

Water Revenue Sufficiency Analysis and Rate Study



Town of Telluride, Colorado

Project No. 111076

Final Report
11/8/2018

Water Revenue Sufficiency Analysis and Rate Study

prepared for

Town of Telluride, Colorado

Project No. 111076

**Final Report
11/8/2018**

prepared by

**Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri**

COPYRIGHT © 2018 BURNS & McDONNELL ENGINEERING COMPANY, INC.

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 INTRODUCTION	1-1
1.1 Study Background.....	1-1
1.2 Project Approach	1-1
2.0 FINANCIAL PLANNING ANALYSIS	2-1
2.1 Water Utility Revenues under Existing Rates	2-1
2.1.1 Historical and Projected Customers.....	2-1
2.1.2 Historical and Projected Volumes	2-2
2.1.3 Existing Water Rates.....	2-2
2.1.4 User Revenues under Existing Rates	2-3
2.2 Water Utility Expenditures	2-4
2.2.1 O&M Expenses.....	2-4
2.2.2 Projected Capital Improvement Expenditures	2-4
2.2.3 Projected Debt Service Requirements	2-7
2.3 Water Utility Financial Planning Scenarios.....	2-7
2.3.1 Alternative 1: Pay-As-You-Go	2-8
2.3.2 Alternative 2: 2020 \$2.5M Debt Issue.....	2-11
2.4 Considerations for Each Alternative.....	2-14
3.0 PROPOSED RATE DESIGN.....	3-1
3.1 Approach.....	3-1
3.2 Proposed 2019 Water Rates	3-1
3.3 Typical Bills and Regional Comparison.....	3-1

LIST OF TABLES

	<u>Page No.</u>
Table 2-1: Historical and Projected Accounts and Volume.....	2-2
Table 2-2: Existing Water Rates.....	2-3
Table 2-3: Historical and Projected Water User Revenues	2-3
Table 2-4: Historical and Projected Operation and Maintenance Expenses.....	2-5
Table 2-5: Capital Improvement Program	2-6
Table 2-6: Existing Debt Service.....	2-7
Table 2-7: Scenario Summary	2-8
Table 2-8: Cashflow Planning Scenario Alternative 1	2-9
Table 2-9: Cashflow Planning Scenario Alternative 2	2-13
Table 2-10: Advantages and Disadvantages of Alternatives	2-14
Table 3-1: Proposed 2019 Water Rates	3-1
Table 3-2: Typical Water Bills under Existing 2018 and Proposed 2019 Rates	3-2

LIST OF FIGURES

	<u>Page No.</u>
Figure 2-1: Comparison of Capital Improvement Funding by Alternative.....	2-12
Figure 3-1: Regional Residential Monthly Water Bill Comparison	3-2

LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
AWWA	American Water Works Association
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
BABs	Build America Bonds
CIP	Capital Improvement Program
COPs	Certificates of Participation
FY	Fiscal Year
Kgal	One Thousand Gallons
O&M	Operation and Maintenance
The Town	The Town of Telluride

1.0 INTRODUCTION

1.1 Study Background

The Town of Telluride, Colorado (the Town) retained Burns & McDonnell to perform a revenue sufficiency and rate analysis (the Study) for the Town's water system. The Study provides a five-year financial plan that evaluates the sufficiency of revenues under existing rates to meet future operating and capital costs of the utility. If revenues are insufficient to meet funding requirements, recommendations are made to increase rates sufficiently to meet the utility's revenue requirements. Such rate increases are applied to existing rates to determine a financial plan and rate path for the utility to move forward.

1.2 Project Approach

To meet the project objectives identified by the Town, Burns & McDonnell prepared a Financial Planning Analysis. Financial Planning provides an indication of the adequacy of the revenue generated by current rates. The results of the financial forecast analysis answer the questions "Are the existing rates adequate?" and "If not, what level of overall revenue increase is needed?" The Financial Planning Analysis is presented in Section 2.0 of this report. Two financial planning scenarios have been prepared for the Town's consideration, with the primary difference regarding the funding strategy for capital improvements.

Both scenarios contemplate rate increases to meet future requirements, and the proposed increase for 2019 is the same in each scenario. The proposed 2019 rate increase has been applied to the Town's existing water rates to develop 2019 water rates. A comparison of regional typical water bills has also been prepared. Section 3.0 of this report details the findings associated with Rate Design.

2.0 FINANCIAL PLANNING ANALYSIS

The primary issue addressed in Financial Planning Analysis is revenue sufficiency. The results of Financial Planning Analysis answer the questions:

- "Are the existing rates adequate to meet future funding needs?"
- "If not, what level of overall revenue increase is needed?"

To determine if the existing schedule of rates can be expected to generate sufficient revenues to meet the Town's operating and capital costs, Burns & McDonnell prepared a five-year financial projection of revenues and expenditures for the utility. A comparison of projected revenues and expenditures provides insight into the adequacy of overall revenue levels.

Our approach to Financial Planning involves the following basic steps:

1. Project revenues under existing rates.
2. Project utility expenditures.
3. Develop a five-year financial plan, including the budget year and a five-year forecast period.
4. Evaluate financial sufficiency based on key performance indicators such as reserve balances.

The planning period includes the current fiscal year (FY) 2018 and a five-year forecast period, FY 2019 – FY 2023. The Town utilizes a twelve-month fiscal year beginning January 1 and ending December 31. The Financial Plan Analysis recognizes and references the same fiscal year in the five-year forecast period.

The remainder of this section of the report discusses how the water utility financial plan was developed and identifies the sufficiency of existing rates to adequately meet future costs under two scenarios.

2.1 Water Utility Revenues under Existing Rates

The first step in Financial Planning Analysis was to project revenues under the existing schedule of rates. To complete this effort required an analysis of customer billing determinants and revenues.

2.1.1 Historical and Projected Customers

Table 2-1 presents the historical water customers served by the Town from 2015 to 2017 and the projection of customers for the 2018 to 2023 planning period. In recent years, Telluride has experienced slight growth in number of accounts. The projection of accounts reflects input from Town staff regarding anticipated growth, amounting to a range of 5 to 9 additional accounts a year primarily in the In-Town

Residential class. The overall growth in accounts amounts to about 0.5 percent per year from 2018 through 2023.

2.1.2 Historical and Projected Volumes

Table 2-1 also presents the historical and projected billed water volume. Future volumes show a slight increase in water sales caused by the impact of modest account growth. Underlying use per account is anticipated to remain consistent with recent historical levels.

