



FORT COLLINS- LOVELAND WATER DISTRICT

Water Financial Planning and Rate Study Report

March 16, 2018



March 16, 2018

Board of Directors
Fort Collins-Loveland Water District
5150 Snead Drive
Fort Collins, CO 80525

Subject: Water Financial Planning and Rate Study Report

Dear Board of Directors,

Raftelis is pleased to provide this Water Financial Planning and Rate Study (Study) report to the Fort Collins-Loveland Water District (the District). The primary goals of the Study were to determine the amount of rate revenue required from all customers during the study period and the related annual revenue increases, calculate cost to serve each customer class, and to develop rates and tap fees.

This report summarizes Raftelis' key findings and discusses the methodologies that we used to conduct the study. It is our understanding that the District Board of Directors (Board) will not, at this time, take action to consider the rate structure changes discussed in this report. Instead, the Board has chosen to consider an interim step (not reflected in this report) consisting of the implementation of a 4.0% across-the-board increase in rates coupled with an increase in tap fees to be effective in May 2018.

It has been a pleasure working with you and District staff. Thank you for the support you provided during this study.

Sincerely,

RAFTELIS

A handwritten signature in blue ink that reads 'Richard D. Giardina'.

Richard D. Giardina
Executive Vice President

A handwritten signature in blue ink that reads 'John J. Wright'.

John J. Wright
Manager

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1 EXECUTIVE SUMMARY

1.1 DISTRICT BACKGROUND

Fort Collins-Loveland Water District (the District) is located roughly 60 miles north of Denver. The District was formed in 1961. It serves an area of approximately 60 square miles, with boundaries that range from south of Harmony Road to 57th Street in Loveland and then east from the foothills to the Larimer-Weld County line. The District serve more than 17,000 customers who reside in parts of Fort Collins, Loveland, Timnath, Windsor, and Larimer County.

The District owns water rights from a variety of sources, including shares from the North Poudre Irrigation Company, Colorado-Big Thompson (C-BT), the Josh Ames Divide Canal and Reservoir Company, and the Windsor Reservoir Company. It is also a participant in the Northern Integrated Supply Project (NISP). NISP is a \$746 million proposed water storage and distribution project that will supply fifteen Northern Front Range water utilities with 40,000 acre-feet of additional water supplies. The District will receive an additional 3,000 acre feet of water supplies from its participation in NISP. These supplies are necessary to help meet the long-term water demands projected to be created by continuing growth the District's service territory.

The District is also a member of the "Tri-Districts", a group of three water districts, which includes North Weld County Water District and East Larimer County Water District. In October 2016, the Tri-Districts re-established their relationship and under the Soldier Canyon Water Treatment Authority to develop and manage water treatment facilities to the benefit of the three water districts. Specifically, the Soldier Canyon Water Treatment Authority manages the Soldier Canyon Filter Plant, which provides the districts with water treatment and filtration services.

1.2 STUDY OVERVIEW

In May 2017, the District engaged Raftelis Financial Consultants, Inc. (Raftelis) to conduct a Water Financial Planning and Rate Study (Study). The Study includes:

- Ñ A financial plan for the period 2018 - 2030.
- Ñ A cost of service study that determines the revenue required from each customer class.
- Ñ The development of water rate structures that reflect each customer class's cost of service (COS) and District-determined pricing objectives.
- Ñ The development of tap fees (also known as plant investment fees) and associated assessment schedules/methodologies.

Calendar year of 2018 was considered the "test year" for purposes of the COS Study, while the complete "study period" extends through 2030. This report summarizes the key findings and recommendations for each of these main objectives.

1.3 FINANCIAL PLAN

The District must make very large capital improvement plan (CIP) expenditures during the 2018 - 2030 planning horizon. As shown in Table 1, these CIP expenditures total \$258.8 million when expressed in 2017 dollars. After the application of annual construction cost inflation of 3%, the CIP totals \$320.8 million. Approximately \$70.8 million (22.1%) of these inflated costs are associated with the District's estimated share of NISP costs. Another \$44.2 million (13.8%) are associated with the District's participation in the construction of new regional water treatment facility with several NISP partners. See Appendix A for a detail of CIP expenditures.

Table 1: Projected CIP Expenditures 2018 - 2030 (\$ millions)

Type of Expenditure	Uninflated	Inflated
Growth-Related CIP Expenditures		
Raw Water	\$77.7	\$96.1
Source of Supply	67.1	80.3
Treatment	59.9	77.6
Pumps	0.1	0.1
Transmission Mains	28.4	36.8
Distribution Mains	0.0	0.0
Meters	0.0	0.0
Total Growth-Related CIP	233.2	290.9
Non-Growth CIP Expenditures	25.7	29.9
Total CIP Expenditures	\$258.8	\$320.8

The key objective of the financial planning process is to determine a CIP financing strategy that will maintain District financial integrity while successfully funding all required capital expenditures. Table 2 presents a summary of the CIP financing strategy as determined via the financial planning process. It features annual rate revenue increases of 4% coupled with \$185 million in proposed revenue bond issues. Due to space limitations, the years 2028 - 2030 have been omitted. The detailed financial plan can be found in Appendix A to this report.

Table 2: Summary of Financial Plan CIP Financing Strategy

Metric	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Overall Rate Revenue Increase	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Cumulative Revenue Increase	4.0%	8.2%	12.5%	17.0%	21.7%	26.5%	31.6%	36.9%	42.3%	48.0%
Proposed Bond Issues (\$ Million)			\$40.0		\$40.0		\$35.0		\$35.0	
Ending Cash (\$ millions)	\$33.7	\$25.1	\$47.1	\$35.6	\$60.9	\$53.3	\$79.1	\$50.4	\$67.2	\$57.4
Debt Service Coverage Ratio Including Tap Fees	7.73	7.99	3.52	3.59	2.40	2.48	2.22	2.28	1.86	1.93
Debt Service Coverage Ratio Excluding Tap Fees	1.80	1.92	0.89	0.93	0.66	0.70	0.66	0.70	0.59	0.63
Target Debt Service Coverage Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

A natural outcome of the financial planning process is the determination of the amount of rate revenues that must be collected from customers during each year of the planning horizon (the revenue requirement from rates). Table 3 shows this projection. Due to space limitations, the years 2028 - 2030 have been omitted.

Table 3: Revenue Requirement from Rates (\$ millions)

Metric	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
O&M Expenses	\$9.8	\$10.1	\$10.4	\$10.8	\$11.2	\$11.6	\$12.0	\$12.4	\$12.9	\$13.3	\$13.8
CIP Expenditures	10.7	17.4	22.0	26.1	23.3	21.3	18.1	16.4	39.3	24.3	19.6
Debt Service	1.9	1.9	1.9	4.5	4.6	7.1	7.1	8.3	8.3	10.6	10.6
Net Surplus/ (Deficit)	(1.6)	(4.4)	(8.5)	(14.6)	(11.5)	(11.4)	(7.5)	(6.3)	(28.7)	(15.2)	(9.8)
Gross Revenue Requirement	20.8	25.0	25.8	26.8	27.6	28.7	29.7	30.8	31.8	33.0	34.2
Less: Misc. Operating Revenues	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Less: Misc. Non-Operating Revenues	1.4	1.6	1.6	1.7	1.6	1.8	1.7	1.9	1.7	1.8	1.8
Less: Tap Fees	8.0	11.5	11.7	11.9	12.2	12.4	12.6	12.9	13.2	13.4	13.7
Net Revenue Requirement	\$10.4	\$10.9	\$11.5	\$12.1	\$12.8	\$13.5	\$14.3	\$15.0	\$15.9	\$16.8	\$17.7

1.4 COST OF SERVICE STUDY

Having established the total amount of rate revenues that must be recovered to sustain the District's operations, a cost of service study must be conducted to determine how much revenue must be recovered from different types of customers based on their unique demand characteristics. Table 4 presents the results of the study for the 2018 test year. As shown in Table 4, residential and irrigation customers are currently paying less than their calculated COS. In contrast, commercial and multi-unit residential customers are currently paying more than their calculated COS.

There are several reasons a misalignment between revenue recovery and COS can occur. The District's current rate structure charges the same volumetric rates per tier for each customer class. This approach to revenue recovery does not account for the differences in class COS as determined by the unique consumption characteristics of each class. Another reason may be that the District has not implemented the results of a COS study for a significant period. As a result, a misalignment may occur between revenue recovery and the actual cost of providing service due to changes in customer class water consumption characteristics or changes in the composition of the overall District-wide revenue requirement.

A detail of the cost of service study can be found in Appendix B to this report.

Table 4: Cost of Service Study Results for 2018 Test Year

Customer Class	Revenue Under Existing Rates	Test Year Cost of Service	Required Change in Revenue	
Customers at FCLWD Rates				
Residential	\$6,519,867	\$7,049,071	\$529,203	8.12%
Commercial	1,164,573	1,055,957	(108,616)	-9.33%
Irrigation	912,392	1,149,120	236,728	25.95%
Multi-Unit Residential	445,798	130,666	(315,132)	-70.69%
Total at FCLWD Rates	9,042,631	9,384,814	342,183	3.78%
Customers at City Rates				
Residential	922,399	1,010,390	87,991	9.54%
Commercial	93,319	80,165	(13,154)	-14.10%
Irrigation	275,984	388,297	112,313	40.70%
Multi-Unit Residential	185,528	76,990	(108,539)	-58.50%
Total at City Rates	1,477,231	1,555,885	78,653	5.32%
Total System	\$10,519,862	\$10,940,699	\$420,836	4.00%

1.5 RATE DESIGN

The key step in the rate study process is the identification of rate structures that recover the estimated cost of service for each customer class. The District currently recovers costs from customers using a monthly service charge that varies by meter size and a 3-TIER volumetric rate structure that applies to all types of customers. Table 5, shows the District's current rate structure.

Table 5: Existing 2017 Rate Structure

Charge/ Rate	Customers Located within the District	Customers Located within the City of Fort Collins
Monthly Service Charge		
5/8" and 3/4"	\$13.40	\$13.40
1"	19.53	19.53
1.5"	34.70	34.70
2"	53.00	53.00
3"	101.80	101.80
4"	203.60	203.60
Multi-Unit Residential Service Charge per Unit	13.40	13.40
Volumetric Rate per 1,000 Gallons (All Customer Types)		
1,000 - 8,000 Gallons	\$1.56	\$2.73
8,000 - 15,000 Gallons	2.21	3.57
Greater than 15,000 Gallons	2.97	4.40

Table 6 shows the rate design calculated by Raftelis which includes the key components listed below. Details of the rate design can be found in Appendix C to this report.

