

CITY OF UKIAH

Water Rate Study

Final Draft Report

June 5, 2020



THE REED GROUP, INC.



Table of Contents

SECTION I. EXECUTIVE SUMMARY	1
<i>Introduction and Background</i>	<i>1</i>
<i>Financial Plan and Revenue Needs</i>	<i>2</i>
<i>Proposed Water Rate Schedules</i>	<i>2</i>
SECTION II. WATER FINANCIAL PLAN	5
<i>Fund Structure and Cash Flows</i>	<i>5</i>
<i>Financial Plan Assumptions</i>	<i>7</i>
<i>Financial Plan Findings and Conclusions</i>	<i>10</i>
SECTION III. WATER RATES	14
<i>Current Water Rates</i>	<i>14</i>
<i>Customer Account Data and Water Use Estimates</i>	<i>14</i>
<i>Water Rate Calculations</i>	<i>15</i>
<i>Proposed Water Rate Schedules</i>	<i>19</i>
<i>Adopting Proposed Water Rates</i>	<i>19</i>

SECTION I. EXECUTIVE SUMMARY

INTRODUCTION AND BACKGROUND

The City of Ukiah retained The Reed Group, Inc. and Hildebrand Consulting, LLC to develop a ten-year water system financial plan and to update water rates for the City's water utility. The purpose of the study was to ensure that water rates are sufficient to meet the utility's financial and service obligations for ongoing operation and maintenance, debt service, and capital improvements while maintaining prudent reserves. The last adjustment to the water rates occurred in January 2020. This was the final rate adjustment in the previously adopted five-year rate plan.

The City is located in Mendocino County in the northern coastal region of California. The City water system is responsible for delivering treated water to residential, commercial, and agricultural customers. Currently, the system serves about 4,800 connections within the City boundaries. Although the City serves most of the residents within the City limits, a minor amount (less than 1 percent) of City residents are served by other water systems. The City's water distribution system consists of five active wells (four groundwater wells and one surface water well), one surface water collector, a water treatment plant, eight distribution reservoirs, and a distribution system. The City's primary water sources are the Russian River and groundwater. The City's infrastructure is designed to switch between sources in order to maximize quality and efficiency. This allows for very high quality water to be delivered with minimal treatment.

The scope of services for the water rate study included the following:

- Review financial goals and policy objectives
- Review the current budget, debt obligations, and capital improvement plans
- Prepare a ten-year financial plan and determine annual water rate revenue requirements for the water utility
- Develop water rate recommendations that meet the legal requirements for cost of service
- Prepare a water rate study report (this report) to document the analyses performed during the study
- Present study recommendations to the City Council during a regular meeting, and assist the City in preparing a notice of public hearing regarding the proposed water rates
- Present final water rate recommendations during a public hearing

The purpose of this report is to describe the analyses performed, present the financial plan for the water utility, and summarize findings and recommendations regarding the water rates.

FINANCIAL PLAN AND REVENUE NEEDS

The City's water rates were last increased in January 2020 with the last of a series of annual rate adjustments spanning five years. In general, the financial objectives that were set by the last financial plan and rate study in 2016 have been met. However, at present the additional costs associated with the recycled water program are making it difficult for the utility to meet debt service coverage obligations. In addition, capital improvement needs are not yet being fully or adequately funded.

While the City's water utility continues to provide reliable water service to its customers, the current financial situation limits its ability to implement needed capital replacement, rehabilitation, and upgrade projects. The 10-year capital improvement plan (through FY 29-30) for the water utility totals about \$14.0 million (in current dollars) in new projects. Current revenues do not fully support this level of capital program activity, and currently available reserves will be depleted as these projects are completed unless rates are adjusted to provide adequate funding.

It is recommended that the City continue its historic practice of modest annual water rate increases. Recently proposed sewer rates are scheduled to go into effect in October 2020, with annual adjustments each July thereafter. It is recommended that water rate adjustments occur on this same schedule. It is recommended that the City increase water rate revenues in accordance with the following schedule:

- October 2020 3%
- July 2021 7%
- July 2022 7%
- July 2023 7%
- July 2024 5%

These increases will help ensure financial stability, maintain adequate revenues for operating and maintenance costs, help ensure that debt service obligations are met, and provide additional funding for the capital improvement program.

The financial plan model reflects assumptions and estimates that are believed reasonable at the present time. However, conditions change. It is recommended that the City review the financial condition of the water utility annually as part of the budget process, and perform a more comprehensive financial plan and rate update study every 3 to 5 years, unless otherwise needed sooner. The financial analysis presented in this report indicates that the revenues generated by the water rates would not exceed the cost of providing service, including maintaining prudent reserves for specified purposes.

Details of financial plan analyses and the recommendation to annually adjust the water rates to keep pace with change in costs are presented in Section II of this report.

PROPOSED WATER RATE SCHEDULES

Exhibit I-1 presents the proposed water rate schedules for the next five years. The water rates maintain the current rate structure, which includes a uniform water usage rate and fixed monthly service charges based on meter size and reflect an updated cost of service

analysis. Details of the cost of service analysis and water rate recommendations are presented in Section III of this report.

**Exhibit I-1
City of Ukiah
Current and Proposed Water Rates**

	Current (1)	Oct. 2020	July 2021	July 2022	July 2023	July 2024
Water Usage Rate (\$/CCF)						
All Water Usage	\$ 3.22	\$ 3.26	\$ 3.48	\$ 3.72	\$ 3.98	\$ 4.18
Monthly Service Charge						
3/4" meter	\$ 37.85	\$ 39.88	\$ 42.67	\$ 45.66	\$ 48.86	\$ 51.30
1" meter	\$ 60.78	\$ 63.87	\$ 68.34	\$ 73.12	\$ 78.24	\$ 82.15
1 1/2" meter	\$ 117.57	\$ 123.31	\$ 131.94	\$ 141.18	\$ 151.06	\$ 158.61
2" meter	\$ 186.02	\$ 194.92	\$ 208.56	\$ 223.16	\$ 238.78	\$ 250.72
3" meter	\$ 345.80	\$ 362.14	\$ 387.49	\$ 414.61	\$ 443.63	\$ 465.81
4" meter	\$ 574.03	\$ 600.97	\$ 643.04	\$ 688.05	\$ 736.21	\$ 773.02
6" meter	\$ 1,144.08	\$ 1,197.51	\$ 1,281.34	\$ 1,371.03	\$ 1,467.00	\$ 1,540.35

Notes:

(1) Effective January 1, 2020.