Table 2-1: Historical and Projected Accounts and Volume

Line No.		Historical			Projected					
		2015	2016	2017	2018	2019	2020	2021	2022	2023
	Accounts									
1	Residential	1,044	1,065	1,082	1,087	1,092	1,097	1,102	1,108	1,114
2	Commercial	393	398	394	394	396	397	398	399	400
3	Construction Discount	20	15	15	15	15	15	15	15	15
4	Residential - Out of Town	5	5	5	5	5	5	5	5	5
5	Commercial - Out of Town	32	33	33	33	34	35	36	36	36
6	Commercial - Hillside	11	11	11	11	11	11	11	11	11
7	Hillside	60	59	59	59	59	59	59	59	59
8	Lawson	148	146	147	147	148	149	150	150	151
9	Aldasoro	-	-	-	-	-	-	-	-	-
10	Total Accounts	1,713	1,732	1,746	1,751	1,760	1,768	1,776	1,783	1,791
	Billed Volume (1,000 Gallons)									
11	Residential	40,912	42,218	42,983	43,180	43,380	43,580	43,780	44,020	44,250
12	Commercial	51,559	58,337	57,540	57,540	57,830	57,980	58,120	58,270	58,420
13	Construction Discount	-	-	-	-	-	-	-	-	-
14	Residential - Out of Town	386	349	290	290	290	290	290	290	290
15	Commercial - Out of Town	3,193	3,571	3,659	3,660	3,770	3,880	3,990	3,990	3,990
16	Commercial - Hillside	1,828	1,946	1,946	1,950	1,950	1,950	1,950	1,950	1,950
17	Hillside	2,128	2,097	2,169	2,170	2,170	2,170	2,170	2,170	2,170
18	Lawson	6,669	5,390	5,560	5,560	5,600	5,640	5,670	5,670	5,710
19	Aldasoro	-	-	-	-	-	-	-	-	-
20	Total Billed Volume	106,675	113,908	114,147	114,350	114,990	115,490	115,970	116,360	116,780

2.1.3 Existing Water Rates

The current water rate schedule implemented in 2018 is shown in Table 2-2 and features a fixed bi-monthly base fee and a minimum usage allowance that varies according to class and meter size. A conservation-oriented inclining block rate structure is in effect for billed volumes that exceed the minimum usage allowance.

For the In-Town Residential class, multiple inclining blocks may be applicable depending on water consumed. The base fee includes up to 8 thousand gallons (kgal). Usage between 8 and 12 kgal is charged \$5.72 per thousand gallons, while usage between 12 and 15 kgal is charged \$6.49 per thousand gallons. Rates for volumes exceeding 15 kgal in the billing period start at \$7.26 per thousand gallons and increase by \$0.77 for each additional 5 kgal. Charges for usage in excess of 100 kgal are \$19.59 per kgal.

Table 2-2: Existing Water Rates

<i>In-Town Rates</i>					<i>In-Town Rates</i>				
Rate Class	Meter Size	Water Bi-Monthly Base Fee	Usage Block per 1,000 Gallons	Charge per 1,000 Gallons	Rate Class	Meter Size	Water Bi-Monthly Base Fee	Usage Block per 1,000 Gallons	Charge per 1,000 Gallons
Residential - In Town		\$ 59.26	0 - 8	\$ -	Commercial	1"	\$ 130.32	0 - 16	\$ -
			8 - 12	\$ 5.72				16 - 33	\$ 4.63
Residential - In Town Size & Deed Restricted	\$ 38.54	12 - 15	\$ 6.49	>33				\$ 6.16	
			15 - 100	\$7.26 + \$0.77 per 5,000 gal	Commercial	1.5"	\$ 302.84	0 - 32	\$ -
			>100	\$ 19.59				32 - 64	\$ 4.63
EMT & Firefighter	\$ -	0 - 8	\$ -					>64	\$ 6.16
			8 - 12	\$ 5.72	Commercial	2"	\$ 504.81	0 - 48	\$ -
			12 - 15	\$ 6.49				48 - 150	\$ 4.63
			15 - 100	\$7.26 + \$0.77 per 5,000 gal				>150	\$ 6.16
			>100	\$ 19.59	Commercial	3"	\$ 798.34	0 - 72	\$ -
Commercial 5/8"	\$ 80.76	0 - 8	\$ -					72 - 160	\$ 4.63
			8 - 30	\$ 4.63				>160	\$ 6.16
			>30	\$ 6.16	Commercial	4"	\$ 1,064.47	0 - 96	\$ -
Commercial 3/4"	\$ 91.78	0 - 12	\$ -					96 - 310	\$ 4.63
			12 - 33	\$ 4.63				>310	\$ 6.16
			>33	\$ 6.16					

In Town Residential Base Fees vary depending on whether the account is related to a size and deed restricted parcel. Volumetric fees are the same for all In Town Residential customers.

Out-of-Town Rates: All Out-of-Town customers will be charged rates of one hundred and twenty-five percent (125%) of the In-Town rates.

Out-of-Town Debt Support Surcharge: In addition, unless otherwise required by an ordinance or contract authorizing water service, or pre-existing annexation agreement, to Out-of-Town users there shall be imposed upon each Out-of-Town customer an annual service rate surcharge of One Hundred Ninety and 50/100 Dollars (\$190.50) payable in six equal bi-monthly installments.

2.1.4 User Revenues under Existing Rates

Table 2-3 presents historical user revenues for 2015 to 2017 and a projection of user revenues under existing rates for the 2018 to 2023 planning period. The projection of user revenues was estimated based on the forecasted accounts and estimated volumes factored by the existing schedule of water rates.

Historical water user revenues ranged from \$930,096 in 2015 to \$1,109,923 in 2017. Forecasted user revenues reflect the growth in customers and volume levels previously presented. Overall, water user revenues under existing 2018 rates are projected to increase from \$1,112,100 in 2018 to \$1,136,800 in 2023.