-) Maintenance of the existing monthly service charge structure based on meter size.
-) Modification of the current residential consumption TIERS so that TIER 3 starts at 22,000 gallons of monthly consumption instead of 15,000 gallons.
-) Replacement of the existing 3-TIER rate structure for non-residential customers with a customer class-specific uniform volumetric rate.
-) Begin having multi-unit residential customers pay a monthly service charge based on the meter size serving each account rather than paying a monthly service charge based on the number of units in each multi-unit residential account.

Table 6: Calculated 2018 Rate Structure

Charge/Rate	Customers Located within the District	Customers Located within the City of Fort Collins
Monthly Service Charge (All Customers)		
5/8" and 3/4"	\$13.95	\$13.95
1"	20.33	20.33
1.5"	36.12	36.12
2"	55.17	55.17
3"	105.96	105.96
4"	211.94	211.94
Residential Volumetric Rate per 1,000 gallons		
1,000 to 8,000	\$1.80	\$3.07
8,000 to 22,000	2.55	4.02
Greater than 22,000	3.42	4.95
Non-Residential Volume Rate per 1,000 gallons		
Commercial (1)	\$2.20 + \$0.50 surcharge = \$2.70	\$3.64 + \$0.50 surcharge = \$4.14
Irrigation (1)	3.73 + 0.50 surcharge = 4.23	6.18 + 0.50 surcharge = 6.68
Multi-Unit Residential (2)	\$1.56	\$2.73
<p>(1) These rates reflect the three-year phase-in of a Water Resource Surcharge of \$1.50 per thousand gallons. The derivation of this Surcharge is discussed fully in Section 5.4 of this report.</p> <p>(2) The calculated cost of service rates for multi-unit residential customers are \$1.21 per thousand gallons for customers located within the District and \$2.03 per thousand gallons for customers located outside the District. As directed by District Staff, the volumetric rates for these customers will remain at their existing TIER 1 levels of \$1.56 per thousand gallons and \$2.73 per thousand gallons, respectively.</p>		

1.6 TAP FEES

1.6.1 Residential Tap Fees

The District's current tap fee for a residential customer with a 3/4" meter size consists of a \$7,000 infrastructure component and a \$25,000 water resources cost component. This results in a total tap fee of \$32,000 before the consideration of meter installation costs. Raftelis recommends that the District increase the infrastructure component to \$10,869 and the water resource cost component to

\$27,200. This results in a total tap fee of \$38,069 before the consideration of other factors such as meter costs.

In addition to updating the cost inputs used in the calculation of residential tap fee, Raftelis also recommends that the water resources cost component of the residential tap fees be scaled based on gross lot size. This will allow the tap fees charged by the District to reflect the fact that small lot residential dwellings impose lower water demands and lower water resource costs on the District's system. Correspondingly, it will allow the tap fees charged by the District to reflect the fact that large lot residential dwellings impose higher water demands and correspondingly higher water resource costs. Table 7 shows the tap fee assessment schedule for residential customers based on the scaling recommended by District Staff.

Sections 5.2 and 5.3 of this report discuss the calculation of residential tap fees. A detail of the calculation of the infrastructure component of the tap fee is provided in Appendix D.

Table 7: Residential Tap Fees (excluding meter costs)

Lot Square Footage Range	Required C-BT Units	Annual Allotment (Gallons)	Water Cost	Infrastructure Cost	Total Tap Fee	Existing Tap Fee	\$ Difference
<= 6,000	0.524	85,366	\$14,252	\$10,869	\$25,121	\$32,000	(\$6,879)
6,001-7,000	0.762	124,161	20,728	10,869	31,597	32,000	(403)
7,001-8,000	0.803	130,795	21,836	10,869	32,705	32,000	705
8,001-9,000	0.888	144,623	24,144	10,869	35,014	32,000	3,014
9,001-10,000	1.015	165,405	27,614	10,869	38,483	32,000	6,483
10,001-11,000	1.078	175,672	29,328	10,869	40,197	32,000	8,197
11,001-12,000	1.145	186,587	31,150	10,869	42,019	32,000	10,019
>12,000	1.776	289,338	48,304	10,869	59,173	32,000	27,173

1.6.2 Non-Residential Tap Fees (Commercial and Irrigation)

As discussed in Section 5.4 of this report, Raftelis calculated commercial and residential tap fees based on actual 2016 water demand data. The resulting tap fees were significantly higher than the District's existing tap fees. At the direction of the Board, Raftelis also calculated commercial and irrigation tap fees based on the assumption that, similar to residential tap fees, a new commercial or irrigation connection with a 3/4" meter size would use 1.0 C-BT units. Table 8 shows the resulting assessment schedule for non-residential tap fees.

Table 8: Non-Residential Tap Fees - 1.0 C-BT Unit for 3/4" Meter (excludes meter costs)

Meter Size	Design GPM	Design GPM Ratio	Infrastructure Component	Total C-BT Units	Water Cost	Total Tap Fee	Existing Tap Fee	\$ Difference
3/4"	10	1	\$10,869	1.00	\$27,200	\$38,069	\$32,000	\$6,069
1"	25	2.5	27,173	2.50	68,000	95,173	80,000	15,173
1 1/2"	50	5	54,346	5.00	136,000	190,346	160,000	30,346
2"	80	8	86,953	8.00	217,600	304,553	256,000	48,553
3"	175	17.5	190,211	17.50	476,000	666,211	560,000	106,211
4"	300	30	326,075	30.00	816,000	1,142,075	962,000	180,075
6"	625	62.5	\$679,324	62.50	\$1,700,000	\$2,379,324	\$2,000,000	\$379,324

1.7 WATER RESOURCE SURCHARGE FOR COMMERCIAL AND IRRIGATION CUSTOMERS

The tap fees shown in Table 8 do not fully recover the cost of the water resources required to serve commercial and irrigation customers. Based on discussions with the District Board, Raftelis calculated a water resource cost surcharge of \$1.49 per thousand gallons to be assessed on all commercial and irrigation usage in lieu of tap fees based on actual non-residential customer demand characteristics. This surcharge could be implemented in equal installments over a 3-year period. Thus, in 2018, the water resource surcharge would be \$0.50 per thousand gallons. A full discussion of the water resource surcharge is provided in Section 5.4 of this report.

2 FINANCIAL PLAN

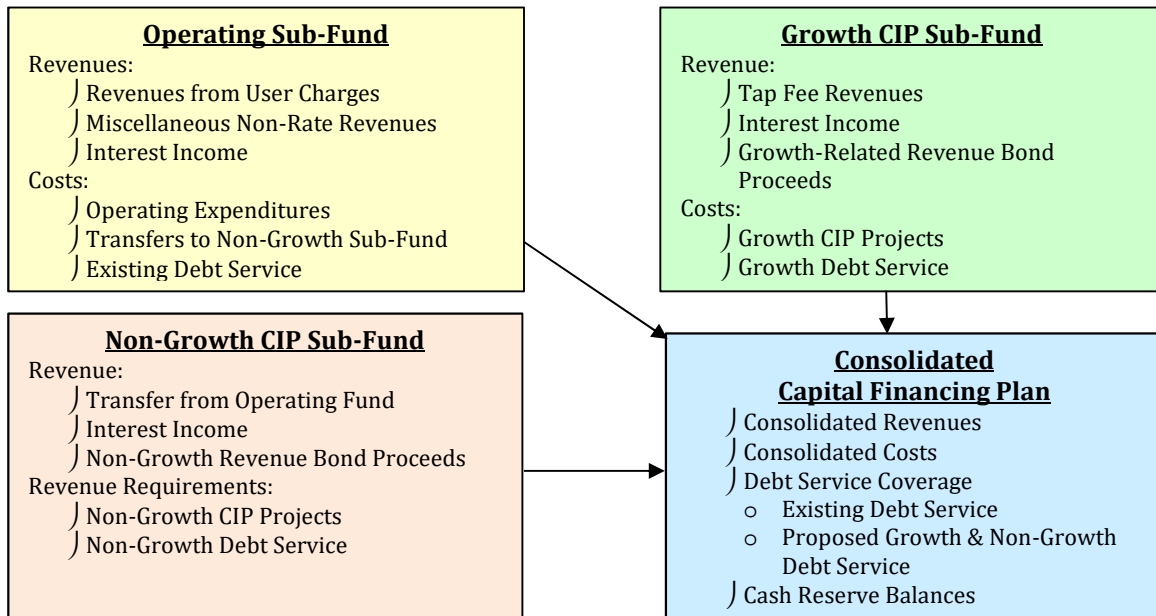
2.1 OVERVIEW OF CAPITAL FINANCING PROCESS

The District finances its CIP using cash flows generated from four primary funding sources: 1) rate revenues from the provision of water service; 2) tap fee revenues from new customers connecting to the water system; 3) external debt financing, and; 4) various miscellaneous revenue sources. Raftelis prepared a long-term District capital financing strategy featuring a proposed mixed of these funding sources to illustrate the magnitude of potential rate revenue increases and external debt financing required to successfully pay for the District's planned CIP expenditures.

In addition to its forecasted CIP expenditures, the District provided Raftelis with information regarding its operating and maintenance (O&M) expense requirements, existing debt service payments, miscellaneous revenue sources, and projected CIP expenditures. As discussed in Section 1, a significant portion of the District's total CIP, roughly 22.1% or \$70.8 million, is directly related to the additional 3,000 acre feet of water supplies that will be provided by NISP. Raftelis combined this information to create a financial plan, which identifies annual rate revenue increases as well as proposed debt issuances to cover NISP and other growth-related capital expenditures.

Figure 1 presents a graphical illustration of the process used by Raftelis to fund capital projects during the planning period.

Figure 1: Development of the Water Capital Financing Plan



2.2 FINANCIAL PLANNING ASSUMPTIONS

The key assumptions used in the development of Raftelis' hypothetical capital financing plan included the following:

Customer Account Growth:

-) All Customer Classes: 2%

Annual Cost Escalation Inflation Rates:

-) Operating and Maintenance Expenses: 3%
-) Chemicals and Utilities: 5%
-) Capital Costs: 3%

Debt Financing Assumptions:

-) Month of Debt Issue: January
-) Debt Service Repayment Delay: Repayment Begins Immediately After Issue
-) Debt Interest Rate: 5% Annually (the District's current weighted average cost of debt is estimated to be approximately 4.8%. A 5% borrowing rate for future debt was chosen for conservatism)
-) Debt Term: 30 Years
-) Debt Issuance Expense: 2%
-) Debt Service Reserve: 1 year

Cash Reserve Assumptions:

-) Operating Reserve: 90 Days (25%) of Annual O&M Expenses
-) Capital Reserve: 25% of Next Year's CIP

2.3 FORECAST BILLED WATER CONSUMPTION

A key component of the financial planning process is the development of a demand forecast and associated projection of future water rate revenues under existing rates. Raftelis analyzed District water consumption data for the years 2014-2016, to predict future customer water consumption. Table 9 shows the average monthly consumption and annual consumption by customer class.