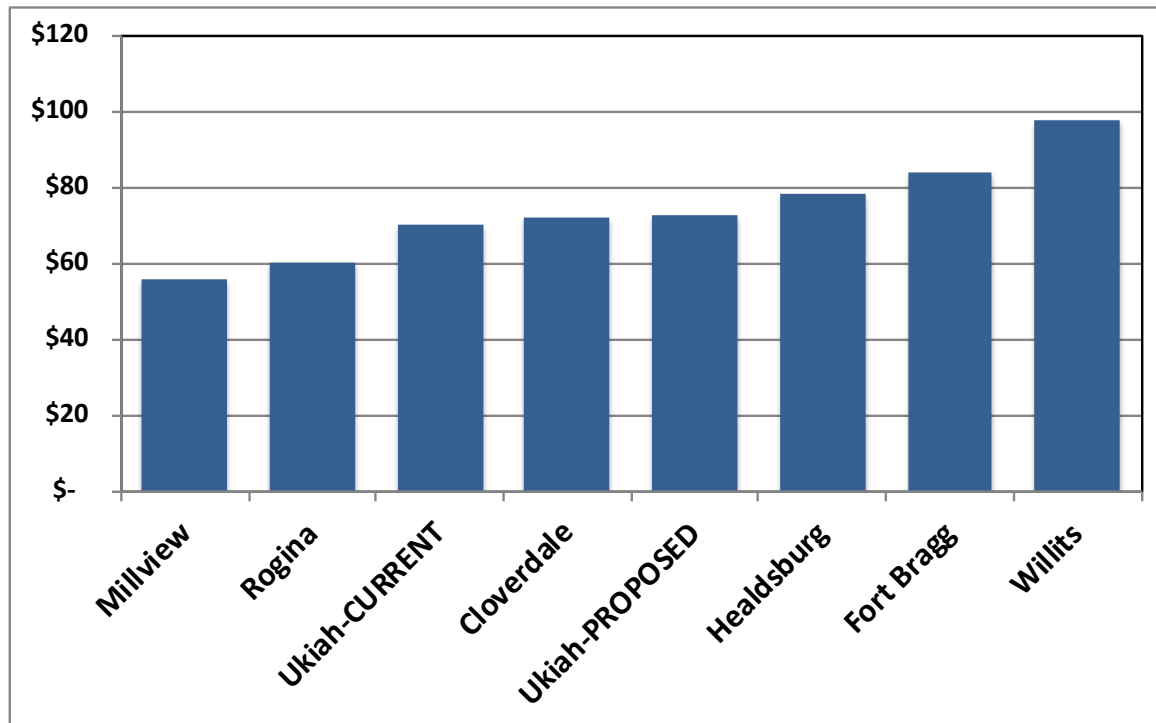
Comparison of Proposed Water Rates with Neighboring Communities

A typical monthly water bill for residential customers in Ukiah can be compared with the water bills for the same water usage in neighboring communities. The typical water bill for a single family customer in Ukiah is compared with water bills based on current water rates of neighboring communities in **Exhibit I-2**. The comparison assumes a standard meter size (3/4" in Ukiah) and monthly water use of 10 CCF (about 250 gallons per day)¹. The water rates for each community reflect the specific factors affecting water service in their service area, including source(s) of water supply, age and condition of infrastructure, regulatory requirements, policy decisions, and other factors.

Most of the neighboring communities also have uniform water rates for their single family customers. Some of the neighboring communities in Exhibit I-2 have either adopted procedures for automatically adjusting water rates on an annual basis or have adopted multi-year rate schedules with specific annual rate adjustments. In addition, some communities are currently preparing for their own rate update studies.

¹ One CCF = 100 cubic feet = 748 gallons.

Exhibit I-2
City of Ukiah -- Water Utility
Comparison of Typical Single Family Water Bills with Neighboring Communities



SECTION II. WATER FINANCIAL PLAN

This section of the report describes the financial plan and related recommendations for the City's water utility. The ten-year financial plan is used to determine annual water rate revenue requirements. The annual rate revenue requirement is the amount of revenue needed from water rates to cover planned operating, maintenance, debt service, and capital program costs with consideration of other revenues and financial reserves.

FUND STRUCTURE AND CASH FLOWS

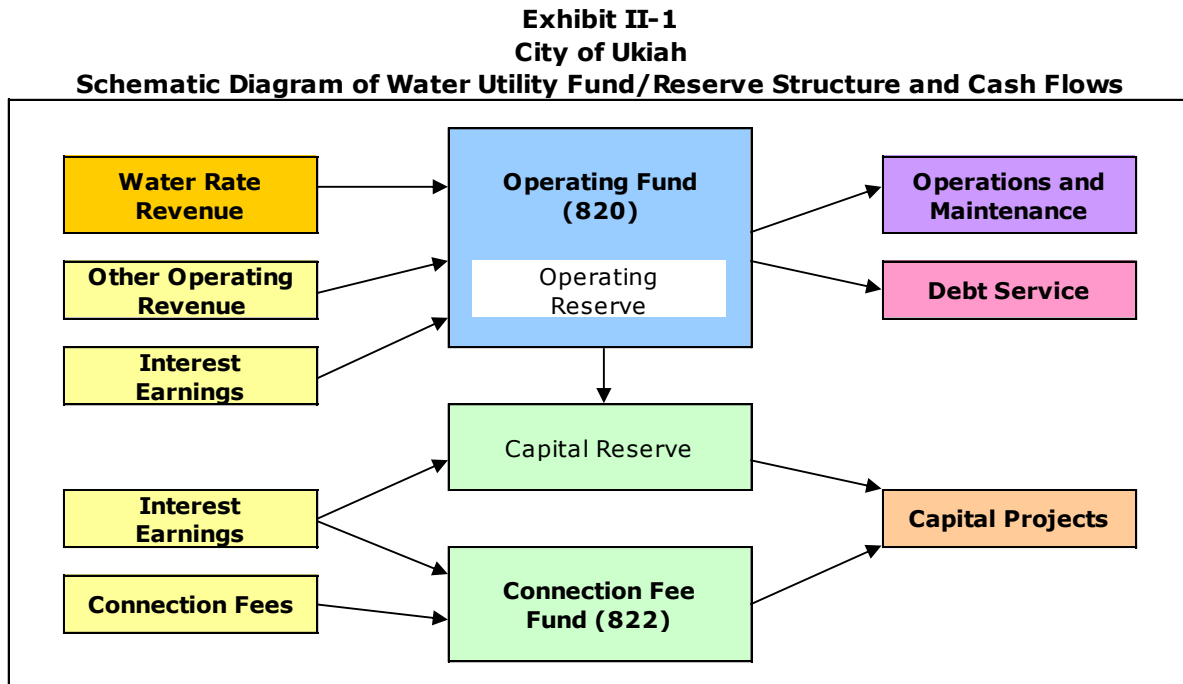
The financial plan is an annual cash flow model. It differs from standard accounting income statements, and balance sheets. The financial plan models sources and uses of funds into, out of, and between the various funds and reserves of the water utility.