Table 2-3: Historical and Projected Water User Revenues

Line No.	Historical			Projected					
	2015	2016	2017	2018	2019	2020	2021	2022	2023
User Charge Revenues under Existing Rates									
1 Residential	\$ 390,211	\$ 431,758	\$ 474,834	\$ 477,000	\$ 479,200	\$ 481,400	\$ 483,600	\$ 486,200	\$ 488,900
2 Commercial	404,855	452,963	477,576	477,600	480,000	481,200	482,400	483,600	484,800
3 Construction Discount	547	806	545	500	500	500	500	500	500
4 Residential - Out of Town	4,065	4,022	4,399	4,400	4,400	4,400	4,400	4,400	4,400
5 Commercial - Out of Town	33,611	40,461	43,490	43,500	44,800	46,100	47,400	47,400	47,400
6 Commercial - Hillside	14,518	16,453	17,520	17,500	17,500	17,500	17,500	17,500	17,500
7 Hillside	24,656	26,155	28,193	28,200	28,200	28,200	28,200	28,200	28,200
8 Lawson	57,634	59,731	63,366	63,400	63,800	64,200	64,700	64,700	65,100
9 Total UC Revenues	\$ 930,096	\$ 1,032,349	\$ 1,109,923	\$ 1,112,100	\$ 1,118,400	\$ 1,123,500	\$ 1,128,700	\$ 1,132,500	\$ 1,136,800

2.2 Water Utility Expenditures

The Water Utility's primary expenditures include the following operating and capital costs:

- Operation and Maintenance (O&M) Expenses
- Capital Improvement Program (CIP) Expenditures
- Debt Service Principal and Interest Payments

2.2.1 O&M Expenses

Table 2-4 presents the recent historical and projected water system O&M expenses through the 2023 planning period. The water O&M expenses include the costs of Water Plant Expenditures, Water System Expenses, and Other Operating Expenses. Expenses summarized on Table 2-4 reflect operating costs associated with the Water Utility. As such, all costs related to major capital projects are excluded from Table 2-4 and will be discussed later in this report.

O&M costs for 2018 were provided by Town staff and reflect end of year projections. O&M costs for 2019 reflect the preliminary budget request prepared by Town staff. Projected O&M expenses are escalated from the requested 2019 budget amounts based on annual inflationary assumptions below.

- Salaries, wages and benefits – 4 percent
- General fund transfer – 4 percent
- All other inflation – 3 percent, except:
 - Water Rights Legal/Engineering – 0 percent
 - Insurance – 0 percent
 - Emergency repairs – 0 percent

Additionally, Mill Creek Audit expenditures shown on Line 12 of Table 2-4 are expected to amount to \$8,000 in 2020 and 2022. Excluding the intermittent Mill Creek Audit expenditures, O&M costs are projected to increase 3.1 percent to 3.3 percent per year from FY 2020 through FY 2023.

2.2.2 Projected Capital Improvement Expenditures

Table 2-5 shows the projected capital improvement expenditures identified by Town personnel for the 2018 to 2023 planning period. Overall, the total CIP amounts to \$7,863,600 in current dollars. With inflation, assumed to be 3 percent per year on all projects scheduled after 2019, the total CIP amounts to \$8,279,300.

Table 2-4: Historical and Projected Operation and Maintenance Expenses

Line No.	Historical			Budgeted	Projected						
	2015	2016	2017	2018	2019	2020	2021	2022	2023		
Water Plant Expenditures											
1	[1]	Salaries, Wages, & Benefits	138,660	141,042	150,918	167,040	166,775	173,400	180,300	187,300	194,600
2	51-40-241	Chemicals	9,177	20,511	25,422	20,000	20,000	20,600	21,200	21,800	22,500
3	51-40-247	Water Testing	10,424	5,783	8,410	11,250	12,500	12,900	13,300	13,700	14,100
4	51-40-248	Equipment Replacement	1,809	8,656	20,007	15,000	10,000	10,300	10,600	10,900	11,200
5	51-40-252	Water Meters	10,367	6,267	25,912	21,448	-	-	-	-	-
6	51-40-253	Commercial Meter Repairs	11,375	4,736	659	6,000	10,000	10,300	10,600	10,900	11,200
7	51-40-270	Utilities	44,566	38,023	40,668	60,000	60,000	61,800	63,700	65,600	67,600
8	51-40-310	Water Rights Legal/Engineer	36,980	49,045	960	30,000	40,000	40,000	40,000	40,000	40,000
9	51-40-315	Prof/Technical Services	5,392	8,952	22,901	42,070	20,000	20,600	21,200	21,800	22,500
10	51-40-490	Fuel	3,502	1,804	2,261	3,700	4,000	4,100	4,200	4,300	4,400
11		Pandora System O&M	-	-	-	-	-	-	-	-	-
12		Mill Creek O&M Audits	-	-	-	-	-	8,000	-	8,000	-
13	[2]	All Other	25,401	24,060	14,379	76,835	110,385	112,800	115,400	118,000	120,700
14		Total Water Plant Expenses	297,654	308,880	312,497	453,343	453,660	474,800	480,500	502,300	508,800
			2.2%	3.8%	1.2%	45.1%	0.1%	4.7%	1.2%	4.5%	
Water System Expenses											
15	51-50-248	System O&M	15,000	14,640	23,367	20,000	20,000	20,600	21,200	21,800	22,500
16	51-50-250	Operating Supplies	4,510	1,898	947	2,000	3,000	3,100	3,200	3,300	3,400
17	51-20-252	Water Meter Conversion	-	-	-	-	30,000	30,900	31,800	32,800	33,800
18	51-50-254	Equipment Rental	-	-	-	1,000	1,500	1,500	1,500	1,500	1,500
19	51-50-263	Sidewalk Repair	107	-	-	1,000	1,000	1,000	1,000	1,000	1,000
20	51-50-266	Radio Repairs	577	509	-	500	500	500	500	500	500
21	51-50-267	Vehicle Maint & Repair	12,846	560	254	5,000	8,800	9,100	9,400	9,700	10,000
22		Utilities	9,922	17,600	11,849	13,100	13,100	13,500	13,900	14,300	14,700
23	51-50-270	Emergency Repairs	-	5,665	3,108	20,000	20,000	20,000	20,000	20,000	20,000
24	51-50-271	Prof Services	2,209	941	9,084	5,500	5,500	5,700	5,900	6,100	6,300
25	51-50-750	System Improvements	-	-	-	-	-	-	-	-	-
26	51-50-755	WATERLINE PROJECT	-	-	-	-	-	-	-	-	-
25		Total Water System Expenses [3]	45,172	41,812	48,609	68,100	103,400	105,900	108,400	111,000	113,700
			-41.7%	-7.4%	16.3%	40.1%	51.8%	2.4%	2.4%	2.4%	
Other Operating Expenses											
27	51-55-910	Transfer to Gen Fund - Admin	407,524	416,877	452,366	252,935	287,398	298,900	310,900	323,300	336,200
28	51-91-200	Legal Fees/Blue Lake Easement	50,489	53,267	55,127	50,000	28,000	28,000	30,000	30,000	30,000
29	51-55-930	County Treasurer Fees	12,264	14,080	12,127	14,000	14,000	14,700	15,000	15,400	15,700
30		Total Other Operating Expenses [4]	470,277	484,224	519,619	316,935	329,398	341,600	355,900	368,700	381,900
			-3.0%	3.0%	7.3%	-39.0%	3.9%	3.7%	4.2%	3.6%	
31		Total Water Operating Expenses	813,100	834,900	880,700	838,400	886,500	922,300	944,800	982,000	1,004,400
			-4.7%	2.7%	5.5%	-4.8%	5.7%	4.0%	2.4%	3.9%	2.3%

Notes

[1] Includes accounts 51-40-110 to -139, and budgeted amounts for 51-95-100 and -105.