Table 9: Historical Monthly and Annual Consumption by Class per Account

Customer Type	Average Monthly (kgal/mo.)	Average Annual (kgal/yr.)
Residential, FCLWD Rates	11.58	139.00
Residential, City Rates	8.28	99.31
Commercial, FCLWD Rates	60.12	721.45
Commercial, City Rates	126.85	1,522.17
Irrigation, FCLWD Rates	205.24	2,462.85
Irrigation, City Rates	241.93	2,903.12
Multi-Unit Residential, FCLWD Rates	23.42	281.04
Multi-Unit Residential, City Rates	13.81	165.73

Table 10 shows the total number of accounts by customer class, and the overall number of accounts added each year for the 8-year period 2017-2024.

Table 10: Projected Customer Accounts

Customer Class	2017	2018	2019	2020	2021	2022	2023	2024
Residential, FCLWD Rates	13,910	14,188	14,472	14,761	15,056	15,357	15,665	15,978
Residential, City Rates	1,907	1,946	1,984	2,024	2,065	2,106	2,148	2,191
Commercial, FCLWD Rates	568	579	591	603	615	627	640	652
Commercial, City Rates	13	14	14	14	14	15	15	15
Irrigation, FCLWD Rates	120	122	124	127	129	132	135	137
Irrigation, City Rates	21	21	22	22	23	23	23	24
Multi-Unit Residential, FCLWD Rates	255	260	265	271	276	282	287	293
Multi-Unit Residential, City Rates	151	154	157	160	163	167	170	173
Total System	16,945	17,284	17,629	17,982	18,341	18,709	19,083	19,463

Table 11 displays the projected billed consumption per year by customer class for the 8-year period 2017-2024. It is important to note that the financial plan assumes a 1% decline in water usage per account for residential and commercial customers, due to projected increased conservation measures and the installation of increasingly efficient plumbing fixtures.

Table 11: Projected Billed Water Consumption (kgal/yr.)

Customer Class	2017	2018	2019	2020	2021	2022	2023	2024
Residential, FCLWD Rates	1,903,512	1,907,123	1,918,210	1,931,842	1,946,820	1,962,671	1,979,162	1,996,160
Residential, City Rates	189,425	190,079	191,333	192,795	194,369	196,016	197,718	199,465
Commercial, FCLWD Rates	410,769	414,346	420,257	427,020	434,282	441,905	449,825	458,004
Commercial, City Rates	20,184	20,351	20,637	20,966	21,320	21,692	22,079	22,479
Irrigation, FCLWD Rates	286,957	289,275	296,784	302,702	308,746	314,914	321,206	327,625
Irrigation, City Rates	60,457	60,945	61,795	62,775	63,832	64,943	66,099	67,294
Multi-Unit Residential, FCLWD Rates	71,665	72,308	73,350	74,537	75,810	77,145	78,532	79,963
Multi-Unit Residential, City Rates	25,019	25,345	25,762	26,216	26,692	27,187	27,696	28,220
Total System	2,967,988	2,979,772	3,008,128	3,038,852	3,071,870	3,106,473	3,142,317	3,179,211
% Change		0.40%	0.95%	1.02%	1.09%	1.13%	1.15%	1.17%

2.4 FINANCIAL PLAN RESULTS

Table 12 provides a detail of the projected financial plan. Due to space limitations, the years 2028 - 2030 have been omitted. The required annual rate revenue increases and proposed revenue bond issues listed in Table 12 form the financing plan required to pay for projected CIP expenditures while maintaining the financial integrity of the District.

This plan is projected to fully fund all projected CIP expenditures, O&M expenses, and existing and future debt service payments. The plan is also projected to maintain adequate debt service coverage ratios (DSCR) and cash reserves. These increases are indicative of the overall revenues needed to sustain the utility regardless of the COS analysis or any changes in the District's rate structure.

Table 12: Detail of Financial Plan Results (\$ millions)

Metric	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Annual Rate Revenue Increases	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Rate Revenues	\$10.9	\$11.5	\$12.1	\$12.8	\$13.5	\$14.3	\$15.0	\$15.9	\$16.8	\$17.7
Misc. Revenue	2.6	2.6	2.7	2.7	2.8	2.8	2.9	2.8	2.8	2.8
Tap Fees	11.5	11.7	11.9	12.2	12.4	12.6	12.9	13.2	13.4	13.7
Total Revenues	25.0	25.8	26.8	27.6	28.7	29.7	30.8	31.8	33.0	34.2
O&M Expenses	10.1	10.4	10.8	11.2	11.6	12.0	12.4	12.9	13.3	13.8
Debt Service	1.9	1.9	4.5	4.6	7.1	7.1	8.3	8.3	10.6	10.6
CIP Expenditures	17.4	22.0	26.1	23.3	21.3	18.1	16.4	39.3	24.3	19.6
Total Expenditures	29.4	34.4	41.4	39.1	40.1	37.2	37.1	60.4	48.2	44.0
Net Surplus/ (Deficit)	(\$4.4)	(\$8.5)	(\$14.6)	(\$11.5)	(\$11.4)	(\$7.5)	(\$6.3)	(\$28.7)	(\$15.2)	(\$9.8)
Beginning Cash Balance	38.1	33.7	25.1	47.1	35.6	60.9	53.3	79.1	50.4	67.2
Add: Net Surplus/(Deficit)	(\$4.4)	(\$8.5)	(\$14.6)	(\$11.5)	(\$11.4)	(\$7.5)	(\$6.3)	(\$28.7)	(\$15.2)	(\$9.8)
Add: Net Bond Proceeds	0.0	0.0	36.6	0.0	36.6	0.0	32.0	0.0	32.0	0.0
Ending Cash Balance	\$33.7	\$25.1	\$47.1	\$35.6	\$60.9	\$53.3	\$79.1	\$50.4	\$67.2	\$57.4
Debt Service Coverage Ratio (Including Tap Fees)	7.73	7.99	3.52	3.59	2.40	2.48	2.22	2.28	1.86	1.93
Debt Service Coverage Ratio (Excluding Tap Fees)	1.80	1.92	0.89	0.93	0.66	0.70	0.66	0.70	0.59	0.63
Target Debt Service Coverage Ratio	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

3 COST OF SERVICE STUDY

3.1 OVERVIEW OF THE WATER COST OF SERVICE PROCESS

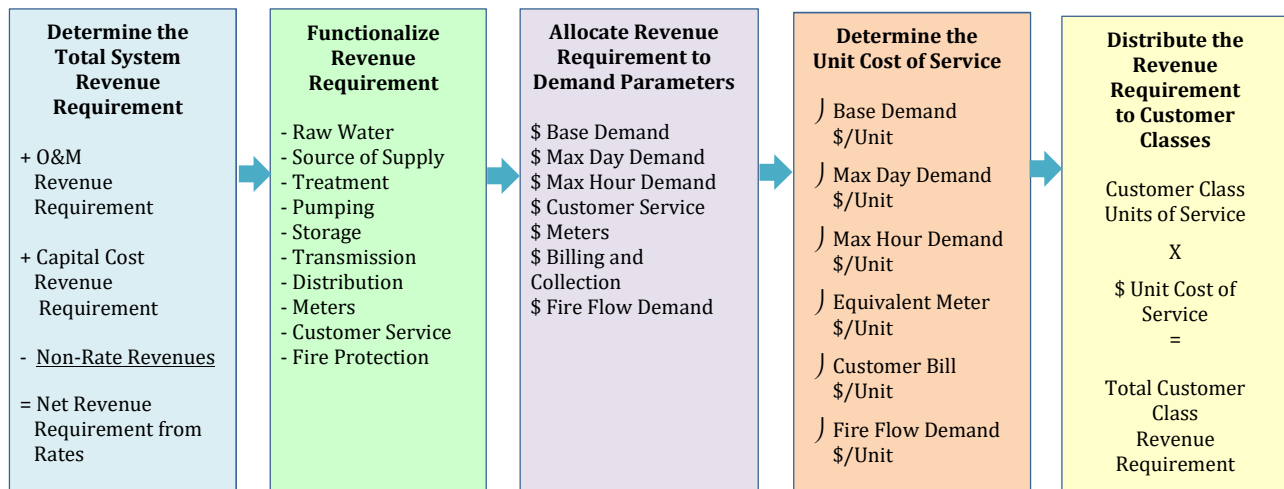
The purpose of a COS study is to allocate the water utility revenue requirement to each customer class in direct proportion to the demands they impose on the utility system. To accomplish this objective, Raftelis conducted a detailed analysis of customer water consumption characteristics and engaged in a multi-step cost allocation process. The procedures followed by Raftelis were based on the industry standard "base-extra capacity method" of cost allocations as published by the American Water Works Association in the Seventh Edition of the *Manual of Water Supply Practices M1, Principles of Water Rates, Fees, and Charges*.

The primary steps in the water COS study process include:

-) **Costs and Demand:** Determining the test year revenue requirement and forecast billed water consumption.
-) **Cost Functionalization:** Assigning the O&M, capital, and non-rate revenue components of the revenue requirement to functional service categories. This process results in the assignment of costs to the specific water utility functional activities they are incurred to perform.
-) **Cost Allocation:** Allocating the functionalized O&M, capital, and non-rate revenue components of the revenue requirement to specific cost parameters such as base demand, maximum day demand, and maximum hour demand. This process results in the assignment of costs to the specific types of water service they are incurred to serve.
-) **Units of Service:** Determining the customer class units of service for each cost parameter based on metrics such as annual average day billed usage, maximum day and maximum hour extra capacity demand, the number of equivalent meters, and annual number of water bills.
-) **Unit Cost of Service:** Determining the utility-wide unit cost of service for each cost parameter. The unit cost of service is determined by dividing the revenue requirement assigned to each cost parameter by its associated utility-wide units of service.
-) **Customer Class Revenue Requirements:** Calculating the customer class revenue requirement by multiplying the customer class specific units of service for each cost parameter by the associated utility-wide unit cost of service.