The financial plan model is based on a fund and reserve structure generally used by the City, although it incorporates a new capital reserve target to help ensure adequate funding for the capital program. This structure was discussed with staff and the City Council, with general concurrence that it would provide a helpful framework for evaluating the financial needs of the utility and for clearly demonstrating how operating and maintenance costs, debt service obligations, and capital program needs are being addressed. The reserve structure includes an Operating Reserve within the Operating Fund (Fund 820), as well as a Capital Reserve (new) for the purpose of meeting capital program needs, and the Connection Fee Fund (Fund 822), which is used to account for connection fee revenues and expenditures. **Exhibit II-1** is a schematic diagram of the funds/reserves and major cash flows associated with the financial plan model.

An understanding of the fund/reserve structure is helpful in understanding the financial plan worksheets that model estimated annual cash flows through the water utility from one year to the next. The fund/reserve structure is comprised of:

- **Operating Fund (Fund 820)** – The Operating Fund² is the primary fund within the water utility. Most of the water system's revenues, including water rate revenues, flow into the Operating Fund and all operating and maintenance costs, including debt service payments, are paid out of this fund. Funds are also transferred from the Operating Fund to the Capital Reserve to help pay for capital projects intended to rehabilitate and upgrade facilities.
 - *Operating Reserve* – The City maintains an Operating Reserve equal to 25 percent of annual operating and maintenance costs, including debt service. The purpose of the reserve is to provide working capital and funds for unplanned operating and maintenance expenditures. The current balance in the Operating Fund is sufficient to fully fund this reserve, and it remains fully funded for the entire planning period.

² The water utility also has a Recycled Water Fund (830), which is used to account for expenses of the recycled water program. For purposes of the financial plan model, the recycled water fund has been combined with the Water Operating Fund.



- *Available Balance* – The balance in the Operating Fund in excess of the target amounts for the Operating Reserve and the Capital Reserve is shown in the financial plan as Available Balance. After all other obligations are met the Available Balance is used to offset rate increases. The financial plan model generally seeks to reduce any Available Balance over time. A negative value for the Available Fund Balance would indicate shortfalls in maintaining the minimum Operating Reserve and/or target value of the Capital Reserve.
- *Capital Reserve* – A target Capital Reserve is recommended to help account for revenues and funds available for capital projects intended to rehabilitate, upgrade, and expand the water system to meet current and future needs of the water utility. Because capital expenditures can vary significantly from year to year, the Capital Reserve is expressed as a target amount. Following high capital expenditure years, the reserve may be below target and then rebound above the target following low expenditure years. The target amount has been established to gradually increase over the planning period until it reaches an amount equal to the 10-year average planned capital expenditures. The financial plan model seeks to achieve a positive balance in the Capital Reserve by the end of the planning period while also covering the costs of planned capital improvement projects throughout the planning period.
- *Water Connection Fee Fund (Fund 822)* – The Water Connection Fee Fund is used to account for connection fee revenue, as well as the expenditure of connection fee revenue on capital projects intended to provide additional capacity in order to serve new development. This fund is also used to satisfy the statutory requirements for the accounting of connection fee revenue.

FINANCIAL PLAN ASSUMPTIONS

The financial plan reflects FY 18-19 actual results and the FY 19-20 budget, as well as financial conditions as of the beginning of the fiscal year. The financial plan also reflects the City's debt service obligations and capital improvement program, as identified by City staff, during the ten-year planning period.

The financial plan is based on the best available information and its assumptions are believed to be reasonable; however, no assurance can be provided as to the accuracy and completeness of future estimates. The proposed annual adjustments help protect the City and ratepayers from some of the uncertainty associated with financial plan assumptions. Primary assumptions reflected in financial plan analyses are described below, with additional information presented in **Exhibit II-2**:

- *Interest Rates* – Interest earned on fund/reserve balances is estimated to be 1.0 percent per year based on beginning-of-year balances. This interest rate is lower than the current return from the Local Agency Investment Fund (LAIF), which is currently 2.03 percent. However, the interest paid by LAIF has been declining for the past year and may continue to do so given the current economic conditions. The City also pays interest on outstanding long-term debt obligations. The interest payments on outstanding debt are those contained in existing contracts and repayment schedules.
- *Inflation Rates* – The financial plan analyses include general inflation at 3.0 percent per year applied to all operating and maintenance costs on an aggregate basis and construction inflation also at 3.0 percent per year. General inflation is currently near 3.0 percent, as reported by the Bureau of Labor Statistics for the San Francisco-Oakland-Hayward area. Construction inflation, as indicated by the *Engineering News Record's* 20-Cities Construction Cost Index has increased about 3.0 percent per year in recent years. Each of these inflation assumptions has been reviewed with City staff and is reasonable for financial planning purposes.
- *Customer Base and Water Usage* – Current customer account and water usage data were provided by City staff from the utility billing system for FY 18-19. This data has been used as the basis for rate calculations.
- *Growth Projections* – The financial plans assume that the customer base (number of active service connections) will grow by 0.1 percent per year throughout the planning period. The estimate is believed to be reasonable for financial planning purposes and has been reviewed with City staff.
- *Customer Demand* – Customer water demand is assumed to be stable during the planning period. The assumption used is believed reasonable for financial planning purposes. In 2016, the City adopted a system of water shortage surcharges, which could be implemented in the event of a future water supply shortage.
- *Operation and Maintenance Costs* – The financial plan model is based on current operating and maintenance costs as reflected in the FY 19-20 operating budget, with future estimates based on the inflation and growth assumptions described above. Assumptions were reviewed with City staff.