[2] Includes accounts 51-40-210, 240, 243-246, 249, 254-267, 280, 330-460, & 621. Account 758 (Fleet Replacement) is included in capital improvement program.

[3] Excludes accounts 51-50-271 (Emergency Repairs) and 750 (System Improvements); they are included in the capital improvement program.

[4] Excludes accounts 51-55-780, 804, and 812; they are included in the capital flow of funds and debt service schedule.

Table 2-5: Capital Improvement Program

Line No.	Budgeted Projects	Projected					Total	
		2018	2019	2020	2021	2022		2023
1	51-91-310 PANDORA PLANT IMPROVEMENTS	5,500	5,000	3,000	3,000	3,000	3,000	22,500
2	51-91-320 STILLWELL IMPROVEMENTS	-	-	230,000	-	3,000	-	233,000
3	51-91-330 MILLCREEK IMPROVEMENTS	15,000	15,000	225,000	225,000	35,000	-	515,000
4	51-91-500 SYSTEM IMPROVEMENTS	10,000	40,000	750,000	750,000	750,000	250,000	2,550,000
5	51-91-600 CORNET CREEK IMPROVEMENTS	-	-	-	-	-	-	-
6	51-91-700 BRIDAL VEIL BASIN	1,350,000	400,000	100,000	-	-	-	1,850,000
7	51-91-750 BRIDAL VEIL BASIN COST SHARE	-	-	576,154	756,923	680,000	680,000	2,693,077
8	Total Budgeted Projects	1,380,500	460,000	1,884,200	1,734,900	1,471,000	933,000	7,863,600
9	Total Inflated Projects [1]	1,380,500	460,000	1,940,700	1,840,600	1,607,400	1,050,100	8,279,300
10	Percentage of CIP to be funded through User Charges	17%	100%	90%	90%	90%	100%	
11	CIP To Be Funded through user charges	230,500	460,000	1,746,600	1,656,500	1,446,700	1,050,100	6,590,400
12	CIP To Be Funded through Town Transfers	1,150,000	-	194,100	184,100	160,700	-	1,688,900
13	Total CIP	1,380,500	460,000	1,940,700	1,840,600	1,607,400	1,050,100	8,279,300

[1] CIP inflated at 3% per year for projects after 2019

It is assumed that most of the CIP will be funded through user revenues following the enterprise fund concept. However, a portion is assumed to be funded through transfers from other Town Funds. In 2018, a \$1,150,000 transfer from the Town Capital Fund is anticipated. In addition, as shown on Line 10 of Table 2-5, a 10 percent contribution from the Town is estimated during the peak years of the CIP from 2020 through 2022. Doing so will help mitigate the impact to rate increases but still funds the majority of capital projects from the water enterprise fund.

2.2.3 Projected Debt Service Requirements

Table 2-6 presents the existing service requirements for the Water Utility. The Water Utility issued debt to initiate the Pandora water treatment plant design and construction in 2010. A portion of these general obligation bonds were issued as Build America Bonds (BABs). BABs are designed to reduce the cost of borrowing through a federal government subsidy that lowers the effective cost of interest payments. The BABs issued by the Town are Direct Payment BABs, meaning the subsidy is remitted directly to the Town in an amount equivalent to about 35 percent of the annual interest paid. This subsidy represents a revenue stream available to the Water Utility of approximately \$119,300 in 2018. The amount of reimbursement associated with the BABs will decline over time as interest payments reduce. The use of the BAB subsidy income stream will be discussed later in this report.

In addition to the BAB's, the Town also has outstanding Certificates of Participation (COP's) that were issued in 2013.

Table 2-6: Existing Debt Service

Line No.		Projected					
		2018	2019	2020	2021	2022	2023
	Existing Debt Issues						
1	2013 COP	408,400	408,800	408,800	408,400	407,600	411,100
2	2010B BAB	806,700	799,900	796,800	787,100	781,300	773,500
3	Gross Debt Service	1,215,100	1,208,700	1,205,600	1,195,500	1,188,900	1,184,600
4	2010B BAB Subsidy	(119,300)	(117,200)	(110,900)	(104,000)	(96,700)	(88,700)
5	Net Debt Service	\$ 1,095,800	\$ 1,091,500	\$ 1,094,700	\$ 1,091,500	\$ 1,092,200	\$ 1,095,900

2.3 Water Utility Financial Planning Scenarios

In collaboration with Town staff, two financial planning scenarios have been developed to meet the funding requirements of the Water Utility for 2019 through 2023. These scenarios compare the revenues and expenses forecasted previously in this report to assess the sufficiency of revenues under existing rates to meet the utility's cash obligations. The primary difference in the scenarios is the approach to funding the capital plan. Alternative 1 assumes the capital plan is funded without the use of additional debt (i.e.

pay as you go) while Alternative 2 assumes a \$2.5 million debt issue occurs in 2020. A summary of some key scenario assumptions is shown in Table 2-7.

Table 2-7: Scenario Summary

Scenario	1	2
Capital Funding Strategy	Pay-As-You-Go	2020 \$2.5M Debt Issue
Total CIP (FY2018-FY2023)		
Total CIP Funded by Water Utility	\$ 6,590,400	\$ 6,590,400
Total CIP Funded by Town Transfer	<u>\$ 1,688,900</u>	<u>\$ 1,688,900</u>
Total Inflated CIP	\$ 8,279,300	\$ 8,279,300
Debt Issuance		
2020	\$ -	<u>\$ 2,500,000</u>
Total	\$ -	\$ 2,500,000
Water Utility Revenue Increases		
2019	30.00%	30.00%
2020	65.50%	8.25%
2021	0.00%	8.25%
2022	0.00%	8.25%
2023	0.00%	8.25%

Each scenario is discussed further in the sections below.

2.3.1 Alternative 1: Pay-As-You-Go

Alternative 1 is based upon a pay-as-you-go approach to funding capital improvements. Under this approach, no additional debt is anticipated to be issued from 2018 through 2023. After 2018, the CIP is fully funded through cash made available by user charges, except for the 10 percent contribution anticipated to come from the Town in 2020, 2021, and 2022. Table 2-8 shows the cashflow for Alternative 1.

