25	462.68	486.09	508.29	531.33	555.52
Monthly Increase			23.41	22.20	23.04	24.19	25.37
INDUSTRIAL							
	Meter Size						
Moderate Industrial	3" Magnetic	2,000	32,472	34,157	35,740	37,382	39,106
BOD / SS	500 / 500						
Monthly Increase			1,685	1,583	1,641	1,724	1,787

### 3.12 Historical Wastewater Use

The table on the following page shows a history of billed wastewater use by customer class per month since 2018/19 along with estimates for the current fiscal year.



Table 32 – Wastewater Use by Class

	Jul 7	Aug 8	Sep 9	Oct 10	Nov 11	Dec 12	Jan 1	Feb 2	Mar 3	Apr 4	May 5	Jun 6	Total
<b>2022/23</b>										estimated	estimated	estimated	
c210 Single Family Residential	82,171	79,898	80,088	81,515	78,504	76,415	79,309	72,020	72,000	72,000	80,000	88,000	941,919
c205 Multifamily Residential	3,602	3,516	3,467	3,581	3,447	3,329	3,671	3,419	3,444	3,450	3,450	3,500	41,876
c215 Commercial Low	17,816	15,176	16,667	19,139	15,466	12,677	15,121	11,907	11,564	11,600	13,000	14,000	174,134
c220 Commercial Medium	1,697	1,428	1,386	1,734	1,375	1,554	1,543	1,412	1,364	1,350	1,400	1,400	17,642
c225 Commercial High	11,313	9,347	9,802	11,793	10,075	9,630	10,889	8,699	8,868	8,800	9,000	10,000	118,216
Total	116,598	109,365	111,410	117,763	108,868	103,604	110,533	97,457	97,239	97,200	106,850	116,900	1,293,787
<b>2021/22</b>													
c210 Single Family Residential	95,412	97,074	92,921	95,653	86,159	77,529	90,110	81,413	84,149	90,063	84,121	86,941	1,061,544
c205 Multifamily Residential	3,348	3,392	3,299	3,354	3,327	3,240	3,389	3,224	3,252	3,448	3,400	3,481	40,153
c215 Commercial Low	17,110	21,891	17,915	20,192	14,971	12,699	15,559	12,464	13,588	16,715	13,280	14,706	191,090
c220 Commercial Medium	1,254	1,588	1,225	1,669	1,350	1,318	1,662	1,352	1,430	1,633	1,531	1,301	17,312
c225 Commercial High	8,831	10,998	8,477	10,966	8,393	7,450	10,367	7,022	8,380	10,749	8,721	8,966	109,319
Total	125,955	134,942	123,837	131,833	114,199	102,236	121,086	105,474	110,800	122,608	111,052	115,395	1,419,418
<b>2020/21</b>													
c210 Single Family Residential	76,302	98,643	96,648	95,702	97,503	92,446	94,614	86,720	87,138	89,005	95,888	92,798	1,103,408
c205 Multifamily Residential	2,926	3,160	3,125	3,095	3,153	3,050	3,128	2,960	3,071	3,101	3,145	3,136	37,049
c215 Commercial Low	9,549	21,457	16,864	16,968	20,508	14,529	15,133	12,251	13,492	13,699	18,511	16,244	189,205
c220 Commercial Medium	950	1,520	1,335	1,216	1,464	1,259	1,368	1,127	1,180	1,214	1,482	1,304	15,417
c225 Commercial High	4,355	9,592	7,235	7,752	9,735	7,547	7,758	6,393	7,380	8,098	10,431	8,815	95,090
Total	94,082	134,372	125,206	124,733	132,362	118,830	122,001	109,451	112,260	115,117	129,457	122,298	1,440,169
<b>2019/20</b>													
c210 Single Family Residential	87,840	88,131	90,146	87,754	89,361	84,803	82,722	86,502	83,274	83,706	88,757	88,057	1,041,053
c205 Multifamily Residential	1,958	2,017	2,034	2,027	2,596	2,659	2,650	2,753	2,734	2,743	2,783	2,768	29,723
c215 Commercial Low	18,280	18,449	24,444	15,886	22,947	16,356	14,088	17,022	20,748	13,458	13,227	13,665	208,570
c220 Commercial Medium	1,439	1,469	1,843	1,397	1,897	1,430	1,410	1,679	1,443	1,230	1,293	1,257	17,787
c225 Commercial High	10,308	11,020	14,185	11,041	13,105	9,995	10,132	11,631	9,550	7,452	6,198	5,864	120,482
Total	119,826	121,086	132,652	118,106	129,905	115,244	111,003	119,586	117,749	108,589	112,258	111,612	1,417,616
<b>2018/19</b>													
c210 Single Family Residential	90,974	92,877	94,958	92,216	90,238	92,916	83,671	88,648	80,536	81,128	87,692	93,008	1,068,861
c205 Multifamily Residential	2,102	2,296	2,371	2,337	2,331	2,376	2,305	2,371	2,284	2,304	2,289	2,447	27,813
c215 Commercial Low	19,114	20,281	24,765	19,092	18,659	19,698	14,246	16,789	14,413	14,282	15,626	22,318	219,282
c220 Commercial Medium	1,444	1,448	1,839	1,421	1,324	1,793	1,378	1,680	1,381	1,354	1,443	1,874	18,380
c225 Commercial High	9,874	10,367	13,090	10,013	9,804	11,942	9,368	11,441	9,510	9,438	9,617	12,450	126,912
Total	123,509	127,268	137,022	125,078	122,356	128,725	110,967	120,929	108,123	108,506	116,667	132,097	1,461,248