Exhibit II-2
City of Ukiah
Financial Plan Assumptions

	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Financial Assumptions											
General Inflation		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Construction Inflation		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Interest Earnings	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Customer Base and Water Usage											
No. of Accounts	4,838	4,843	4,848	4,853	4,858	4,863	4,868	4,873	4,878	4,883	4,888
No. of 3/4" Equiv. Mtr.	6,496	6,501	6,506	6,511	6,516	6,521	6,526	6,531	6,536	6,541	6,546
Customer Growth Rate		0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Water Use Factor		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ann. Water Sales (CCF)	1,013,000	1,014,000	1,015,000	1,016,000	1,017,000	1,018,000	1,019,000	1,020,000	1,021,000	1,022,000	1,023,000
Annual Water Sales (AF)	2,326	2,328	2,330	2,332	2,335	2,337	2,339	2,342	2,344	2,346	2,348
Water Sales Growth Rate		0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Water Connection Fees											
Conn. Fee (3/4" meter)	\$ 1,833	\$ 1,888	\$ 1,945	\$ 2,003	\$ 2,063	\$ 2,125	\$ 2,189	\$ 2,255	\$ 2,323	\$ 2,393	\$ 2,465
Conn. Fee Revenue		\$ 9,400	\$ 9,700	\$ 10,000	\$ 10,300	\$ 10,600	\$ 10,900	\$ 11,300	\$ 11,600	\$ 12,000	\$ 12,300

- *Recycled Water Program* – Several years ago, the City constructed facilities to distribute recycled water from its wastewater treatment plant for irrigation purposes. Use of recycled water reduces the demand for potable water and thereby helps to preserve water from the Russian River and the local groundwater basin for other purposes. The City received a low-interest State Revolving Fund (SRF) loan from in 2017 to help fund construction of recycled water facilities. That loan is secured by water system revenue. The recycled water program also provides additional wastewater disposal capacity for the City’s wastewater system, and the City is exploring appropriate ways for recycled water costs to also be shared with sewer system customers.
- *Capital Improvement Program* – The water utility’s capital improvement plan, as developed by staff, includes multiple projects totaling about 14.0 million (in current dollars) over a ten-year period to be funded by the water utility. The capital improvement program does not include costs (or debt obligations) associated with Phase 4 of the recycled water program, which would have necessitated significantly larger water rate adjustments. The financial plan assumes that capital projects will be funded from user rates, connection fees, and available reserves. No new long-term debt is included in the financial plan analysis. The capital improvement plan reflected in the financial plan is presented in **Exhibit II-3**.
- *Debt Obligations* – Existing water system long-term debt obligations are summarized in **Exhibit II-4**. The water utility currently pays about \$920,000 annually on debt service related to 2016 Water Revenue Refunding Bonds. The debt service on these bonds will decrease to about \$750,000 annually in FY 22-23. The City received a State Revolving Fund (SRF) loan for recycled water facilities in 2017. Annual debt service on the SRF loan is not yet finalized but is expected to be about \$850,000 annually.

One of the requirements associated with bond financing is to maintain rates and other water system revenues at levels sufficient to meet debt service coverage requirements³. At present, the City is required to maintain water system revenues at a level that covers all ongoing operating and maintenance costs, as well as 1.20 times annual debt service. Based on the operating budget and estimated water system revenues for FY 19-20, the water utility may not meet the debt service coverage requirement in FY 19-20. This is one of the reasons an increase in water rates is needed at this time. It is recommended that the City strive to maintain a debt service coverage ratio of 1.50 to provide an ample cushion in meeting this requirement.

Exhibit II-5 provides the details of the financial plan model of the City’s water utility. It reflects the proposed annual water rate adjustments needed to provide the financial capacity for the water utility to continue to meet financial and service obligations, including meeting debt service obligations and adequately supporting the planned capital improvement program. **Exhibit II-6** graphically summarizes the annual revenues, expenses, and year-end Operating Fund and reserve balances through the planning period.

³ Debt service coverage is calculated as net revenues (defined as gross revenues minus annual operating and maintenance expenses) divided by annual debt service.

FINANCIAL PLAN FINDINGS AND CONCLUSIONS

The preceding portion of this section described the basic framework and assumptions underlying the financial analyses. Specific findings and conclusions pertaining to the water utility are presented below, beginning with a description of the current situation. At present, the City's water utility has:

- Sufficient cash in the Operating Fund to fully meet the Operation Reserve target of \$1.15 million and still have \$2.0 million available for planned capital program expenditures,
- Current annual water utility revenues of about \$6.51 million, excluding grant and loan proceeds related to the recycled water project,
- Current annual operating and maintenance costs, including debt service obligations totaling about \$6.23 million,
- Planned water system capital improvements totaling about \$4.0 million to be funded from current revenues, grant/loan proceeds, and available reserves,
- Estimated debt service coverage in FY 19-20 of 1.16 (the minimum required is 1.20) based on budgeted O&M expenses. While actual O&M expenses for this year may prove to be less than the approved budget (and therefore the City may meet the coverage obligation for the current fiscal year), this demonstrates the need for an immediate adjustment to water rates.

An increase in water rates is needed in order to: (1) meet debt service coverage obligations, (2) provide adequate funding for planned water system improvements, and (3) maintain prudent financial reserves consistent with current policy objectives.