Figure 2 provides a visual overview of key steps in the water cost of service study process.

Figure 2: Determination of Water Customer Class Revenue Requirements



3.2 2018 TEST YEAR REVENUE REQUIREMENT

The revenue requirement is the amount of revenue that a utility must collect from the rates paid by its customers. The foundation of the projected revenue requirement developed by Raftelis for the COS study was the District's adopted 2017 budget. Table 13 shows the calculation of the District's revenue requirement for the 2018 test year. A detail of this revenue requirement through the entire study period as well as the District's financial plan can be found in Appendix A to this report.

Table 13: Detail of 2018 Test Year Revenue Requirement

Revenue Requirement from Rates	2018
O&M	10,094,826
CIP Expenditures	17,393,574
Debt Service	1,930,994
Net Consolidated Cash Flow	(4,396,491)
Gross Revenue Requirement	25,022,903
Less: Miscellaneous Revenues	14,082,246
Net Revenue Requirement from Rates	\$10,940,657

3.3 CUSTOMER CLASS PEAKING FACTORS

The District purchases treated water from the Solider Canyon Water Treatment Authority. A critical element in the cost allocation process is the determination of the maximum day and maximum hour peak demands imposed by the individual customer classes of the District on the Soldier Canyon Filter Plant (SCFP). Those customer classes that impose the highest peak demands on the utility system are generally allocated the largest proportion of costs. Table 14 shows the historic SCFP production for 2014, 2015 and 2016.

Table 14: System Customer Class Peaking Factors (kgal)

Calendar Year	Annual Average Day (AAD)	Maximum Day (MD)	Ratio of MD to AAD	Estimated System Maximum Hour	Estimated Maximum Hour (MH)
2014	7,902	18,713	2.37	25,286	3.20
2015	7,908	19,656	2.49	25,305	3.20
2016	9,308	21,624	2.32	29,786	3.20

The approach employed by Raftelis to estimate customer class peaking factors generally follows the methodology described in Appendix A of the Seventh Edition of the AWWA "*Manual of Water Supply Practices M1, Principles of Water Rates, Fees, and Charges.*" Table 15 shows the peaking factors for each customer class, based on the average of 2014, 2015 and 2016 data. These are the peaking factors used in the Raftelis COS analysis. Note that irrigation has the highest max day and max hour peaking factors. Residential has the second highest peaking factors due to outdoor irrigation usage.

Table 15: Historical Peaking Factors by Customer Class

Customer Class	Maximum Day	Maximum Hour
Residential, FCLWD Rates	2.51	3.35
Residential, City Rates	2.21	2.96
Commercial, FCLWD and City Rates	2.09	2.80
Irrigation, FCLWD and City Rates	3.42	4.58
Multi-Unit Residential, FCLWD and City Rates	1.37	1.84

3.4 RESULTS OF COST OF SERVICE ANALYSIS

The Raftelis COS analysis indicates an imbalance between the costs incurred by the District serve each individual customer class and the actual level of revenue collected from the rates they pay for service. Specifically, the District has been under-recovering costs from the residential and irrigation customers and over-recovering from commercial and multi-unit residential customers. Table 16 shows the imbalance between 2018 revenue recovery versus the estimated 2018 COS. Note that this assumes a 4% overall increase in rate revenue in 2018.

Table 16: Cost of Service Study Results for 2018 Test Year

Customer Class	Revenue Under Existing Rates	Cost of Service Revenue	Required Change in Revenue	
Customers at FCLWD Rates				
Residential	\$6,519,867	\$7,049,071	\$529,203	8.12%
Commercial	1,164,573	1,055,957	(108,616)	-9.33%
Irrigation	912,392	1,149,120	236,728	25.95%
Multi-Unit Residential	445,798	130,666	(315,132)	-70.69%
Total at FCLWD Rates	9,042,631	9,384,814	342,183	3.78%
Customers at City Rates				
Residential	922,399	1,010,390	87,991	9.54%
Commercial	93,319	80,165	(13,154)	-14.10%
Irrigation	275,984	388,297	112,313	40.70%
Multi-Unit Residential	185,528	76,990	(108,539)	-58.50%
Total at City Rates	1,477,231	1,555,885	78,653	5.32%
Total System	\$10,519,862	\$10,940,699	\$420,836	4.00%

Any change in revenue shown in Table 16 greater than the overall 4% increase, indicates that a customer class has been paying less than its COS. Any change in revenue less than the overall 4% increase, indicates that this class has been paying more than its COS.

There are several reasons a misalignment between revenue recovery and COS can occur. The District's current rate structure charges the same volumetric rates per tier for each customer class. This approach to revenue recovery does not account for the differences in class COS as determined the unique consumption characteristics of each class. Another reason may be that the District has not implemented the results of a COS study for a significant period. As a result, a misalignment may occur between revenue recovery and the actual cost of providing service due to changes in customer class water consumption characteristics or changes in the composition of the overall District-wide revenue requirement.

4 RATE DESIGN

The District's current monthly service charges and volumetric rates are shown below. The key thing to note about the District's current volumetric rates is that they do not reflect the actual cost of providing services to individual customer classes. Instead, all customer classes pay the same volumetric rates regardless of the actual costs they impose on the utility system.

Ñ Monthly service charge for Residential, Commercial and Irrigation Accounts:

Table 17: Existing Monthly Service Charges by Meter Size

Meter Size	Monthly Service Charge
5/8" and 3/4"	\$13.40
1"	19.53
1.5"	34.70
2"	53.00
3"	101.80
4"	203.60

Ñ Volumetric rates for all customers, based on monthly billed water consumption:

- Customers located within the District:
 - Tier 1: \$1.56 per thousand gallons for the first 8,000 gallons,
 - Tier 2: \$2.21 per thousand gallons for 8,001 to 15,000 gallons,
 - Tier 3: \$2.97 per thousand gallons for greater than 15,000 gallons,
- Customers located within the City of Fort Collins:
 - Tier 1: \$2.73 per thousand gallons for the first 8,000 gallons,
 - Tier 2: \$3.57 per thousand gallons for 8,001 to 15,000 gallons,
 - Tier 3: \$4.40 per thousand gallons for greater than 15,000 gallons,
- All Multi Unit customers pay a flat \$13.40 per unit

There are multiple rate structure alternatives the District could implement in lieu of its existing structure. On March 24, 2017, Raftelis conducted a "Ratemaking 101" workshop with the Board of Directors (Board) of the District.

During the workshop, Raftelis led the Board through a pricing objectives exercise. The purpose of this exercise was to identify the most important objectives to achieve in the District's water rate design(s). Specifically, each Board member was asked to rank the pricing objectives listed below as Essential, Very Important, Important, or Least Important.

-) Conservation/Demand Management
-) Rate Stability
-) Revenue Stability
-) Simple to Understand and Update
-) Affordability
-) Cost of Service Based Allocations
-) Minimization of Customer Impacts
-) Ease of Implementation

The pricing objectives considered to be Essential by Board members were assigned a total of 4 points in the ranking process. Pricing objectives considered to be Very Important, Important, and Least Important were assigned 3, 2, and 1 points, respectively, in the ranking process. Figure 3 summarizes the results of the pricing objective exercise.

Figure 3: Ranking of Board Pricing Objectives

<i>Rank</i>	<i>Pricing Objective</i>	<i>Weighted Score</i>
1	Revenue Stability	21
2	Conservation/Demand Management	18
3	Rate Stability	14
3	Cost of Service Based Allocations	14
3	Economic Development	14
6	Affordability	10
6	Minimization of Customer Impacts	10
8	Simple to Understand and Update	7
8	Ease of Implementation	7

Based on the Board's pricing objectives, Raftelis sought to develop rate design options that met the Board's criteria. As part of this process, Raftelis evaluated the use of tiered rate structures with unique volumetric rates and consumption tiers for each customer class. We do not recommend this approach.

Unlike residential customers who share similar water consumption characteristics, the water consumption characteristics of non-residential customers (multi-unit residential, commercial and irrigation) are highly diverse. For instance, a commercial customer could be a small office with low water usage or a busy car wash with significant water demands. Due to this inherent diversity, it is difficult to develop a tiered volumetric rate structure appropriate for all non-residential customers. For example, under the District's current volumetric rate structure, a high percentage of non-residential water consumption is concentrated in TIER 3 regardless of the costs such customers impose on the utility system.

For the reasons described above, Raftelis calculated a uniform volumetric rate structure for non-residential customers. These calculated non-residential uniform volumetric rates are shown in Table 18.

Table 18: Calculated Uniform Volumetric Rates for Non-Residential Customers

Customer Class	Uniform Rate (\$/kgal)
District Rates	
Commercial	\$2.20
Irrigation	\$3.73
Multi-Unit Residential	\$1.56
City Rates	
Commercial	\$3.64
Irrigation	\$6.18
Multi-Unit Residential	\$2.73

A second shortcoming of the District's existing volumetric rate structure is the high percentage of residential water consumption that also occurs in Tier 3 (roughly 40%). Raftelis adjusted the consumption tier thresholds for residential customers by widening the second tier and increasing the starting point for the third tier such that a smaller percentage of use is in that tier. This adjustment would increase revenue reliability and enable the District to send a more pronounced conservation price signals in TIER 3. Table 19 shows the residential volumetric rates calculated for the years 2018 - 2027. Rates for the years 2018 -2030 have been omitted due to space limitations.

Table 19: Calculated Residential Volumetric Rates (\$/kgal)

Consumption Tiers	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
District Rates										
Up to 8,000 gals	\$1.80	\$1.88	\$1.96	\$2.04	\$2.13	\$2.22	\$2.31	\$2.41	\$2.51	\$2.62
8,001 – 22,000	2.55	2.66	2.77	2.89	3.01	3.14	3.27	3.41	3.55	3.70
Greater than 22,000	3.42	3.56	3.71	3.86	4.02	4.19	4.36	4.54	4.73	4.92
City Rates										
Up to 8,000 gals	\$3.07	\$3.19	\$3.32	\$3.45	\$3.59	\$3.74	\$3.88	\$4.04	\$4.20	\$4.37
8,001 – 22,000	4.02	4.18	4.35	4.52	4.70	4.89	5.09	5.29	5.50	5.72
Greater than 22,000	4.95	5.15	5.35	5.57	5.79	6.02	6.26	6.51	6.77	7.05

Another way to promote revenue reliability is through the monthly service charge. Raftelis recommends keeping the monthly service charge relatively consistent with current levels in order to preserve the percentage of total revenues that base charge revenues currently comprise (i.e., roughly 30%). The calculated monthly service charges for the years 2018-2027 are shown in Table 20. Due to space limitations, the years 2028 - 2030 have been omitted.