Table 2-8: Alternative 1 Cash Flow

Line No.	Projected						
	2018	2019	2020	2021	2022	2023	
Water Utility Operating Flow of Funds							
1	Revenue Under Existing Rates	1,112,100	1,118,400	1,123,500	1,128,700	1,132,500	1,136,800
<u>Proposed Revenue Adjustments</u>							
	<u>Year</u>	<u>Month</u>	<u>Increase</u>				
2	2019	1	30.00%	335,500	337,100	338,600	339,800
3	2020	1	65.50%	956,700	961,100	964,400	968,000
4	2021	1	0.00%	-	-	-	-
5	2022	1	0.00%	-	-	-	-
6	2023	1	0.00%	-	-	-	-
7	Total Proposed Additional Revenue	-	335,500	1,293,800	1,299,700	1,304,200	1,309,000
8	Total Water User Charge Revenue	1,112,100	1,453,900	2,417,300	2,428,400	2,436,700	2,445,800
9	Other Water Fund Revenue	50,324	63,600	63,600	63,600	63,600	63,600
10	Pandora Plant Mill Levy	606,700	619,900	638,300	650,100	665,800	679,500
11	Miscellaneous Revenue	166,324	164,200	157,900	151,000	143,700	135,700
12	Grand Total Water Revenue	1,935,448	2,301,600	3,277,100	3,293,100	3,309,800	3,324,600
<u>Revenue Requirements</u>							
13	Operation and Maintenance Expense	838,400	886,500	922,300	944,800	982,000	1,004,400
Debt Service							
14	Existing Debt	1,215,100	1,208,700	1,205,600	1,195,500	1,188,900	1,184,600
15	Debt Reserve Fund Contribution	(200,000)	(180,000)	(158,500)	(137,000)	(115,500)	(94,000)
16	Proposed Debt	-	-	-	-	-	-
17	Total Debt Service	1,015,100	1,028,700	1,047,100	1,058,500	1,073,400	1,090,600
18	Transfers to Capital	119,324	117,200	110,900	104,000	96,700	88,700
19	Other	-	-	-	-	-	-
20	Total Revenue Requirements	1,972,824	2,032,400	2,080,300	2,107,300	2,152,100	2,183,700
21	Annual Operating Balance	(37,376)	269,200	1,196,800	1,185,800	1,157,700	1,140,900
Water Utility Capital Flow of Funds							
Sources							
22	Tap Fees	350,000	350,000	350,000	350,000	350,000	350,000
23	Transfer from Town Capital Fund	1,150,000	-	194,100	184,100	160,700	-
24	Transfer from Operations	119,324	117,200	110,900	104,000	96,700	88,700
25	Anticipated Grants	-	-	-	-	-	-
26	Debt Issuance (C.O.P.)	-	-	-	-	-	-
27	Total Capital Sources	1,619,324	467,200	655,000	638,100	607,400	438,700
Uses							
28	CIP - User Charge Funded	230,500	460,000	1,746,600	1,656,500	1,446,700	1,050,100
29	CIP - Other Funding Sources	1,150,000	-	194,100	184,100	160,700	-
30	Bond Issuance Expense	-	-	-	-	-	-
31	Total Capital Uses	1,380,500	460,000	1,940,700	1,840,600	1,607,400	1,050,100
32	Annual Capital Balance	238,824	7,200	(1,285,700)	(1,202,500)	(1,000,000)	(611,400)
Consolidated Cash Flow Results							
33	Total Revenues	3,435,448	2,651,600	3,821,200	3,827,200	3,820,500	3,674,600
34	Total Expenses	3,234,000	2,375,200	3,910,100	3,843,900	3,662,800	3,145,100
35	Annual Balance	201,448	276,400	(88,900)	(16,700)	157,700	529,500
36	Beginning Balance	72,706	274,154	550,554	461,654	444,954	602,654
37	Annual Balance	201,448	276,400	(88,900)	(16,700)	157,700	529,500
38	Ending Balance	274,154	550,554	461,654	444,954	602,654	1,132,154
39	Minimum Operating Balance [1]	406,700	418,600	427,400	433,000	442,100	447,700

[1] Based on 90 days operation and maintenance expense & allowance of \$200k for capital reserve.

Line 1 of Table 2-8 shows user revenues under existing rates, shown previously on Line 9 of Table 2-3. Lines 2 through 7 present the proposed revenue increases needed to finance the Town's operating and capital costs for the planning period. A 30.0 percent increase is projected for 2019, followed by a 65.5 percent increase in 2020. No additional increases are anticipated from 2021 through 2023. Other revenues are shown on Lines 9 through 11. Other Water Fund Revenue on Line 9 includes revenues from meter sales, material sales, water specific ownership tax, interest on taxes, and the out of town surcharge. Based on the preliminary 2019 budget, Other Water Fund Revenues are projected to remain constant during the study period at \$63,600 per year.

The Pandora Plant Mill Levy shown on Line 10 represents tax revenues assessed to partially recover the cost of the 2010B debt service payment. The Mill Levy works in conjunction with a transfer from a reserve to cover the cost of the 2010B debt payment. The reserve was established with funds collected from the Mill Levy prior to the initial 2010B debt payment and at its peak amounted to approximately \$2.45 million. The annual Mill Levy is forecasted to increase about 2 percent annually as a result of a gradual reduction in the reserve transfer, as the reserve fund is depleted. Line 11 presents Miscellaneous Revenue, the majority represented by the BABs interest rate rebate which the utility records as a revenue stream. The level of rebate diminishes over time as interest payments decline. Line 12 shows the total operating revenues forecasted over the study period. Including proposed revenue adjustments, total Water Utility operating revenues are projected to range from \$1.94 million in 2018 to \$3.32 million in 2023.

Operating revenue requirements are shown on Lines 13 through 19 of Table 2-8 and include O&M expenses, debt service payments, and transfers to capital. O&M expenses, identified previously on Line 31 of Table 2-4, are shown on Line 13 of Table 2-8. Debt Service for the existing, outstanding bonds is shown on Line 14 of Table 2-8, consistent with the total debt shown previously on Line 3 of Table 2-6. The reserve fund contribution related to the Pandora Mill Levy is shown on Line 15. No additional debt is anticipated to be issued in Alternative 1.

The BAB interest rebate is used to assist in funding of capital projects. This amount is shown in the operating flow of funds as a revenue requirement on Line 18 and is shown on Line 24 as a source of funds for the capital improvement program.