It is recommended that the City increase the overall level of water rates in accordance with the following schedule:

- | | |
|----------------|----|
| • October 2020 | 3% |
| • July 2021 | 7% |
| • July 2022 | 7% |
| • July 2023 | 7% |
| • July 2024 | 5% |

The initial rate adjustment has been kept as low as possible in light of uncertainty and potential economic impacts of the Covid-19 pandemic on customers. The proposed adjustments will allow the City to meet its service and financial obligations, including completing the planned capital improvement program. Any lower rate increase could result in the water utility not meeting one or more of its financial objectives.

The financial plan model reflects assumptions and estimates that are believed reasonable at the present time. However, conditions change. It is recommended that the City review the financial condition of the water utility annually as part of the budget process and perform a more comprehensive financial plan and water rate update study every 3 to 5 years, unless otherwise needed sooner.

Exhibit II-3
City of Ukiah
Water Utility Capital Improvement Plan

Capital Project	Proj. No.	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Large Scale Solar (Wtr shr)	18067					-						
Replac. PZ 2 South Reservoir	15071	435,000										
Henderson Lane Water Main Replacement	18051	150,000										
Water Main Replacements	18072		-	500,000	1,000,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Phase 3 Recycled Water		1,200,000										
Phase 4 Recycled Water	18052		-									
Dora St. Utility Improv. Proj. (Wtr shr)	18127		800,000									
D'town Streetscape Util. Impr. Proj. (Wtr shr)	18019	1,700,000										
VFD Replac. at Water Trtmt. Plant	18132	50,000										
Upgrade SCADA System	18050	300,000										
Replace Water Trtmt. Plant Service Truck	V3754				50,000							
Convert Chlor. Gas to Liquid Chlor. At WTP	18133	50,000	270,000									
Replace VFD at Ranney Collector	18049	100,000										
Replace Wtr/Sewer Ops Call Truck (Wtr shr)	V3753				30,000							
Water Meter Replacements	18074	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Asphalt Zipper (Wtr shr)	E1001				40,000							
Asphalt Roller (Wtr shr)	E1612				22,000							
Asphalt Paver (Wtr shr)	E1812				70,000							
Vactor Replacement (Wtr shr)	V2518		150,000									
Water Tender (Wtr shr)	V2543		35,000									
Totals (Current dollars)		4,035,000	1,305,000	550,000	1,262,000	1,550,000	1,550,000	1,550,000	1,550,000	1,550,000	1,550,000	1,550,000
Totals (Inflated dollars)		4,035,000	1,344,000	583,000	1,379,000	1,745,000	1,797,000	1,851,000	1,906,000	1,963,000	2,022,000	2,083,000

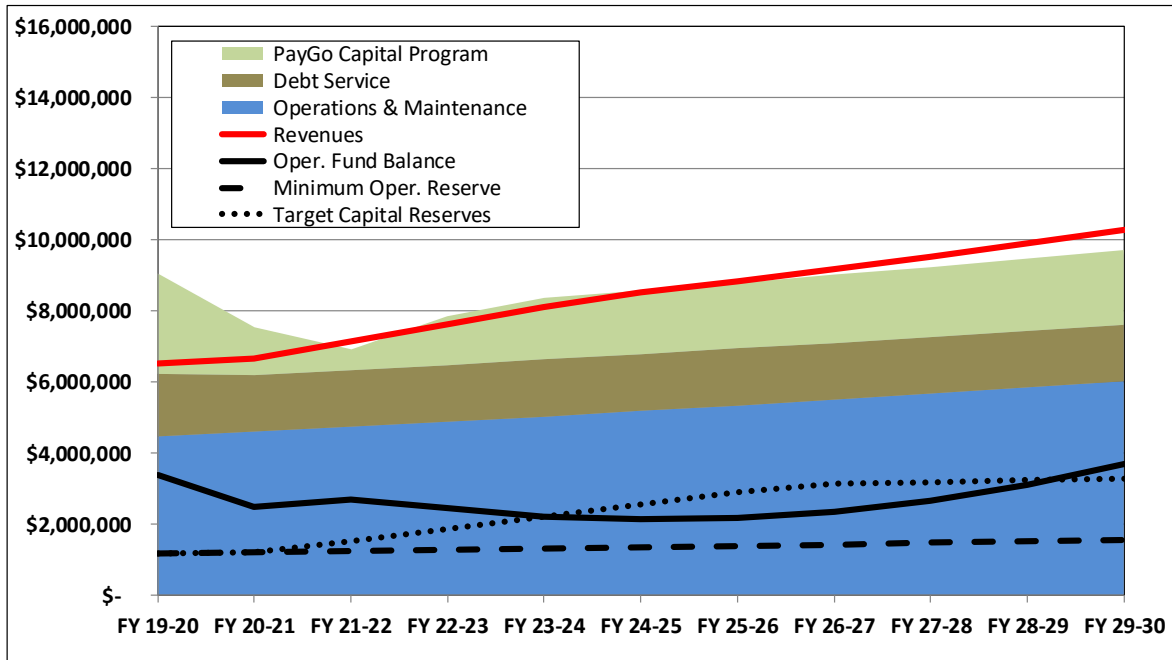
Exhibit II-4
City of Ukiah
Summary of Water Utility Debt Service

	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
2016 Water Revenue Refunding Bonds											
Principal Payment	530,000	540,000	565,000	415,000	435,000	460,000	480,000	505,000	530,000	560,000	585,000
Interest Payment	398,718	377,319	355,219	335,618	316,444	294,069	270,569	245,943	220,069	192,819	164,193
Total Payment	928,718	917,319	920,219	750,618	751,444	754,069	750,569	750,943	750,069	752,819	749,193
Outstanding Balance	9,160,000	8,620,000	8,055,000	7,640,000	7,205,000	6,745,000	6,265,000	5,760,000	5,230,000	4,670,000	4,085,000
2017 SRF Recycled Water Loan											
Principal Payment	643,121	649,552	656,048	662,608	669,234	675,927	682,686	689,513	696,408	703,372	710,406
Interest Payment	206,629	200,197	193,702	187,141	180,515	173,823	167,064	160,237	153,342	146,378	139,344
Total Payment	849,750	849,749	849,750	849,749	849,749	849,750	849,750	849,750	849,750	849,750	849,750
Outstanding Balance	20,019,793	19,370,241	18,714,193	18,051,585	17,382,351	16,706,424	16,023,738	15,334,225	14,637,817	13,934,445	13,224,039