Table 20: Monthly Service Charges, All Customers (\$/month)

Meter Size	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
3/4"	\$13.95	\$14.51	\$15.09	\$15.69	\$16.32	\$16.97	\$17.65	\$18.36	\$19.09	\$19.86
1"	20.33	21.14	21.99	22.87	23.78	24.73	25.72	26.75	27.82	28.94
1 1/2"	36.12	37.56	39.07	40.63	42.26	43.95	45.70	47.53	49.43	51.41
2"	55.17	57.38	59.67	62.06	64.54	67.12	69.81	72.60	75.50	78.52
3"	105.96	110.20	114.61	119.19	123.96	128.92	134.07	139.44	145.01	150.81
4"	211.94	220.42	229.23	238.40	247.94	257.86	268.17	278.90	290.05	301.66

5 TAP FEES

The District has long strived to implement tap fees that are not only legal and defensible, but that also recover the cost of growth-related capital expenditures in an equitable manner, from both an inter- and intra-class perspective. The District currently charges tap fees that consist of three components: a water resources cost component, a facilities infrastructure component and a meter cost component. Raftelis was informed that meter costs have not changed since the District's current tap fee assessment schedule was adopted. With respect to the other two components, Raftelis conducted various analyses to arrive at the modifications described in the subsections that follow.

5.1 TAP FEE INFRASTRUCTURE COMPONENT

This component reflects the unit cost of growth-related infrastructure that must be constructed by the District to serve new customers. The tap fee infrastructure component currently applicable to all residential dwellings and all 3/4" commercial and irrigation connections is \$7,000. Raftelis calculations indicate that the infrastructure tap fee component should be increased to \$10,869. Raftelis arrived at this conclusion using industry standard tap fee calculation methods, known as the Capacity Equity Buy-In, Incremental and Hybrid approaches. Table 21 summarizes the results of each calculation approach. Appendix D to this report provides the detailed calculations underlying each outcome.

Table 21: Tap Fee Infrastructure Component Calculation

Tap Fee Infrastructure Component	Capacity Equity Buy In	Incremental	Hybrid
Treatment	\$4,420	\$8,095	\$6,164
Source of Supply	407	17,384	4,705
Total	\$4,827	\$25,479	\$10,869
Current Infrastructure Component	\$7,000	\$7,000	\$7,000
Difference	(\$2,173)	\$18,479	\$3,869

As noted previously, the tap fee infrastructure component is the same for all residential connections and all 3/4" commercial and irrigation connections. The tap fee infrastructure component for commercial and irrigation connections are then scaled up based on meter flow rate equivalency assumptions.

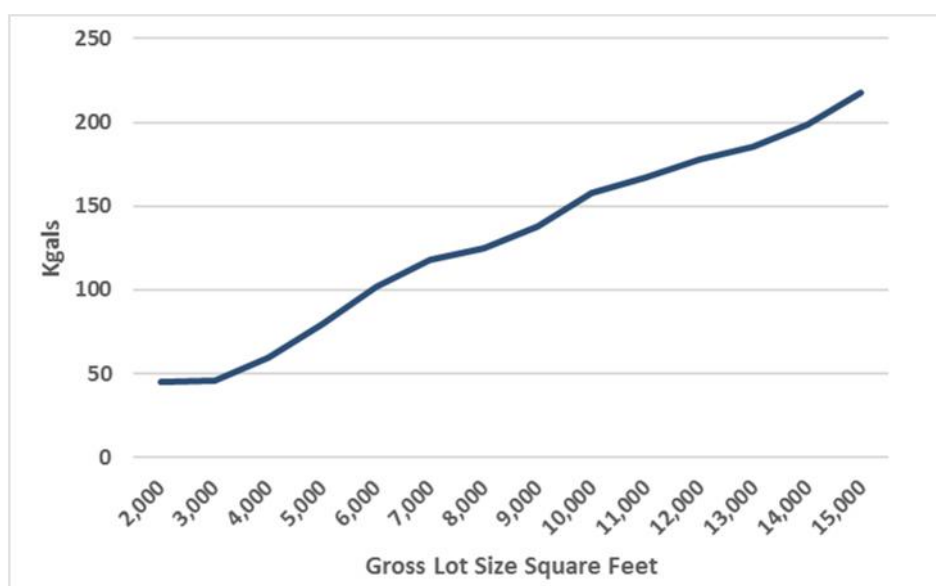
The District assumes that for multi-unit residential connections, the annual water consumption of an individual multi-unit residential dwelling unit is equivalent to 40% of a residential dwelling unit. After consultations with District staff, this assumption was maintained in the tap fees calculated by Raftelis. As discussed later in this report, the calculated tap fee infrastructure component paid by for each multi-unit residential dwelling unit is \$4,348 ($\$10,869 \times .40$).

5.2 WATER RESOURCES COST

5.2.1 Residential Water Demand Differences Based on Lot Size

The District asked Raftelis to explore the concept of implementing residential tap fees in which the water cost component varies based on gross lot size. To understand the relationship between gross lot size and residential demand, Raftelis analyzed 2012 residential consumption (a particularly dry year) and gross lot size data provided by the District. Raftelis not only analyzed the annual use of residential customers but also calculated their implied annual outdoor demands. This estimate of implied outdoor use was derived calculating each customer's average winter consumption (AWC), multiplying AWC by 12 to determine implied annual indoor demand, and then subtracting implied annual indoor use from total annual use. Not surprisingly, as shown in Figure 4, on average, both annual demand and annual outdoor demand increased steadily for smaller lot sizes.

Figure 4: Residential Annual Use per Lot by Gross Lot Size



5.2.2 Modifications to Existing Residential Water Resources Cost

The District currently assumes that all residential customers will, regardless of their gross lot size, require one share of Colorado Big Thompson (C-BT) water. However, given the usage patterns shown in Figure 4, a more equitable way to determine the tap fee water cost for new residential connections may be to recognize how annual demand varies by gross lot size. Under this approach, residential customers with gross lot sizes who require less than a single C-BT unit would pay less than the current price of \$27,200, while residential customers with gross lot sizes that require more than one C-BT unit would pay a more than \$27,200.

Using data from 2012, Raftelis calculated the average annual water use per gross lot size in one thousand gallon increments. To determine the required C-BT units for a given lot size, Raftelis took those averages and divided them by the number of gallons in a single C-BT unit (325,851 gallons, or one acre foot). Based on discussions with District Staff, Raftelis also assumed a 50% firm yield for C-

BT units and a 5% system water loss percentage. Below is an example calculation for a residential customer with a gross lot size of 6,500 square feet and average annual water use of approximately 118,000 gallons.

*Step 1: 325,851 gallons per acre foot * 50% firm yield = 162,926 firm yield gallons per C-BT unit*

Step 2: 118,000 annual use / 162,926 firm yield gallons = .72% C-BT units

Step 3: .72% C-BT units / .95 for a 5.0% water loss adjustment = .76 C-BT units

*Step 4: 162,926 firm yield gallons * .76 C-BT units = 124,161 required annual water allotment*

Raftelis and the District agreed that residential customers with gross lot sizes larger than 12,000 square feet pay a water cost tap fee equivalent to 1.776 C-BT units or \$48,304. The District anticipates that the majority of new residential connections will be roughly 8,000 square feet. This translates to a water cost tap fee component of \$21,836. Table 22 shows the resulting residential tap fee water cost assessment schedule.

Table 22: Residential Tap Fees (excluding meter costs)

Lot Square Footage Range	Required C-BT Units	Annual Allotment (Gallons)	Water Cost	Infrastructure Cost	Total Tap Fee	Existing Tap Fee	\$ Difference
<= 6,000	0.524	85,366	\$14,252	\$10,869	\$25,121	\$32,000	(\$6,879)
6,001-7,000	0.762	124,161	20,728	10,869	31,597	32,000	(403)
7,001-8,000	0.803	130,795	21,836	10,869	32,705	32,000	705
8,001-9,000	0.888	144,623	24,144	10,869	35,014	32,000	3,014
9,001-10,000	1.015	165,405	27,614	10,869	38,483	32,000	6,483
10,001-11,000	1.078	175,672	29,328	10,869	40,197	32,000	8,197
11,001-12,000	1.145	186,587	31,150	10,869	42,019	32,000	10,019
>12,000	1.776	289,338	48,304	10,869	59,173	32,000	27,173

5.3 SAMPLE CALCULATIONS FOR RESIDENTIAL TAP FEES

Example Calculation for Residential

Meter Size = 3/4"

Lot Size = 9,500 Square Feet

Facilities Tap Fee = \$10,869

Water Resources Cost = 27,614

Total Tap Fee = \$38,483

Example Calculation for Multi-Unit Residential

MF Units = 10

Meter Size 1"

Facilities Tap Fee = \$43,476 (\$10,869 * .40 * 10 Units)

Water Resources Cost = 87,344 (\$21,836 * .40 * 10 Units)

Total Tap Fee = \$130,820

5.4 COMMERCIAL AND IRRIGATION TAP FEES

The District currently charges new non-residential (commercial and irrigation) connections a tap fee based on the assumption that a non-residential customer with a 3/4" meter uses the same amount of water as an average residential customer (1.0 C-BT units). In actuality, 3/4" commercial and irrigation customers use significantly more water than 3/4" residential customers. In 2016, the average District residential customer used approximately 153,000 gallons which equates to approximately 1.0 C-BT unit. In contrast, the average District commercial customer with a 3/4" meter used approximately 332,000 gallons which equates to 2.14 C-BT units. An average District irrigation customer with a 3/4" meter used approximately 722,000 gallons annually which equates to 4.65 C-BT units.

5.4.1 Commercial and Irrigation Tap Fees Based on Actual 2016 Water Consumption

Tables 23 and 24 show the calculated commercial and irrigation tap fee assessment schedule based on actual 2016 water consumption patterns. As shown in the far right column of Table 23, if actual 2016 demand data is used in the tap fee calculation, the tap fee for a commercial customer with a 3/4" meter would increase by \$37,010 (116%) from \$32,000 to \$69,010. Similarly, as shown in the far right column of Table 24, the tap fee for an irrigation customer with a 3/4" meter would increase by \$105,484 (330%) from \$32,000 to \$137,484. Raftelis met with the District Board regarding the tap fees shown Tables 23 and 24. The Board considered the increases too high to be implemented.