Total revenue requirements are summarized on Line 20. This amount is deducted from Line 12 operating revenues to determine the annual operating balance.

Capital sources and uses of funds are shown on Lines 22 through 32 of Table 2-8. Sources include tap fees, transfers from the Town Capital Fund, transfers from utility operations, available grants and

additional debt. Tap fees are shown on Line 22 and are expected to be \$350,000 per year. The transfer from the Town Capital Fund includes a \$1,150,000 transfer in 2018, and is followed by smaller transfers in 2020, 2021 and 2022 reflecting the 10 percent Town contribution, shown previously on Line 12 of Table 2-5. The transfer from operations is the 2010B BAB interest rebate for use in funding capital projects. Uses of capital funds includes the CIP program and bond issuance expense, when applicable.

The Town manages the cash flow of the utility, for both operating and capital purposes, in a consolidated manner. Consistent with the financial management of the utility, total operating and capital revenues are aggregated for each year of the Study period and are summarized on Line 33 of Table 2-8. These revenues are compared to the total costs which are summarized on Line 34. The total annual balance for the Water Utility is represented on Line 35. Negative annual balances will draw down the utility's cash reserve, while positive annual balances will contribute to the reserve balance.

The beginning balance available to the Water Utility in 2018 is shown on Line 36 and amounted to \$72,706 in available cash. In 2018, the annual balance is added to the beginning balance to project an estimated year-end balance of \$274,154 shown on Line 38 of Table 2-8. This balance then carries forward to the next fiscal year to be combined with the annual balance to determine that year's ending balance.

As a matter of sound financial planning, the Town strives to provide an ending balance equal to at least 90 days (or approximately 25 percent) of each year's O&M plus a \$200,000 capital reserve. The targeted minimum balance was developed to provide working capital liquidity and an emergency reserve to provide some protection against unforeseen events. This amount is shown on Line 39, and increases over time due to inflation on O&M. In 2018, the reserve balance is expected to fall below the minimum target. The recommended revenue increases shown on Lines 2 and 3 are needed to maintain a positive ending balance in 2019 and 2020 that achieves the minimum target level. As the CIP spending begins to decline later in the study period, the ending balance shown on Line 38 increases.

2.3.2 Alternative 2: 2020 \$2.5M Debt Issue

Alternative 2 differs in the approach to funding the CIP by assuming a \$2.5 million debt issue in 2020. Figure 2-1 compares the CIP funding between the two alternatives. Both alternatives are funding a total CIP of \$8,279,300. Both rely on the same level of contributions from the Town Capital Fund. Under Alternative 1, the remainder of the CIP (79.6 percent) is funded solely from water revenues. Under Alternative 2, about 30 percent of the CIP from 2018-2023 is funded by the \$2.5 million debt issue in 2020, while 49.4 percent is funded from utility revenues.

Figure 2-1: Comparison of Capital Improvement Funding by Alternative

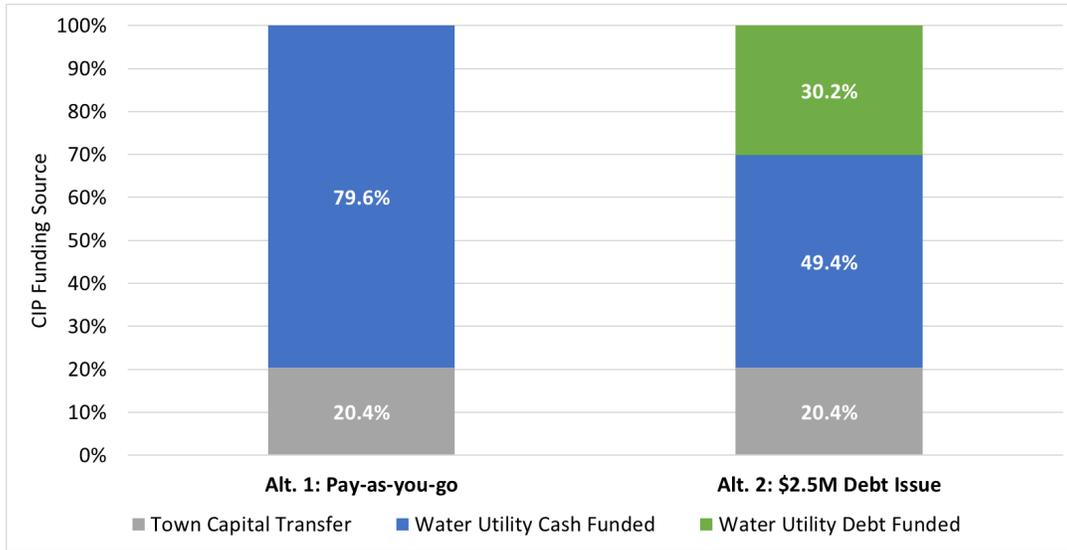


Table 2-9 shows the cashflow for Alternative 2. Many of the assumptions are identical to Alternative 1. Discussion below will focus on the key differences specific to Alternative 2.

Lines 2 through 7 of Table 2-9 present the proposed revenue increases needed to finance the Town’s operating and capital costs for the planning period. As in Alternative 1, a 30 percent increase is proposed for 2019. However, increases in 2020 through 2023 are shown to be 8.25 percent per year on Lines 3 through 6. Compared to Alternative 1, lower increases are possible in Alternative 2 due to the use of debt as a part of the capital funding strategy.

Operating revenue requirements are shown on Lines 13 through 19. Line 16 shows the new debt payment associated with the proposed debt issue in 2020. Terms are assumed to include a 20-year maturity, 4.5 percent annual interest, and 2.0 percent issuance expenses. Using these terms, payments on the \$2.5 million issue are estimated to be \$190,900 per year starting in 2021. These payments reflect an equal annual payment structure and are estimated solely for the purpose of depicting future revenue requirements to support evaluating the sufficiency of revenues under future rates. The actual structure and terms of future debt may vary based on the recommendations of the Town’s Municipal or Financial Advisor and conditions existing at the time of issuance.

Capital sources and uses of funds are shown on Lines 22 through 32 of Table 2-9. Sources include tap fees, transfers from the Town Capital Fund, transfers from utility operations, available grants and additional debt. Line 26 shows the \$2.5 million debt issue assumed to occur in 2020. Line 30 shows the issuance expense associated with the debt issue.