**Exhibit II-5
City of Ukiah
Water Utility Financial Plan**

	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Rate Adjustments -->	3%	7%	7%	7%	5%	4%	4%	4%	4%	4%	4%
	October	July	July	July	July	July	July	July	July	July	July
WATER OPERATING FUND (820)											
Beginning Balance	1,500,784	3,377,709	2,502,309	2,730,509	2,494,109	2,253,509	2,195,409	2,254,309	2,434,909	2,750,809	3,207,009
Revenues											
Water Service Charges	6,140,000	6,283,000	6,773,000	7,247,000	7,754,000	8,142,000	8,468,000	8,807,000	9,159,000	9,525,000	9,906,000
Fire Service Charges	293,000	293,000	293,000	293,000	293,000	293,000	293,000	293,000	293,000	293,000	293,000
Miscellaneous Revenue	41,900	43,200	44,500	45,800	47,200	48,600	50,100	51,600	53,100	54,700	56,300
Interest Earnings	14,900	33,800	25,000	27,300	24,900	22,500	22,000	22,500	24,300	27,500	32,100
Connection Fees	25,000	9,400	9,700	10,000	10,300	10,600	10,900	11,300	11,600	12,000	12,300
Grant/Loan Proceeds	5,625,325	-									
Total Revenues	12,140,125	6,662,400	7,145,200	7,623,100	8,129,400	8,516,700	8,844,000	9,185,400	9,541,000	9,912,200	10,299,700
Expenses											
Salaries & Benefits	2,045,500	2,106,900	2,170,100	2,235,200	2,302,300	2,371,400	2,442,500	2,515,800	2,591,300	2,669,000	2,749,100
Administration	205,900	212,100	218,500	225,100	231,900	238,900	246,100	253,500	261,100	268,900	277,000
Internal Services	175,300	180,600	186,000	191,600	197,300	203,200	209,300	215,600	222,100	228,800	235,700
Utility Billing	229,600	236,700	244,000	251,600	259,400	267,400	275,700	284,300	293,100	302,200	311,600
Operations & Maintenance	1,307,300	1,347,800	1,389,600	1,432,700	1,477,100	1,522,900	1,570,100	1,618,800	1,669,000	1,720,800	1,774,200
Capital Outlay	644,600	663,900	683,800	704,300	725,400	747,200	769,600	792,700	816,500	841,000	866,200
Trans To/(From) Fund 840	(150,000)	(154,500)	(159,100)	(163,900)	(168,800)	(173,900)	(179,100)	(184,500)	(190,000)	(195,700)	(201,600)
Debt Service											
2016 Water Rev. Refund. Bonds	920,200	750,600	751,400	754,100	750,600	750,900	750,100	752,800	749,200	749,200	747,700
2017 SRF Recycled Water Loan	849,800	849,700	849,700	849,800	849,800	849,800	849,800	849,800	849,800	849,800	849,800
2021 SRF Recycled Water Loan			-	-	-	-	-	-	-	-	-
Capital Improvement Program											
Grant/Loan Funded Projects	1,200,000	-	-	-	-	-	-	-	-	-	-
Conn. Fee Funded Projects	585,000	-	-	-	-	-	-	-	-	-	-
Other Water System Projects	2,250,000	1,344,000	583,000	1,379,000	1,745,000	1,797,000	1,851,000	1,906,000	1,963,000	2,022,000	2,083,000
Total Expenses	10,263,200	7,537,800	6,917,000	7,859,500	8,370,000	8,574,800	8,785,100	9,004,800	9,225,100	9,456,000	9,692,700
Ending Balance	3,377,709	2,502,309	2,730,509	2,494,109	2,253,509	2,195,409	2,254,309	2,434,909	2,750,809	3,207,009	3,814,009
Minimum Oper. Reserve (25%)	1,152,000	1,187,000	1,223,000	1,260,000	1,298,000	1,338,000	1,378,000	1,420,000	1,463,000	1,508,000	1,553,000
Target for Capital Reserve		-	300,000	600,000	900,000	1,200,000	1,500,000	1,720,000	1,720,000	1,720,000	1,720,000
Water Conn. Fee Fund (822)	221,000	232,600	244,600	257,000	269,900	283,200	296,900	311,200	325,900	341,200	356,900
Available Balance	2,004,709	1,082,709	962,909	377,109	(214,391)	(625,791)	(920,591)	(1,016,291)	(758,091)	(362,191)	184,109
DS Coverage (1.20 min.)	1.16	1.29	1.51	1.71	1.94	2.09	2.19	2.30	2.43	2.55	2.68

Exhibit II-6
City of Ukiah
Water Utility Financial Plan Summary



SECTION III. WATER RATES

This section of the report presents information and analyses leading to the development of water rate recommendations for FY 20-21 through FY 24-25.

CURRENT WATER RATES

The City of Ukiah provides water service through more than 4,800 water service connections⁴. The City's current water rates were last adjusted in January 2020 with the last of five scheduled water rate adjustments. The adjustment at that time was 3 percent. The current water rates are summarized in **Exhibit III-1**. Current water rates include a monthly service charge based on meter size and a uniform water rate for all water usage. At present, about 53 percent of water rate revenue is generated from water usage charges and about 47 percent from fixed service charges.

Exhibit III-1
City of Ukiah
Current Water Rates

	Current (1)
Water Usage Rate (\$/CCF)	
All Water Usage	\$ 3.22
Monthly Service Charge	
3/4" meter	\$ 37.85
1" meter	\$ 60.78
1 1/2" meter	\$ 117.57
2" meter	\$ 186.02
3" meter	\$ 345.80
4" meter	\$ 574.03
6" meter	\$ 1,144.08

Notes:

(1) Effective January 1, 2020.