### 3.13 Industrial Wastewater Accounts & Use

The table below shows a list of the City's metered industrial wastewater accounts along with historical and projected wastewater flows and loadings.

**Table 33 – Industrial Wastewater Accounts**

	Clover Stornetta	Lace House Linen	Lagunitas Brewery	Petaluma Creamery	Petaluma Poultry	Miyoko's Kitchen	Marin Sun Farms	Revive	Alvarado St Bakery	Total
Meter	3" Magnetic	3" Magnetic	2x 3" Magnetic	10" Ultrasonic	6" Magnetic	2" Magnetic	2" Magnetic		2" Magnetic	
<b>FLOW (hcf)</b>										
2020/21	44,012	10,629	28,682	39,619	139,879	4,210	44,012	2,624	639	314,304
2021/22	37,184	9,955	36,968	15,302	143,735	3,280	37,184	2,360	433	286,403
2022/23 est	34,449	10,498	25,832	10,131	141,641	2,396	34,449	471	102	259,969
Projected: 95% of 3-Yr	36,621	9,843	28,969	10,131	134,664	3,130	36,621	closed	400	260,379
<b>BOD (lbs)</b>										
2020/21	135,578	20,712	3,621	210,050	565,553	66,725	19,197	15,715	16,490	1,053,640
2021/22	153,278	24,042	2,091	19,056	486,428	31,650	11,915	10,661	12,850	751,973
2022/23 est	124,845	17,843	1,090	3,955	500,024	16,883	9,087	2,501	no data	676,227
Projected: 95% of 3-Yr	131,005	19,822	2,154	3,955	491,468	36,498	12,730	n/a	4,991	702,624
<b>TSS (lbs)</b>										
2020/21	6,293	6,085	1,206	32,097	73,072	49,024	1,383	404	941	170,504
2021/22	7,110	2,190	6,729	4,965	103,623	20,235	1,168	210	746	146,975
2022/23 est	3,341	1,615	162	2,060	102,137	13,004	686	91	no data	123,095
Projected: 95% of 3-Yr	5,302	3,132	2,564	2,060	88,296	26,050	1,025	n/a	499	128,929
<b>BOD Strength (mg/l)</b>										
2020/21	494	312	20	850	648	2,541	70	960	4,136	537
2021/22	661	387	9	200	542	1,546	51	724	4,752	421
2022/23 est	581	272	7	63	566	1,130	42	850	no data	417
Projected	573	323	12	63	585	1,869	56	n/a	2,000	433
<b>TSS Strength (mg/l)</b>										
2020/21	23	92	7	130	84	1,867	5	25	236	87
2021/22	31	35	29	52	116	989	5	14	276	82
2022/23 est	16	25	1	33	116	870	3	31	no data	76
Projected	23	51	14	33	105	1,334	4	n/a	200	79
<b>Current Rates</b>										
Fixed Monthly Chg	809.57	809.57	1,619.14	1,226.00	2,573.31	368.63	368.63		2" Magnetic	
Flow (\$/hcf)	7.44	7.44	7.44	7.44	7.44	7.44	7.44		368.63	
BOD (\$/lb)	1.26	1.26	1.26	1.26	1.26	1.26	1.26		7.44	
SS (\$/lb)	1.43	1.43	1.43	1.43	1.43	1.43	1.43		1.26	
									1.43	
<b>Est Annual Charges with Projected Loadings at Current Rates</b>										
Fixed Charges	\$9,715	\$9,715	\$19,430	\$14,712	\$30,880	\$4,424	\$4,424		\$4,424	\$97,722
Flow	272,460	73,230	215,532	75,372	1,001,900	23,291	272,460		2,976	1,937,220
BOD	165,067	24,976	2,714	4,983	619,250	45,988	16,040		6,289	885,306
SS	7,582	4,479	3,667	2,946	126,264	37,251	1,466		714	184,368
Total	454,824	112,399	241,343	98,012	1,778,294	110,953	294,389		14,402	3,104,616