Table 23: Commercial Tap Fees Based on 2016 Demand (excluding meter costs)

Meter Size	Design GPM	Design GPM Ratio	Infrastructure Component	Required C-BT Units (1)	Water Cost	Total Tap Fee	Existing Tap Fee	\$ Difference
3/4"	10	1	\$10,869	2.14	58,141	69,010	32,000	37,010
1"	25	2.5	27,173	5.34	145,352	172,525	80,000	92,525
1 1/2"	50	5	54,346	10.69	290,704	345,050	160,000	185,050
2"	80	8	86,953	17.10	465,126	552,080	256,000	296,080
3"	175	17.5	190,211	37.41	1,017,463	1,207,674	560,000	647,674
4"	300	30	326,075	64.13	1,744,223	2,070,298	962,000	1,108,298
6"	625	62.5	679,324	133.60	3,633,798	4,313,122	2,000,000	2,313,122

(1) Based on annual 3/4" commercial usage of 331,670 gallons, CB-T annual firm yield of 162,926 gallons, 5% water loss

Table 24: Irrigation Tap Fees Based on 2016 Demand (excluding meter costs)

Meter Size	Design GPM	Design GPM Ratio	Infrastructure Component	Required C-BT Units (1)	Water Cost	Total Tap Fee	Existing Tap Fee	\$ Difference
3/4"	10	1	\$10,869	4.65	126,615	137,484	32,000	105,484
1"	25	2.5	27,173	11.64	316,538	343,711	80,000	263,711
1 1/2"	50	5	54,346	23.27	633,077	687,422	160,000	527,422
2"	80	8	86,953	37.24	1,012,923	1,099,876	256,000	843,876
3"	175	17.5	190,211	81.46	2,215,768	2,405,979	560,000	1,845,979
4"	300	30	326,075	139.65	3,798,460	4,124,535	962,000	3,162,535
6"	625	62.5	679,324	290.94	7,913,457	8,592,781	2,000,000	6,592,781

(1) Based on annual 3/4" irrigation usage of 722,299 gallons, CB-T annual firm yield of 162,926 gallons, 5% water loss

5.4.2 Commercial and Irrigation Tap Fees Based on Assumption of 1 C-BT Unit

An alternative to calculating commercial and irrigation tap fees based on actual consumption characteristics (Tables 23 and 24) is to maintain the current assumption that a 3/4" non-residential customer uses the same amount of water as an average residential customer (1.0 C-BT unit). The commercial and irrigation tap fees calculated under this approach are shown in Table 25. Note that the required tap fee increases shown in the far right column of Table 25 are significantly smaller than those that would be required if commercial and irrigation tap fees were based on actual water consumption characteristics. This outcome occurs because the tap fees shown in Table 25 do not fully recover the cost of water resources to serve new customers. A related conclusion to draw from this analysis is that tap fees paid by commercial and irrigation customers in the past have not been adequate to compensate the District for the water resources it has been required to acquire on their behalf.

Overtime, the water consumption characteristics of commercial and irrigation customers may decline due to the conservation price signals sent by future rate revenue increases adopted by the Board and the potential imposition of a water resource surcharge (see Section 5.4.2). If so, this may somewhat narrow the gap between commercial and irrigation tap fees calculated based on actual water demand (see Tables 23 and 24 above) and the tap fees calculated in Table 25 which are based on the assumption that a 3/4" commercial and irrigation customer uses water resources equivalent to 1.0 C-BT units, similar to residential customers. Raftelis recommends that in the next rate study undertaken by the District, that the average amount of water resources that must be dedicated to commercial and irrigation customers be fully updated to reflect potential changes in water demand.

Table 25: Non-Residential Tap Fees - 1 C-BT Unit for 3/4" Meter (excludes meter costs)

Meter Size	Design GPM	Design GPM Ratio	Infrastructure Component	Total C-BT Units	Water Cost	Total Tap Fee	Existing Tap Fee	\$ Difference
3/4"	10	1	\$10,869	1.00	27,200	38,069	32,000	6,069
1"	25	2.5	27,173	2.50	68,000	95,173	80,000	15,173
1 1/2"	50	5	54,346	5.00	136,000	190,346	160,000	30,346
2"	80	8	86,953	8.00	217,600	304,553	256,000	48,553
3"	175	17.5	190,211	17.50	476,000	666,211	560,000	106,211
4"	300	30	326,075	30.00	816,000	1,142,075	962,000	180,075
6"	625	62.5	679,324	62.50	1,700,000	2,379,324	2,000,000	379,324

5.4.3 Ramifications of Implementing Less than Full Cost Commercial and Irrigation Tap Fees

As noted above the actual average usage characteristics of commercial and irrigation customers is significantly greater than the assumptions the District has traditionally used to calculate their tap fees. Thus, existing commercial and irrigation customers have not paid an adequate amount to fund the water resource investments the District has made on their behalf. Further, if the District implements the tap fees shown in Table 25, the District will not be recovering an adequate amount to purchase the water resources for new commercial and irrigation customers.

Raftelis met with the District Board to address the question of how the District can recover the cost of water resources not recovered in commercial and irrigation tap fees. The Board chose to impose, to implement a Water Resources Surcharge on the volumetric rates for all commercial and irrigation customers. This Surcharge is designed to recover the projected shortfall in tap fee revenues associated with the implementation of the tap fees shown in Table 25. As shown in the far right column of Table 26, Raftelis estimates this surcharge to be \$1.49 per thousand gallons calculated as the projected annual tap fee revenue shortfall divided by projected annual commercial and irrigation customer billed demand.

Table 26: Water Resource Surcharge for Commercial and Irrigation Customers

Year	Revenues if Tap Fees are Based on Actual 2016 Usage (\$millions)	Revenues if Tap Fees are Based on 3/4" CB-T Units Set at 1.0 (\$ millions)	Revenue Shortfall (\$ millions)	Projected Commercial and Irrigation Billed Consumption (Kgal)	Required Water Resource Surcharge (\$/Kgal)
2018	\$12.76	\$11.59	\$1.17	784,917	\$1.49
2019	13.01	11.82	1.19	799,473	1.49
2020	13.27	12.06	1.22	813,463	1.50
2021	13.54	12.30	1.24	828,180	1.50
2022	13.81	12.54	1.27	843,455	1.50
2023	14.09	12.79	1.29	859,209	1.50
2024	14.37	13.05	1.32	875,403	1.51
2025	14.66	13.31	1.34	892,012	1.51
2026	14.95	13.58	1.37	909,023	1.51
2027	15.25	13.85	1.40	926,431	1.51
2028	15.55	14.13	1.43	944,232	1.51
2029	15.86	14.41	1.46	962,426	1.51
2030	16.18	14.70	1.48	981,014	1.51
Total	\$187.31	\$170.12	\$17.19		

5.4.4 District Impact Fee

In addition to its tap fee, the District currently imposes a \$1,100 impact fee for all new taps connecting to the water system. The costs intended to be recovered via this impact fee have been fully accounted for in the Raftelis tap fee and COS analysis. Therefore, Raftelis recommends that the District no longer charge the impact fee for any new connections to the water system.

6 CUSTOMER BILL IMPACTS FROM RATES

As discussed in Section 3, certain customer classes, particularly irrigation and residential customers are being subsidized by other customer classes, like multi-unit residential, under the existing rate structure. The COS rates under the amended structure are designed to resolve these inequities, resulting in steeper increases for some customer classes than for others. It is useful to recall that total user charge revenues must increase by 4% annually. For each bill impact shown in the sub-sections that follow, the “Status Quo” to which calculated bills are compared reflects a 4% across-the-board increase to all customer classes and to both the monthly base charge as well as the volumetric rates.

6.1 RESIDENTIAL CUSTOMERS

The indicated COS increase for residential customers was more than the required 4% overall rate revenue increase. However, for heavy residential users, bills will increase by less than the 4% status quo increase. Table 27 provides three examples of changes in residential bills.

Table 27: Annual Bill Impacts for Residential Customers in 2018

Customer Type	Bill Under Status Quo Rate Structure (1)	Calculated Bill Under New Rate Structure (1)	Difference (\$)	Difference (%)
Low Usage (48 Kgals)				
Volume Rates	\$77.88	\$86.40	\$8.52	10.9%
Base Charge	<u>167.23</u>	<u>167.40</u>	<u>0.17</u>	<u>0.1%</u>
Total Bill	\$245.11	\$253.80	\$8.69	3.5%
Medium Usage (192 Kgals)				
Volume Rates	\$385.88	\$417.60	\$31.72	8.2%
Base Charge	<u>167.23</u>	<u>167.40</u>	<u>0.17</u>	<u>0.1%</u>
Total Bill	\$553.11	\$585.00	\$31.89	5.8%
High Usage (300 Kgals)				
Volume Rates	\$719.47	\$724.32	\$4.85	0.7%
Base Charge	<u>167.23</u>	<u>167.40</u>	<u>0.17</u>	<u>0.1%</u>
Total Bill	\$886.70	\$891.72	\$5.02	0.6%
(1) Bill reflects a 4% rate revenue increase in 2018				

6.2 COMMERCIAL CUSTOMERS

Before consideration of the Water Resource Surcharge discussed in Section 5.4.3, the cost of service study results indicate that District commercial customers have been contributing roughly 9% more rate revenue than the costs that they are placing on the system (Table 16). Table 26 shows estimated 2018 bill impacts for commercial customers. These bill impacts compare the bills that commercial customers would pay in 2018 under the existing rate structure to the bills that they would pay under the calculated rate structure, including the Water Resource Surcharge.

Table 28: Annual Bill Impacts for Commercial Customers in 2018

Customer Type	Bill Under Status Quo Rate Structure (1)	Calculated Bill Under New Rate Structure (1)	Difference (\$)	Difference (%)
3/4" Meter (24 Kgals)				
Volume Rates	\$38.87	\$64.69	\$25.82	66.4%
Base Charge	167.23	167.40	0.17	0.1%
Total Bill	\$206.11	\$232.09	\$25.99	12.6%
1" Meter (595 Kgals)				
Volume Rates	\$1,630.50	\$1,606.36	(\$24.15)	-1.5%
Base Charge	243.73	243.96	0.23	0.1%
Total Bill	\$1,874.24	\$1,850.32	(\$23.92)	-1.3%
3" Meter (3,427 Kgals)				
Volume Rates	\$10,378.15	\$9,252.90	(\$1,125.25)	-10.8%
Base Charge	1,270.46	1,271.52	1.06	0.1%
Total Bill	\$11,648.61	\$10,524.42	(\$1,124.19)	-9.7%
(1) Bill reflects a 4% rate revenue increase in 2018				

6.3 IRRIGATION CUSTOMERS

Before consideration of the Water Resource Surcharge discussed in Section 5.4.3, the cost of service study results indicate that District irrigation customers have been contributing roughly 26% less rate revenue than the costs that they are placing on the system (Table 16). Table 27 shows estimated 2018 bill impacts for an irrigation customer with a 1" meter. This table compares the bill that an irrigation customers would pay in 2018 under the existing structure to the bill it would pay under the calculated rate structure, including the Water Resource Surcharge.