CUSTOMER ACCOUNT DATA AND WATER USE ESTIMATES

Water rate calculations are based on a number of factors related to the City's customer base. Factors include the number of customers, hydraulic capacity as indicated by meter size, and actual water usage. The City provides water service through more than 4,800 water service connections (customers). Residential customers (single family and multi-family) comprise about 98 percent of the customer accounts and about 85 percent of annual water usage. Non-residential customer accounts (commercial, irrigation, municipal) make up about 2 percent of the customer accounts with about 15 percent of annual water usage.

While there are extremes on both the low and high ends, average single family water usage is about 10 CCF per month (which, as previously explained, is about 250 gallons per day). Single family customers also exhibit a wide variation in water usage throughout the year. Water usage for multi-family dwellings is lower than for single family residences for

⁴ The term "customer" is generally used in this report to refer to a water service connection that provides water service to an individual parcel. In some cases, a parcel may be served by more than one service connection.

a variety of reasons including fewer people per household and limited landscape irrigation (or irrigation that is separately metered). Non-residential water usage can vary dramatically, and non-residential customers are served by meters of varying sizes to accommodate the differences in water demands.

Service connections with different meter sizes can place different demands on the water system. Much more water can be delivered through a 4" water meter than through a 1" meter. The size of the City's water treatment, storage, and distribution infrastructure has been designed to provide reliable service to the potential aggregate peak demands of the meters in the system. To relate the potential demands on the water system from customers with different sized water meters, hydraulic capacity factors are used to determine the number of equivalent meters represented by the total customer base with variable meter sizes. For purposes of rate analysis, ¾" meters are assigned a meter equivalency factor of 1.0. The ratios of instantaneous flow capacities of the various meter sizes to the capacity of a ¾" meter are used to determine the meter equivalencies for larger meter sizes. This capacity relationship across meter sizes is generally used to allocate capacity-related costs to various customers.

The foregoing customer account, capacity relationship, and water use data have been used in water rate analysis that is presented in the remainder of this section.

WATER RATE CALCULATIONS

There are three steps to determining water rates. These are:

- Determine annual water rate revenue requirements
- Analyze the cost of providing service to each customer class
- Design water rates to recover costs from each customer class.

Water Rate Revenue Requirements

The ten-year financial plan was used to identify the water rate revenue required to meet financial obligations for each fiscal year of the planning period. The water rate calculation presented herein is based on the revenue to be generated in FY 20-21 and reflects the proposed 3 percent overall water rate revenue increase that is needed to meet immediate ongoing operations, debt service and capital program needs. The projected annual revenue that will be produced by the water rates that are proposed to be implemented in October 2020 is \$6,330,000. The actual revenue reflected in the financial plan for FY 20-21 is \$6,283,000 from water rates. This latter amount is lower because the proposed rates would not go into effect until October 2020 (i.e., three months into the fiscal year).

Cost of Service Analysis

Once the annual water rate revenue requirement was determined using the financial plan model, the next step in the rate setting process was to evaluate the cost of providing service. Water rate calculations contained herein are intended to generate the level of revenue commensurate with the revenue requirement from the City's water service

customers. The manner in which each customer is responsible for the water utility's costs is the determining factor in the cost of service analysis.

The water utility incurs certain types of costs associated with making water service available to customers. Other costs are incurred as a direct result of customer water usage. A cost of service analysis is intended to allocate the costs of providing water service to customers in proportion to the extent to which each customer causes the costs to be incurred. There are many approaches to cost of service analysis; some are more complex than others. The approach used herein is commensurate with the available data, the distinctions currently made between various types of customers, and the requirement to fairly and reasonably reflect differences in service provisions to differently situated customers.

The cost allocation methodology used herein begins by assigning all costs to one of three categories. The cost allocation process is performed with data available in the City's budget and accounting documents. The three categories include:

- Customer costs, such as meter reading and billing, are fixed costs that tend to vary as a function of the number of customers being served. Customer costs are allocated to customers based on the number of accounts. That is, every customer will pay an equal share of customer-related costs. The water utility's utility billing costs are included in this cost category.
- Capacity costs are also fixed costs; however, these tend to vary in relation to the capacity of the water system and the ability to serve the demands of active customers. Customers that place greater or lesser burdens on the capacity of the water system should bear greater or lesser shares of these costs. The sizing of the water system is based on the potential demand that each customer could place on the water system. Capacity costs are allocated to customers based on the hydraulic capacity of the water meter. The hydraulic capacity factors reflect the ratio of the rated flow capacity of each meter size to the rated flow capacity of a ¾" meter. The hydraulic capacity reflects the potential demand that a customer could place on the water system at any given time. A customer with a large meter size will be assigned a large share of fixed capacity-related costs than one with a smaller meter. Capacity costs include costs associated with the water system's capacity including contributions to the capital program, debt service, administrative and internal service costs, and certain other fixed operating costs.
- Commodity costs are variable costs that vary with the amount of actual water use. Water treatment costs and energy costs are two typical examples. However, in an effort to encourage water conservation, some fixed costs are frequently included in commodity components such that a majority of costs are recovered on the basis of usage. Even though some commodity costs are fixed, rather than variable, it is reasonable to allocate these costs to customers on the basis of usage, rather than the capacity relationship expressed by meter size. This helps to achieve the City's water conservation objectives. Water system operations and maintenance costs, as well as salary and benefit costs have been allocated to the commodity component to be recovered water usage charges.

Based on a review of estimated costs for FY 20-21 for the water utility, customer costs are estimated to be about 3.7 percent of the annual water rate revenue requirement. Similarly, about 44.1 percent of the revenue requirement is allocated to the capacity cost category. This

leaves 52.1 percent of the revenue requirement allocated to commodity costs, to be recovered through water usage charges.

Water Rate Design

The third step in the rate setting process is the design of water rates to recover costs from each customer class and generate the revenue needed for the utility. The City's current water rates include both fixed monthly service charges and a uniform water usage rate. **Exhibit III-2** presents the calculation of monthly service charges and the uniform water usage rate for the water rates proposed for October 2020. The calculation of each of these is described below.