Projected flows and loadings generally based on 95% of 3-year prior average with estimates for 2022/23, with exception of Petaluma Creamery which is based on loadings from past 6-12 months.

### 3.14 Recycled Water Use

Petaluma historically developed its recycled water system to minimize the amount of treated wastewater effluent disposed into the Petaluma River. The City's recycled water is treated to more stringent Title 22 standards for use as landscaping or agricultural irrigation. In order to provide financial incentive for various local agricultural customers to take the City's recycled water, the City previously entered into a number of contracts that included low recycled water rates as listed below.

Recycled Water Customers Served Pursuant to Older Contracts		RW Rate per hcf
Mendoza	Agricultural - Existing RW User	0.195
Silacci (Expired)	Agricultural - Existing RW User	0.195
Matteri	Agricultural - Existing RW User	0.195
Cardinaux	Agricultural - Existing RW User	0.195
Rooster Run GC	Agricultural - Existing RW User	0.034
Adobe Creek GC	Agricultural - Existing RW User	0.687

Recycled water is now considered a resource as a drought-proof reliable source of irrigation water supply. The City's goal is to ultimately transition to using 100% of its wastewater effluent as recycled water with zero discharge to the Petaluma River.

In recent years, the City has been charging newer recycled water customers recycled water rates set at 50% of the City's potable rate for commercial use while the customers with older contracts benefit from low contractual rates. The City anticipates renegotiating its older recycled water contracts when they expire.

As proposed, the City would be authorized to set recycled water rates up to the potable Water Consumption Charges for All Other Customers as recycled water sales fall under this rate class. However, the financial projections assume the City continues its recent historical practice of setting recycled water rates for newer customers at 50% of the Water Consumption Charges for All Other Customers to continue providing incentive for recycled water use.

The table on the following page shows a history of recycled water sales with estimates for the current fiscal year. The subsequent table shows a projection of recycled water sales and revenues assuming a gradual annual increase in the volume of recycled water sales due to planned expansion of the recycled water distribution system to new urban and agricultural customers.