Table 29: Annual Bill Impacts for a 1" Irrigation Customer in 2018

Customer Type	Bill Under Status Quo Rate Structure (1)	Calculated Bill Under New Rate Structure (1)	Difference (\$)	Difference (%)
1" Meter (1,070 kgals)				
Volume Rates	\$3,220.09	\$4,528.00	\$1,307.92	40.6%
Base Charge	243.73	243.96	0.23	0.1%
Total Bill	\$3,463.82	\$4,771.96	\$1,308.14	37.8%
(1) Bill reflects a 4% rate revenue increase in 2018				

6.4 MULTI-UNIT RESIDENTIAL CUSTOMERS

Historically, in addition to volumetric rates, the District has charged each unit of a multi-unit residential account a flat monthly charge equivalent to the monthly base charge for customers with 3/4" meters. As a result, multi-unit residential accounts have been paying significantly more than their estimated cost of service. As shown in Table 16, they have been contributing roughly 71% more than the costs they are imposing on the system.

Table 28 shows estimated 2018 bill impacts for multi-unit residential customers. These bill impacts compare the bills that multi-unit residential customers would pay in 2018 under the existing structure to the bills that they would pay under the calculated rate structure. Note that under the proposed rate structure, multi-unit residential customers pay a monthly service charge based on the meter size serving each account rather than paying a monthly service charge based on the number of units in each multi-unit residential account.

Table 30: Annual Bill Impacts for Multi-Unit Residential Customers in 2018

Customer Type	Bill Under Status Quo Rate Structure (1)	Calculated Bill Under New Rate Structure (1)	Difference (\$)	Difference (%)
3/4" Meter, 2 Units (117 Kgals)				
Volume Rates	\$215.41	\$182.45	(32.95)	-15.3%
Base Charge	334.46	167.40	(167.06)	-49.9%
Total Bill	\$549.87	\$349.85	(200.02)	-36.4%
1 1/2" Meter, 70 Units (3,377 Kgals)				
Volume Rates	\$10,223.07	\$5,267.80	(4,955.27)	-48.5%
Base Charge	11,706.24	433.44	(11,272.80)	-96.3%
Total Bill	\$21,929.31	\$5,701.24	(16,228.07)	-74.0%
(1) Bill reflects a 4% rate revenue increase in 2018				

7 MUNICIPAL SECURITIES RULEMAKING BOARD (MSRB) DISCLOSURE

Raftelis is registered with the U.S. Securities Exchange Commission (SEC) and the Municipal Securities Rulemaking Board (MSRB) as a Municipal Advisor. Registration as a Municipal Advisor is a requirement under the Dodd-Frank Wall Street Reform and Consumer Protection Act. All firms that provide financial forecasts that include assumptions about the size, timing, and terms for possible future debt issues, as well as debt issuance support services for specific proposed bond issues, including bond feasibility studies and coverage forecasts, must be registered with the SEC and MSRB to legally provide financial opinions and advice. Raftelis' registration as a Municipal Advisor means our clients can be confident that Raftelis is fully qualified and capable of providing financial advice related to all aspects of utility financial planning in compliance with the applicable regulations of the SEC and the MSRB.

REPORT APPENDICES

Appendix A
Fort Collins Loveland Water District Rate Study
Financial Plan

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Financial Plan Master Control**

Model Inputs	Budget	Forecast												
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Rate Revenue Adjustment	0.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Operating Fund														
% Transfer to Growth Sub-Fund	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Amount Transferred to Growth Sub-Fund	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Transfer to Non-Growth Sub-Fund	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Amount Transferred to Non-Growth Sub-Fund	35,178,199	1,311,283	1,546,951	1,799,700	2,044,174	2,404,324	2,740,987	4,213,663	4,607,847	5,033,278	5,491,855	5,985,644	6,516,862	7,087,890
Ending Balance	2,443,778	2,523,706	2,612,064	2,703,728	2,798,829	2,897,505	2,999,899	3,106,161	3,216,447	3,330,918	3,449,746	3,573,105	3,701,182	3,834,167
Target	2,443,778	2,523,706	2,612,064	2,703,728	2,798,829	2,897,505	2,999,899	3,106,161	3,216,447	3,330,918	3,449,746	3,573,105	3,701,182	3,834,167
Variance from Target	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Growth CIP Sub-Fund														
Revenue Bond Debt Issue (\$ Millions)	0	0	0	40	0	40	0	35	0	35	0	35	0	0
Ending Balance	3,589,043	507,636	(6,089,027)	19,876,533	8,382,609	32,549,904	25,282,342	48,576,107	17,093,156	31,461,622	16,641,548	19,214,105	(18,313,108)	(30,458,539)
Target	3,633,696	4,569,133	5,010,670	5,271,327	4,945,811	3,707,974	3,596,428	9,310,127	5,367,511	4,707,495	7,867,561	10,501,798	4,227,541	3,633,696
Variance from Target	(44,654)	(4,061,497)	(11,099,697)	14,605,206	3,436,798	28,841,929	21,685,914	39,265,980	11,725,645	26,754,127	8,773,986	8,712,306	(22,540,649)	(34,092,235)
Non-Growth CIP Sub-Fund														
Revenue Bond Debt Issue (\$ Millions)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Balance	32,046,161	30,651,147	28,625,190	24,517,721	24,450,508	25,421,271	25,041,432	27,372,562	30,083,612	32,414,833	37,273,009	42,696,595	48,577,581	55,088,528
Variance from Target	31,331,464	29,722,317	27,117,903	23,959,463	24,060,499	24,609,919	24,536,753	26,860,946	29,367,781	32,210,054	37,079,389	42,477,206	48,364,827	54,373,830
Consolidated Cash														
Total Cash	38,078,981	33,682,490	25,148,226	47,097,982	35,631,945	60,868,679	53,323,672	79,054,830	50,393,215	67,207,374	57,364,303	65,483,805	33,965,655	28,464,156
Combined Targets	6,077,474	7,092,840	7,622,734	7,975,055	7,744,640	6,605,479	6,596,327	12,416,288	8,583,957	8,038,414	11,317,307	14,074,904	7,928,723	7,467,863
Variance from Combined Targets	32,001,507	26,589,650	17,525,492	39,122,927	27,887,306	54,263,200	46,727,346	66,638,542	41,809,258	59,168,960	46,046,996	51,408,901	26,036,932	20,996,293
Debt Service Coverage														
Calculated Including PIFs (Target 1.50)	5.70	7.73	7.99	3.52	3.59	2.40	2.48	2.22	2.28	1.86	1.93	1.65	2.07	2.16
Calculated Excluding PIFs (Target 1.50)	1.57	1.80	1.92	0.89	0.93	0.66	0.70	0.66	0.70	0.59	0.63	0.56	0.73	0.79
O&M Reserve (Days of Annual O&M)	90													
Capital Reserve (% of Next Year's CIP)	25.00%													

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Customer Accounts**

Account Type	Actual 2014	Actual 2015	Actual 2016	Estimated 2017	Projected Customer Account Growth Rates														
					2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Residential Account Growth	---	2.5%	2.4%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Commercial Account Growth	---	4.6%	1.5%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Irrigation Account Growth	---	12.7%	2.1%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Residential, No Patio, FCLWD Rates																			
3/4"	12,658	12,974	13,303	13,569	13,840	14,117	14,400	14,688	14,981	15,281	15,587	15,898	16,216	16,541	16,871	17,209	17,553		
1"	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
Total	12,661	12,977	13,306	13,572	13,844	14,120	14,403	14,691	14,985	15,284	15,590	15,902	16,220	16,544	16,875	17,213	17,557		
Residential, No Patio, City Rates																			
3/4"	1,819	1,857	1,870	1,907	1,946	1,984	2,024	2,065	2,106	2,148	2,191	2,235	2,280	2,325	2,372	2,419	2,467		
Total	1,819	1,857	1,870	1,907	1,946	1,984	2,024	2,065	2,106	2,148	2,191	2,235	2,280	2,325	2,372	2,419	2,467		
Residential, No Patio, City Exchange																			
3/4"	32	32	32	33	33	34	35	35	36	37	37	38	39	40	41	41	42		
Total	32	32	32	33	33	34	35	35	36	37	37	38	39	40	41	41	42		
Residential, Patio																			
3/4"	260	281	299	305	311	317	324	330	337	343	350	357	364	372	379	387	395		
Total	260	281	299	305	311	317	324	330	337	343	350	357	364	372	379	387	395		
Total Residential - All	14,772	15,147	15,507	15,817	16,133	16,456	16,785	17,121	17,463	17,813	18,169	18,532	18,903	19,281	19,667	20,060	20,461		
Commercial - FCLWD Rates																			
3/4"	331	346	350	357	364	372	379	387	394	402	410	418	427	435	444	453	462		
1"	88	93	96	98	100	102	104	106	108	111	113	115	117	120	122	125	127		
1.5"	50	52	52	53	54	55	56	57	58	59	60	62	63	64	65	67	68		
2"	26	28	28	29	29	30	31	31	32	32	33	34	34	35	36	37	37		
3"	8	9	9	9	9	9	10	10	10	10	10	10	11	11	11	11	12		
4"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Walmart 1.5" as 2" Wtr	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Walmart 8" as 3" Fire Line	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
1" Billed as 3/4"	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Water 2" Billed as 3/4"	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Foothills Gateway	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Total	506	532	540	551	562	573	585	596	608	620	633	645	658	672	685	699	713		
Commercial - City Rates																			
3/4"	3	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4		
1"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
1.5"	6	6	6	6	6	6	7	7	7	7	7	7	7	8	8	8	8		
2"	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3		
3"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Total	13	12	13	13	14	14	14	14	15	15	15	16	16	16	16	17	17		
Commercial - City Exchange																			
3/4"	15	15	15	15	15	16	16	16	17	17	17	18	18	18	19	19	19		
1"	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1.5"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
2"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Total	17	17	17	17	17	18	18	18	19	19	20	20	20	21	21	22	22		
Total Commercial - All	536	561	570	581	593	605	617	629	642	655	668	681	695	709	723	737	752		