Service Charges - Service charges are intended to recover the customer and capacity costs identified through the cost of service analysis. Service charges apply to all customer water bills, regardless of the amount of water actually used. Customers that use no water during a month should still be required to pay the monthly service charge, as service is immediately available to them. In calculating service charges customer costs are allocated equally to all customers and capacity costs are allocated based on meter size in relation to the hydraulic capacity associated with the various meter sizes.

The proposed monthly service charge for a ¾" meter (typical for a single family home) is \$39.88. Service charges for larger meter sizes vary from \$63.87 to \$1,197.51, depending on meter sizes ranging from 1" to 6". All of these charges properly reflect an equal allocation of customer costs to all accounts regardless of meter size and the proportionate allocation of capacity costs to accounts based on meter size. The variation of service charges through meter sizes reflects the fact that a relatively small portion of water system costs are directly related to the number of customers served. A majority of fixed capacity costs are allocated on a capacity basis as reflected by the meter size. The changes to the service charges across the range of meter sizes reflects the cost of providing service to customers of varying meter sizes, consistent with Constitutional requirements for proportionality in the allocation of costs.

Water Usage Rates - The current water rates include a uniform usage rate for all customer classes. This rate structure is administratively simple and is an equitable means to allocate water commodity costs for a utility that has a single source of water (groundwater).

The proposed water usage rate for October 2020, based on the cost of service analysis performed in this study, is \$3.26 per CCF. This was calculated simply by dividing the commodity costs of \$3,300,200 (52.1% of the total rate revenue requirement of \$6,330,000) divided by estimated annual water usage of 1,014,000 CCF.

Exhibit III-2
City of Ukiah
Water Rate Calculations for FY 20-21

	Meter Size							Total	Ann. Water Usage (CCF)
	3/4"	1"	1 1/2"	2"	3"	4"	6"		
Customer Account Data									
No. of Wtr. Serv. Accts.	4,270	267	143	111	30	17	4	4,842	1,014,000
No. of 3/4" Mtr. Equiv.	4,270	446	476	592	300	283	133	6,500	
Hydraulic Capac. Factor	1.00	1.67	3.33	5.33	10.00	16.67	33.33		
Monthly Service Charges									
Customer Cost	\$ 4.07	\$ 4.07	\$ 4.07	\$ 4.07	\$ 4.07	\$ 4.07	\$ 4.07		
Capacity Cost	\$ 35.81	\$ 59.80	\$ 119.24	\$ 190.85	\$ 358.07	\$ 596.90	\$ 1,193.44		
Water Serv. Charge	\$ 39.88	\$ 63.87	\$ 123.31	\$ 194.92	\$ 362.14	\$ 600.97	\$ 1,197.51		Annual Revenue
Wtr. Serv. Charge Rev.	\$ 2,043,451	\$ 204,639	\$ 211,600	\$ 259,633	\$ 130,370	\$ 122,598	\$ 57,480		\$ 3,029,800
Annual Water Rate Revenue Requirement					Water Usage Rate				
Customer Cost	\$	236,700	3.7%			Wtr. Use	Wtr. Rate	Annual	
Capacity Cost	\$	2,793,100	44.1%			(CCF)	(\$/CCF)	Revenue	
Commodity Cost	\$	3,300,200	52.1%			Annual Water Usage	1,014,000	\$ 3.26	\$ 3,300,570
Total Water Rate Rev. Rqmt. (1)	\$	6,330,000							

Notes:

(1) Revenue requirement assumes the rates would be in effect for a full 12 months.

PROPOSED WATER RATE SCHEDULES

Exhibit III-3 summarizes proposed water rate schedules to be effective in October 2020, with subsequent annual adjustment each July through 2024. As described in Section II of this report, the overall water rate revenue increases are equivalent to 3 percent in October 2020, followed by 7 percent each July from 2021 through 2023, and 5 percent in July 2024. No rate structure changes are proposed beyond those reflected in the rates for October 2020. The proposed water rates reflect the cost of providing water service to customers and will provide additional revenue essential to continuing to provide water service.

As a result of the cost of service analysis and rate structure realignment included in the rates for October 2020, not all water bills will increase by 3 percent. Some water bills will increase more than 3 percent and others less than 3 percent. As an example, the water bills for a typical single family customer (using 10 CCF) will increase from \$70.05 to \$72.43, or about 3.4 percent, in October 2020. The exact change in any particular bill will depend on a customer's meter size and water usage. In all cases, the proposed water rates reflect a proportionate allocation of the costs of providing service, based on capacity requirements and service demands.

Exhibit III-3
City of Ukiah
Current and Proposed Water Rates

	Current (1)	Oct. 2020	July 2021	July 2022	July 2023	July 2024
Water Usage Rate (\$/CCF)						
All Water Usage	\$ 3.22	\$ 3.26	\$ 3.48	\$ 3.72	\$ 3.98	\$ 4.18
Monthly Service Charge						
3/4" meter	\$ 37.85	\$ 39.88	\$ 42.67	\$ 45.66	\$ 48.86	\$ 51.30
1" meter	\$ 60.78	\$ 63.87	\$ 68.34	\$ 73.12	\$ 78.24	\$ 82.15
1 1/2" meter	\$ 117.57	\$ 123.31	\$ 131.94	\$ 141.18	\$ 151.06	\$ 158.61
2" meter	\$ 186.02	\$ 194.92	\$ 208.56	\$ 223.16	\$ 238.78	\$ 250.72
3" meter	\$ 345.80	\$ 362.14	\$ 387.49	\$ 414.61	\$ 443.63	\$ 465.81
4" meter	\$ 574.03	\$ 600.97	\$ 643.04	\$ 688.05	\$ 736.21	\$ 773.02
6" meter	\$ 1,144.08	\$ 1,197.51	\$ 1,281.34	\$ 1,371.03	\$ 1,467.00	\$ 1,540.35

Notes:

(1) Effective January 1, 2020.

ADOPTING PROPOSED WATER RATES

In order to adopt the both the proposed water rates for the next five years the City will need to follow the requirements contained in Article XIII D of the California Constitution (Proposition 218). This includes a Notice of Public Hearing to be mailed to all affected property owners and customers at least 45 days prior to a public hearing.