**Table 34 – Historical Recycled Water Sales (hcf)**

Historical Recycled Water Sales (hcf)													
	Jul 7	Aug 8	Sep 9	Oct 10	Nov 11	Dec 12	Jan 1	Feb 2	Mar 3	Apr 4	May 5	Jun 6	Total
Recycled Water Use (hcf)									Estimated	Estimated	Estimated	Estimated	
2022/23	112,162	104,623	100,687	86,059	67,956	21,145	19,427	10,154	12,122	20,000	20,000	75,000	649,335
2021/22	166,388	128,523	79,065	101,376	39,847	9,504	12,114	6,917	22,023	69,133	19,434	74,084	728,408
2020/21	104,437	125,893	143,843	108,084	78,793	19,575	7,135	7,551	44,244	22,256	106,710	127,316	895,837
2019/21	96,738	109,232	106,718	54,357	38,868	5,837	84	297	6,785	6,417	26,901	100,479	552,713
2018/19	101,936	114,949	133,740	110,520	25,036	18,474	182	308	258	297	9,352	38,723	553,774

**Table 35 – Projected Recycled Water Sales and Revenues**

Projected Recycled Water Sales & Revenues											
	Current 2022/23	1 2023/24	2 2024/25	3 2025/26	4 2026/27	5 2027/28	6 2028/29	7 2029/30	8 2030/31	9 2031/32	10 2032/33
<b>Projected Recycled Water Sales (hcf)</b>											
Contract Sales (Low Rates) [1]	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
Current Sales at RW Rates [1]	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
New Sales at RW Rates (Approx 90 AF)	-	-	40,000	80,000	120,000	160,000	200,000	240,000	280,000	320,000	360,000
<b>Total</b>	<b>650,000</b>	<b>650,000</b>	<b>690,000</b>	<b>730,000</b>	<b>770,000</b>	<b>810,000</b>	<b>850,000</b>	<b>890,000</b>	<b>930,000</b>	<b>970,000</b>	<b>1,010,000</b>
<b>Projected Recycled Water Rates (\$ per hcf)</b>											
Contract Sales Average Rate per hcf	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195
Projected Potable Water Rate [2]	\$4.79	\$5.29	\$5.80	\$6.35	\$6.96	\$7.62	\$8.20	\$8.73	\$9.20	\$9.65	\$10.13
RW % of Potable Water Rate	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Projected Recycled Water Rate per hcf	\$2.40	\$2.65	\$2.90	\$3.18	\$3.48	\$3.81	\$4.10	\$4.37	\$4.60	\$4.83	\$5.07
<b>Projected Recycled Water Sales Revenues</b>											
Contract Sales (Low Rates)	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000	\$78,000
Current Sales at RW Rates	600,000	662,500	725,000	795,000	870,000	952,500	1,025,000	1,092,500	1,150,000	1,207,500	1,267,500
New Sales at RW Rates	-	-	116,000	254,400	417,600	609,600	820,000	1,048,800	1,288,000	1,545,600	1,825,200
<b>Total</b>	<b>678,000</b>	<b>740,500</b>	<b>919,000</b>	<b>1,127,400</b>	<b>1,365,600</b>	<b>1,640,100</b>	<b>1,923,000</b>	<b>2,219,300</b>	<b>2,516,000</b>	<b>2,831,100</b>	<b>3,170,700</b>
<i>Conservative Estimates for Planning</i>	<i>680,000</i>	<i>750,000</i>	<i>900,000</i>	<i>1,050,000</i>	<i>1,200,000</i>	<i>1,400,000</i>	<i>1,600,000</i>	<i>1,800,000</i>	<i>2,000,000</i>	<i>2,200,000</i>	<i>2,400,000</i>

1 Estimated based on historical recycled water sales and revenues, and review of recycled water customers and demands.

2 Projected rates account for projections of City water rate increases, CPI inflation rate adjustments, and SCWA wholesale rate increase passthroughs.