Table 2-9: Alternative 2 Cash Flow

Line No.	Projected						
	2018	2019	2020	2021	2022	2023	
Water Utility Operating Flow of Funds							
1	Revenue Under Existing Rates	1,112,100	1,118,400	1,123,500	1,128,700	1,132,500	1,136,800
<u>Proposed Revenue Adjustments</u>							
	<u>Year</u>	<u>Month</u>	<u>Increase</u>				
2	2019	1	30.00%	335,500	337,100	338,600	339,800
3	2020	1	8.25%	120,500	121,100	121,500	121,900
4	2021	1	8.25%		131,000	131,500	132,000
5	2022	1	8.25%			142,300	142,900
6	2023	1	8.25%				154,700
7	Total Proposed Additional Revenue	-	335,500	457,600	590,700	735,100	892,500
8	Total Water User Charge Revenue	1,112,100	1,453,900	1,581,100	1,719,400	1,867,600	2,029,300
9	Other Water Fund Revenue	50,324	63,600	63,600	63,600	63,600	63,600
10	Pandora Plant Mill Levy	606,700	619,900	638,300	650,100	665,800	679,500
11	Miscellaneous Revenue	166,324	164,200	157,900	151,000	143,700	135,700
12	Grand Total Water Revenue	1,935,448	2,301,600	2,440,900	2,584,100	2,740,700	2,908,100
<u>Revenue Requirements</u>							
13	Operation and Maintenance Expense	838,400	886,500	914,300	952,800	974,000	1,012,400
Debt Service							
14	Existing Debt	1,215,100	1,208,700	1,205,600	1,195,500	1,188,900	1,184,600
15	Debt Reserve Fund Contribution	(200,000)	(180,000)	(158,500)	(137,000)	(115,500)	(94,000)
16	Proposed Debt	-	-	-	190,900	190,900	190,900
17	Total Debt Service	1,015,100	1,028,700	1,047,100	1,249,400	1,264,300	1,281,500
18	Transfers to Capital	119,324	117,200	110,900	104,000	96,700	88,700
19	Other	-	-	-	-	-	-
20	Total Revenue Requirements	1,972,824	2,032,400	2,072,300	2,306,200	2,335,000	2,382,600
21	Annual Operating Balance	(37,376)	269,200	368,600	277,900	405,700	525,500
Water Utility Capital Flow of Funds							
Sources							
22	Tap Fees	350,000	350,000	350,000	350,000	350,000	350,000
23	Transfer from Town Capital Fund	1,150,000	-	194,100	184,100	160,700	-
24	Transfer from Operations	119,324	117,200	110,900	104,000	96,700	88,700
25	Anticipated Grants	-	-	-	-	-	-
26	Debt Issuance (C.O.P.)	-	-	2,500,000	-	-	-
27	Total Capital Sources	1,619,324	467,200	3,155,000	638,100	607,400	438,700
Uses							
28	CIP - User Charge Funded	230,500	460,000	1,746,600	1,656,500	1,446,700	1,050,100
29	CIP - Other Funding Sources	1,150,000	-	194,100	184,100	160,700	-
30	Bond Issuance Expense	-	-	50,000	-	-	-
31	Total Capital Uses	1,380,500	460,000	1,990,700	1,840,600	1,607,400	1,050,100
32	Annual Capital Balance	238,824	7,200	1,164,300	(1,202,500)	(1,000,000)	(611,400)
Consolidated Cash Flow Results							
33	Total Revenues	3,435,448	2,651,600	5,485,000	3,118,200	3,251,400	3,258,100
34	Total Expenses	3,234,000	2,375,200	3,952,100	4,042,800	3,845,700	3,344,000
35	Annual Balance	201,448	276,400	1,532,900	(924,600)	(594,300)	(85,900)
36	Beginning Balance	72,706	274,154	550,554	2,083,454	1,158,854	564,554
37	Annual Balance	201,448	276,400	1,532,900	(924,600)	(594,300)	(85,900)
38	Ending Balance	274,154	550,554	2,083,454	1,158,854	564,554	478,654
39	Minimum Operating Balance [1]	406,700	418,600	425,400	434,900	440,200	449,600

[1] Based on 90 days operation and maintenance expense & allowance of \$200k for capital reserve.

Consolidated revenues, expenses, and balances for the water utility are shown on Lines 22 through 39 of Table 2-9. The targeted reserve balance shown on Line 39 is identical under both Alternatives. As can be seen on Line 38, the ending balance is anticipated to meet or exceed the minimum target in each year starting in 2019. Balances peak in 2020 due to the proposed debt issuance and then gradually draw down toward the minimum target by 2023.

2.4 Considerations for Each Alternative

Table 2-10 summarizes relative advantages and disadvantages of the funding alternatives presented in this report. Alternative 1 avoids the issuance of new debt but leads to higher rate increases needed to sufficiently generate cash to fund the CIP. Using a 100 percent pay-as-you-go approach will impact today's ratepayer the most, as it requires them to pay for assets that will likely last decades. While the proposed rate increase in 2020 is substantially higher than the increases necessary in Alternative 2, no further rate action is anticipated through 2023.

Alternative 2 requires relatively lower rate adjustments and from that perspective is more affordable, as it spreads the cost of the debt-funded assets over a longer term. Doing so does increase the total cost to the utility due to issuance and interest expenses, but this tradeoff is deemed acceptable by many water utilities to mitigate rate impacts on today's customers. Further rate increases will be necessary in 2021 through 2023.

Table 2-10: Advantages and Disadvantages of Alternatives

Alternative 1: Pay-as-you-go	
Advantages	Disadvantages
No new debt issuance	Higher rate increases overall
Higher reserves achieved by 2023	Requires today's ratepayer to fund assets that will likely last 20-30 years or more
No rate increases 2021-2023	
Alternative 2: \$2.5 Million Debt Issue	
Advantages	Disadvantages
Lower rate increases overall	Issuance and interest expenses of new debt
Spreads the cost of the capital improvements out over the life of the asset, reducing cost on today's ratepayer	Annual rate increases
	Risk of higher interest rates in 2020

Both alternatives propose a 30 percent rate increase for 2019. For immediate planning and budgetary needs, Burns & McDonnell recommends implementing the proposed 30 percent adjustment effective January 1, 2019. The decision to pursue a longer-term pay-as-you-go strategy or to issue additional debt is one that can be decided during 2019, for implementation in 2020. The alternatives discussed herein depict potential paths forward, but the strategy does not necessarily have to be fully determined in 2018.

3.0 PROPOSED RATE DESIGN

3.1 Approach

For the purpose of this Study, the water rate structure currently in place for the Town will not change in 2019, and proposed 2019 rates will increase proportionately based on the proposed 30 percent system adjustment reflected in both Alternatives 1 and 2.

3.2 Proposed 2019 Water Rates

Table 3-1 shows the proposed In-Town water rates. Out-of-Town water rates are 125 percent of In-Town rates. Additionally, certain Out-of-Town areas include a debt service surcharge as an additional component of their base fee which does not change as a result of this Study.

Table 3-1: Proposed 2019 Water Rates

<i>In-Town Rates</i>					<i>In-Town Rates</i>				
Rate Class	Meter Size	Water Bi-Monthly Base Fee	Usage Block per 1,000 Gallons	Charge per 1,000 Gallons	Rate Class	Meter Size	Water Bi-Monthly Base Fee	Usage Block per 1,000 Gallons	Charge per 1,000 Gallons
Residential - In Town		\$ 77.04	0 - 8	\$ -	Commercial	1"	\$ 169.42	0 - 16	\$ -
			8 - 12	\$ 7.44				16 - 33	\$ 6.02
Residential - In Town		\$ 50.10	12 - 15	\$ 8.44				>30	\$ 8.01
Size & Deed Restricted			15 - 100	\$9.44 + \$1.00 per 5,000 gal	Commercial	1.5"	\$ 393.69	0 - 32	\$ -
			>100	\$ 25.47				32 - 64	\$ 6.02
								>64	\$ 8.01
EMT & Firefighter		\$ -	0 - 8	\$ -	Commercial	2"	\$ 656.25	0 - 48	\$ -
			8 - 12	\$ 7.44				48 - 150	\$ 6.02
			12 - 15	\$ 8.44				>150	\$ 8.01
			15 - 100	\$9.44 + \$1.00 per 5,000 gal					
			>100	\$ 25.47	Commercial	3"	\$ 1,037.84	0 - 72	\$ -
Commercial	5/8"	\$ 104.99	0 - 8	\$ -				72 - 160	\$ 6.02
			8 - 30	\$ 6.02				>160	\$ 8.01
			>30	\$ 8.01	Commercial	4"	\$ 1,383.81	0 - 96	\$ -
Commercial	3/4"	\$ 119.31	0 - 12	\$ -				96 - 310	\$ 6.02
			12 - 33	\$ 6.02				>310	\$ 8.01
			>33	\$ 8.01					

In Town Residential Base Fees vary depending on whether the account is related to a size and deed restricted parcel. Volumetric fees are the same for all In Town Residential customers.

Out-of-Town Rates: All Out-of-Town customers will be charged rates of one hundred and twenty-five percent (125%) of the In-Town rates.

Out-of-Town Debt Support Surcharge: In addition, unless otherwise required by an ordinance or contract authorizing water service, or pre-existing annexation agreement, to Out-of-Town users there shall be imposed upon each Out-of-Town customer an annual service rate surcharge of One Hundred Ninety and 50/100 Dollars (\$190.50) payable in six equal bi-monthly installments.

3.3 Typical Bills and Regional Comparison

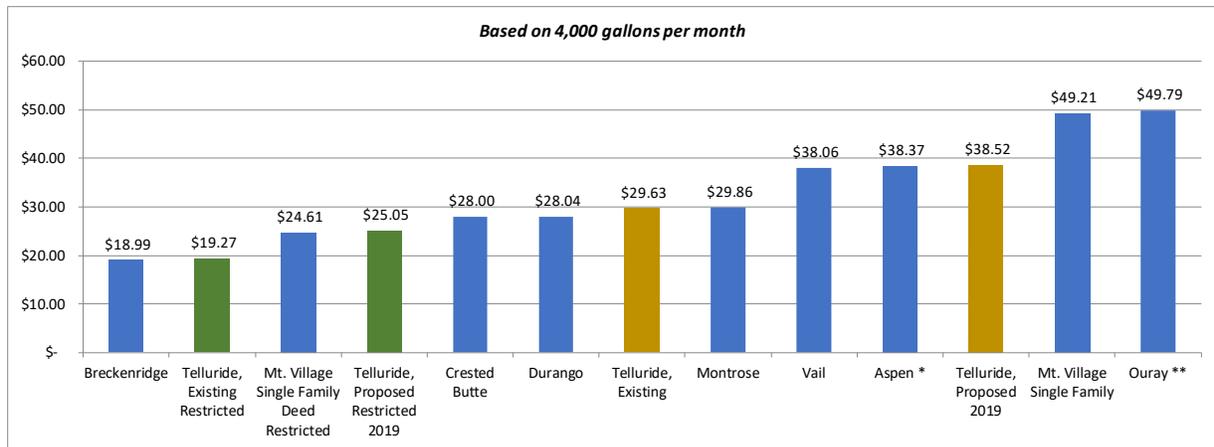
A comparison of typical monthly water bills under existing and proposed rates is shown in Table 3-2. Typical bills are calculated for various Residential and Commercial customer profiles. As shown in Table 3-2, the monthly water bill for an average residential customer will increase \$8.89 per month, while deed and size restricted monthly bills are anticipated to increase \$5.78 per month.

Table 3-2: Typical Water Bills under Existing 2018 and Proposed 2019 Rates

Line No.	Description	Billable Flow Mgal	Monthly Bill		Proposed Increase / (Decrease)		
			Under Existing Rates \$	Under Proposed Rates \$	\$	%	
Residential In Town							
1	Deed and Sq Ft Restricted	1.5	\$ 19.27	\$ 25.05	\$ 5.78	30.0%	
2	Average	3.0	\$ 29.63	\$ 38.52	\$ 8.89	30.0%	
3	High	6.0	\$ 41.07	\$ 53.39	\$ 12.32	30.0%	
Commercial 5/8" In Town							
4	Low	3.0	\$ 40.38	\$ 52.49	\$ 12.11	30.0%	
5	Medium	5.5	\$ 47.33	\$ 61.52	\$ 14.20	30.0%	
6	High	10.0	\$ 68.16	\$ 88.61	\$ 20.45	30.0%	
7	Average Commercial 2" In Town	38.0	\$ 317.23	\$ 412.39	\$ 95.17	30.0%	
8	Average Commercial 4" In Town	54.5	\$ 562.33	\$ 731.03	\$ 168.70	30.0%	

A comparison of monthly Residential typical bills from other regional water utilities was also completed for this Study and is shown in Figure 3-1.

Figure 3-1: Regional Residential Monthly Water Bill Comparison



* Reflects average of 7 billing areas
 * Includes 50% of water/sewer service fee per single family dwelling



CREATE AMAZING.

Burns & McDonnell World Headquarters
9400 Ward Parkway
Kansas City, MO 64114
O 816-333-9400
F 816-333-3690
www.burnsmcd.com