## **4 WATER SHORTAGE CONTINGENCY PLAN RATE ADJUSTMENTS**

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### **4.1 Water Shortage Contingency Plan Rate Adjustments**

BWA developed a series of Water Shortage Contingency Plan Rate Adjustments designed to support financial stability of the City's water and wastewater enterprises during periods of drought and water shortage emergencies. The proposed adjustments would apply to billable use and would be levied in addition to the City's regular Water Consumption Charges and Wastewater Commodity Charges.

The adjustments correspond with the Water Shortage Contingency Plan Levels identified in the City's 2020 Urban Water Management Plan. However, no adjustments are proposed for a Level 1 Water Shortage which includes a voluntary 10% conservation target. As proposed, the adjustments would be authorized as maximum potential rate adjustments and are designed to give the City flexibility to phase in adjustments as needed in response to escalating droughts and water shortages. Future potential adjustments could also be phased out as water use gradually rebounds after a drought has ended.

### **4.2 Derivation of Water & Wastewater Rate Adjustments**

The tables on the following pages show how the Water Shortage Contingency Plan Rate Adjustments are calculated for both the water and wastewater utilities. The adjustments are designed to maintain the financial capacities of the water and wastewater enterprises to fund operating, debt service and capital improvement expenses during periods of reduced water and wastewater sales.

The adjustments are calculated to account for a) a loss of revenues due to the reduction in billed water or wastewater usage offset by b) a reduction in variable expenses due to reduced usage, plus c) a conservative estimate of additional expenses the City would likely need to incur to achieve targeted reductions in water use (such as conservation program and public outreach expenses) divided by d) the volume of projected water or wastewater sales remaining after the targeted reduction in water use. As such, the proposed adjustments are designed to keep revenues in line with the cost of providing service.

**Table 36 – Derivation of Water Rate Adjustments**

Derivation of Water Shortage Contingency Plan Rate Adjustments					
	Water Shortage Levels				
	Level 2	Level 3	Level 4	Level 5	Level 6
<b>Water Shortage or Mandated Reduction</b>	Up to 20%	Up to 30%	Up to 40%	Up to 50%	> 50%
<b>Water Demand Reduction Target %</b>	15%	25%	35%	45%	55%
<b>Estimated Water Sales (hcf)</b> 2023/24	2,692,000	2,692,000	2,692,000	2,692,000	2,692,000
<b>Water Reduction Target (hcf)</b> 2023/24	403,800	673,000	942,200	1,211,400	1,480,600
<b>Net Use with Reduction (hcf)</b> 2023/24	2,288,200	2,019,000	1,749,800	1,480,600	1,211,400
<b>Uniform Water Rate (All Other Customers)</b> 2023/24	5.29	\$5.29	\$5.29	\$5.29	\$5.29
<b>Revenue Loss by Year</b> 2023/24	\$2,136,102	\$3,560,170	\$4,984,238	\$6,408,306	\$7,832,374
<b>Est. Reduced Expenses due to Lower Use</b>					
Variable Cost per Unit (\$/hcf) <sup>1</sup> 2023/24	\$2.77	\$2.77	\$2.77	\$2.77	\$2.77
Reduced Variable Costs 2023/24	\$1,117,634	\$1,862,724	\$2,607,813	\$3,352,903	\$4,097,992
<b>Add'l Conservation &amp; Compliance Costs<sup>2</sup></b>	\$50,000	\$100,000	\$150,000	\$200,000	\$300,000
<b>Net Financial Impact</b>					
Revenue Loss - Reduced Exps + Add'l Costs 2023/24	\$1,068,468	\$1,797,446	\$2,526,425	\$3,255,403	\$4,034,382
<b>Required Rate Adjustment (\$/hcf)</b>					
Net Financial Impact / Net Remaining Use 2023/24	\$0.47	\$0.89	\$1.44	\$2.20	\$3.33
<b>Rate Adjustment as % of Standard Water Rate</b>	8.83%	16.83%	27.29%	41.56%	62.96%
<b>Rounded Down</b>	<b>8%</b>	<b>16%</b>	<b>27%</b>	<b>41%</b>	<b>62%</b>

1 Includes projected SCWA wholesale water rate plus \$0.10 per hcf for estimated average pumping costs.

2 Estimate of additional costs that would be incurred to achieve water reduction targets for each Water Shortage Level.

**Table 37 – Derivation of Wastewater Rate Adjustments**

Derivation of Wastewater Rate Adjustments for Water Shortage Contingency Plan					
	Water Shortage Levels				
	Level 2	Level 3	Level 4	Level 5	Level 6
<b>Water Shortage or Mandated Reduction</b>	Up to 20%	Up to 30%	Up to 40%	Up to 50%	> 50%
<b>Est Reduction in Billed Wastewater Use<sup>1</sup></b>	6%	9%	12%	15%	20%
<b>Estimated Wastewater Billed Use (hcf)<sup>2</sup></b> 2023/24	1,585,800	1,585,800	1,585,800	1,585,800	1,585,800
<b>Est Reduction in Billed Use (hcf)<sup>3</sup></b> 2023/24	95,148	142,722	190,296	237,870	317,160
<b>Net Use with Reduction (hcf)</b> 2023/24	1,490,652	1,443,078	1,395,504	1,347,930	1,268,640
<b>Residential Wastewater Commodity Charge</b> 2023/24	\$9.45	\$9.45	\$9.45	\$9.45	\$9.45
<b>Revenue Loss by Year</b> 2023/24	\$898,682	\$1,348,024	\$1,797,365	\$2,246,706	\$2,995,608
<b>Est. Reduced Expenses due to Lower Use</b>					
Variable Cost per Unit (\$/hcf) <sup>3</sup> 2023/24	1.83	\$1.83	\$1.83	\$1.83	\$1.83
Reduced Variable Costs 2023/24	\$174,121	\$261,181	\$348,242	\$435,302	\$580,403
<b>Net Financial Impact</b> Revenue Loss - Reduced Expenses 2023/24	\$724,562	\$1,086,842	\$1,449,123	\$1,811,404	\$2,415,205
<b>Required Rate Adjustments (\$/hcf)</b> Net Financial Impact / Net Remaining Use 2023/24	\$0.49	\$0.75	\$1.04	\$1.34	\$1.90
<b>Rate Adjustments as % of Residential Wastewater Commodity Charge</b>	5.15%	7.97%	10.99%	14.23%	20.16%
<b>Rounded Down</b>	<b>5%</b>	<b>7%</b>	<b>10%</b>	<b>14%</b>	<b>20%</b>

1 Reduction in wastewater use will be substantially lower than reduction in water use as a) residential wastewater use is billed based on the lowest 2 winter months and accounts for roughly 64% of total billed usage, and b) irrigation meter use is excluded.

2 Includes projected residential, commercial and industrial billable usage and estimated Penngrove use.

3 Estimated based on costs of electricity, natural gas, and chemicals from Fiscal Year 2022/23 Budget with 3.5% escalation.

### 4.3 Proposed Water & Wastewater Rate Adjustments

The following tables show proposed maximum Water Shortage Contingency Plan Rate Adjustments that would be effective September 1, 2023 for both the water and wastewater utilities. The adjustments corresponding with each of the Water Shortage Levels would be applied as additional volumetric charges per hcf of billed usage that would be levied in addition to the City's regular Water Consumption Charges or Wastewater Commodity Charges. The maximum authorized rate would increase in future years as water and wastewater rates increase.

**Table 38 – Water Shortage Contingency Plan Rate Adjustments**

<b>Proposed Maximum Water Shortage Contingency Plan Rate Adjustments</b>					
	<b>Water Shortage Level</b>				
	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
<b>Water Shortage or Mandated Reduction</b>	Up to 20%	Up to 30%	Up to 40%	Up to 50%	> 50%
<b>Maximum Rate Adjustment %</b>	8%	16%	27%	41%	62%
<b>Maximum Rate Adjustment* Effective Sept-1, 2023 (\$/hcf)</b>	\$0.42	\$0.85	\$1.43	\$2.17	\$3.28

Note: 1 unit = one hundred cubic feet (hcf), or approximately 748 gallons.

\* Each year, the Maximum Water Rate Adjustments will be adjusted on July 1 based on a) the Maximum Rate Adjustment % corresponding each Water Shortage Level multiplied by b) the Water Consumption Charge implemented for All Other Customers resulting in c) Maximum Water Rate Adjustment per hcf that would be applied to the City's Water Consumption Charges.

**Table 39 – Wastewater Rate Adjustments for Water Shortage Emergencies**

<b>Projected Maximum Wastewater Rate Adjustments for Water Shortages</b>					
	<b>Water Shortage Level</b>				
	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
<b>Water Shortage or Mandated Reduction</b>	Up to 20%	Up to 30%	Up to 40%	Up to 50%	> 50%
<b>Maximum Rate Adjustment %</b>	5%	7%	10%	14%	20%
<b>Maximum Rate Adjustment* Effective Sept-1, 2023 (\$/hcf)</b>	\$0.47	\$0.66	\$0.94	\$1.32	\$1.89

Note: 1 unit = one hundred cubic feet (hcf), or approximately 748 gallons.

\* Each year, the Maximum Wastewater Rate Adjustments will be adjusted on July 1 based on a) the Maximum Rate Adjustment % corresponding each Water Shortage Level multiplied by b) the Residential Wastewater Commodity Charge resulting in c) Maximum Wastewater Rate Adjustments per hcf that would be applied to all Wastewater Commodity Charges.

## 4.4 Example of Water Shortage Rate Adjustments

The following table shows an example of how the maximum allowable Water Shortage Contingency Plan Rate Adjustments would be calculated for both water and wastewater rates under a Level 3 Water Shortage effective September 1, 2023. Under a Level 3 Water Shortage, the City would have the ability to phase in rate adjustments up to the maximum levels as directed by City Council. For example, the City could opt to only implement a \$0.25 per hcf rate adjustment to its water and wastewater rates when a Level 3 Water Shortage is declared by City Council, but then subsequently phase in water rate adjustments up to a maximum of \$0.85 per hcf and wastewater rate adjustments up to \$0.66 per hcf in subsequent months as the Level 3 Shortage continues.

If a water shortage continued to worsen and Council escalated to a Water Shortage Contingency Plan Level 4 Water Shortage, then the City could correspondingly continue phasing in rate adjustments up to the maximum levels associated with a Level 4 Water Shortage to support the financial stability of the water and wastewater utilities and their capacity to fund planned operating and capital expenses.

**Table 40 – Example of Water Shortage Rate Adjustments**

	Projected Rates (Effective Sept-1, 2023)	Maximum Level 3 Water Shortage Contingency Plan Rate Adjustments	Total with Water Shortage With Adjustments
<b>WATER CONSUMPTION CHARGES (\$/HCF)</b>			
<b><u>Single Family Residential</u></b>			
Tier 1	\$4.78	\$0.85	\$5.63
Tier 2	5.29	0.85	6.14
Tier 3	6.02	0.85	6.87
Tier 4	7.01	0.85	7.86
<b>All Other Customers</b>	\$5.29	\$0.85	\$6.14
<b>WASTEWATER COMMODITY CHARGES (\$/HCF)</b>			
<b>Residential</b>	\$9.45	\$0.66	\$10.11
<b>Commercial</b>			
Low Strength	\$9.09	\$0.66	\$9.75
Medium Strength	12.38	0.66	13.04
High Strength	16.82	0.66	17.48

# APPENDIX A

Proposition 218 Notice of Proposed Rate Increases