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Customer Accounts**

Account Type	Actual 2014	Actual 2015	Actual 2016	Estimated 2017	Projected Customer Account Growth Rates												
					2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Irrigation - FCLWD Rates																	
3/4"	47	49	48	49	50	51	52	53	54	55	56	57	59	60	61	62	63
1"	23	25	23	23	24	24	25	25	26	26	27	27	28	28	29	30	30
1.5"	25	26	28	29	29	30	31	31	32	32	33	34	34	35	36	37	37
2"	15	15	14	14	15	15	15	15	16	16	16	17	17	17	18	18	18
Standby Wt Tap	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	110	115	113	116	118	120	123	125	128	130	133	135	138	141	144	147	149
Irrigation - City Rates																	
3/4"	6	6	7	7	7	7	7	7	7	7	8	8	8	8	8	8	9
1"	10	8	9	9	9	10	10	10	10	10	11	11	11	11	11	12	12
1.5"	5	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5
2"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	21	19	20	21	21	22	22	23	23	23	24	24	25	25	26	26	27
Irrigation - City Exchange																	
3/4"	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4
1"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5
Total Irrigation - All	135	138	138	140	143	146	149	152	155	158	161	165	168	171	175	178	182
Multi-Unit - FCLWD																	
3/4"	216	243	250	255	260	265	271	276	282	287	293	299	305	311	317	323	330
1"	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	216	243	250	255	260	265	271	276	282	287	293	299	305	311	317	323	330
Multi-Unit - City Rates																	
3/4"	130	147	148	151	154	157	160	163	167	170	173	177	180	184	188	191	195
Total	130	147	148	151	154	157	160	163	167	170	173	177	180	184	188	191	195
Total Multi-Unit - All	346	390	398	406	414	422	431	439	448	457	466	476	485	495	505	515	525
Grand Total Accounts	15,789	16,236	16,613	16,945	17,284	17,629	17,982	18,342	18,708	19,083	19,464	19,853	20,251	20,656	21,069	21,490	21,920

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Equivalent Meters**

Accounts by Class and Meter Size	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Estimated 2017	Projected Equivalent Meters													
							2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Residential, No Patio, FCLWD Rates																				
3/4"	11,823	12,245	12,658	12,974	13,303	13,569	13,840	14,117	14,400	14,688	14,981	15,281	15,587	15,898	16,216	16,541	16,871	17,209	17,553	
1"	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	
Total	11,828	12,250	12,663	12,979	13,308	13,574	13,845	14,122	14,405	14,693	14,987	15,286	15,592	15,904	16,222	16,547	16,878	17,215	17,559	
Residential, No Patio, City Rates																				
3/4"	1,699	1,768	1,819	1,857	1,870	1,907	1,946	1,984	2,024	2,065	2,106	2,148	2,191	2,235	2,280	2,325	2,372	2,419	2,467	
Total	1,699	1,768	1,819	1,857	1,870	1,907	1,946	1,984	2,024	2,065	2,106	2,148	2,191	2,235	2,280	2,325	2,372	2,419	2,467	
Residential, No Patio, City Exchange																				
3/4"	32	32	32	32	32	33	33	34	35	35	36	37	37	38	39	40	41	41	42	
Total	32	32	32	32	32	33	33	34	35	35	36	37	37	38	39	40	41	41	42	
Residential, Patio																				
3/4"	224	247	260	281	299	305	311	317	324	330	337	343	350	357	364	372	379	387	395	
Total	224	247	260	281	299	305	311	317	324	330	337	343	350	357	364	372	379	387	395	
Total Residential - All	13,783	14,297	14,774	15,149	15,509	15,819	16,135	16,458	16,787	17,123	17,465	17,815	18,171	18,534	18,905	19,283	19,669	20,062	20,464	
Commercial - FCLWD Rates																				
3/4"	245		331	346	350	357	364	372	379	387	394	402	410	418	427	435	444	453	462	
1"	107		141	149	154	157	160	164	167	170	174	177	181	184	188	192	195	199	203	
1.5"	71		99	103	103	105	107	109	112	114	116	119	121	123	126	128	131	133	136	
2"	123		168	179	181	184	188	192	196	200	204	208	212	216	220	225	229	234	239	
3"	84		102	109	112	114	117	119	121	124	126	129	131	134	137	139	142	145	148	
4"	12		20	20	20	20	21	21	22	22	23	23	23	24	24	25	25	26	26	
Walmart 1.5" as 2" Wtr	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Walmart 8" as 3" Fire Line	37		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1" Billed as 3/4"	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Water 2" Billed as 3/4"	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Foothills Gateway																				
Total	681	0	861	907	920	939	957	977	996	1,016	1,036	1,057	1,078	1,100	1,122	1,144	1,167	1,190	1,214	
Commercial - City Rates																				
3/4"	1		3	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	
1"	3		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
1.5"	10		12	12	12	12	12	13	13	13	14	14	14	15	15	15	16	16	16	
2"	6		13	13	13	13	13	14	14	14	14	15	15	15	16	16	16	17	17	
3"	26		13	13	13	13	13	14	14	14	14	15	15	15	16	16	16	17	17	
Total	46		42	41	42	43	44	45	46	47	48	48	49	50	51	52	54	55	56	
Commercial - City Exchange																				
3/4"	15		15	15	15	15	15	16	16	16	17	17	17	18	18	18	19	19	19	
1"	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.5"	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	
2"	9		6	6	6	7	7	7	7	7	7	7	7	8	8	8	8	8	8	
Total	25		24	23	23	24	24	25	25	26	26	27	27	28	28	29	29	30	31	
Total Commercial - All	752		926	971	986	1,005	1,025	1,046	1,067	1,088	1,110	1,132	1,155	1,178	1,201	1,225	1,250	1,275	1,301	

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Equivalent Meters**

Accounts by Class and Meter Size	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Actual 2016	Estimated 2017	Projected Equivalent Meters												
							2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Irrigation - FCLWD Rates																			
3/4"	39		47	49	48	49	50	51	52	53	54	55	56	57	59	60	61	62	63
1"	30		37	40	37	37	38	39	40	40	41	42	43	44	45	46	47	47	48
1.5"	42		49	52	57	58	59	60	61	62	64	65	66	68	69	70	72	73	75
2"	63		95	97	90	91	93	95	97	99	101	103	105	107	109	111	114	116	118
Standby Wt Tap																			
Total	174		228	238	231	235	240	245	250	255	260	265	270	276	281	287	293	299	305
Irrigation - City Rates																			
3/4"	6		6	6	7	7	7	7	7	7	7	7	8	8	8	8	8	8	9
1"	7		15	13	14	15	15	15	16	16	16	17	17	17	18	18	18	19	19
1.5"	19		9	8	8	8	8	8	8	9	9	9	9	10	10	10	10	10	10
2"	4		3	6	6	7	7	7	7	7	7	7	8	8	8	8	8	8	8
Total	36		34	33	35	36	37	37	38	39	40	40	41	42	43	44	45	45	46
Irrigation - City Exchange																			
3/4"	3		3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4
1"	1		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total	4		5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6
Total Irrigation - All	214		267	275	271	276	282	287	293	299	305	311	317	323	330	336	343	350	357
Multi-Unit - FCLWD																			
3/4"	196		216	243	250	255	260	265	271	276	282	287	293	299	305	311	317	323	330
1"	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	196		216	243	250	255	260	265	271	276	282	287	293	299	305	311	317	323	330
Multi-Unit - City Rates																			
3/4"	128		130	147	148	151	154	157	160	163	167	170	173	177	180	184	188	191	195
Total	128		130	147	148	151	154	157	160	163	167	170	173	177	180	184	188	191	195
Total Multi-Unit - All	324		346	390	398	406	414	422	431	439	448	457	466	476	485	495	505	515	525
Grand Total Equivalent Meters	15,073		16,313	16,785	17,163	17,506	17,856	18,214	18,578	18,949	19,328	19,715	20,109	20,511	20,922	21,340	21,767	22,202	22,646

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Average Billed Consumption per Account - Existing Disaggregated Rate Structure**

Customer Class	Historical Average Consumption per Account			Used in 2017
	2014	2015	2016	Forecast
Residential, No Patio, FCLWD Rates	131.16	133.08	152.76	139.00
Residential, No Patio, City Rates	95.07	95.45	107.41	99.31
Residential, No Patio, City Exchange	150.86	176.97	193.66	173.83
Residential, Patio	38.18	37.40	36.07	37.21
Commercial, FCLWD Rates	702.46	693.85	768.04	721.45
Commercial, Billed as City Use	1,381.58	1,558.84	1,626.08	1,522.17
Commercial, City Exchange Use	661.92	772.06	906.93	780.31
Irrigation, FCLWD Rates	2,291.85	2,149.16	2,947.54	2,462.85
Irrigation, City Rates	2,635.18	2,935.33	3,138.83	2,903.12
Irrigation, City Exchange	471.42	612.04	725.76	603.07
Residential, Multi-Unit - FCLWD	299.03	272.61	271.48	281.04
Residential, Multi-Unit - City	166.64	166.27	164.29	165.73
Total	166.43	167.40	192.30	175.38

Demand Reduction Factors for Average Consumption per Account											
2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Customer Class	Projected Average Consumption per Account										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
Residential, No Patio, FCLWD Rates	137.61	136.23	134.87	133.52	132.19	130.86	129.55	128.26	126.98	125.71	
Residential, No Patio, City Rates	98.32	97.33	96.36	95.40	94.44	93.50	92.56	91.64	90.72	89.81	
Residential, No Patio, City Exchange	172.09	170.37	168.67	166.98	165.31	163.66	162.02	160.40	158.80	157.21	
Residential, Patio	36.84	36.47	36.11	35.75	35.39	35.04	34.69	34.34	34.00	33.66	
Commercial, FCLWD Rates	721.45	721.45	721.45	721.45	721.45	721.45	721.45	721.45	721.45	721.45	
Commercial, Billed as City Use	1522.17	1522.17	1522.17	1522.17	1522.17	1522.17	1522.17	1522.17	1522.17	1522.17	
Commercial, City Exchange Use	780.31	780.31	780.31	780.31	780.31	780.31	780.31	780.31	780.31	780.31	
Irrigation, FCLWD Rates	2462.85	2462.85	2462.85	2462.85	2462.85	2462.85	2462.85	2462.85	2462.85	2462.85	
Irrigation, City Rates	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	
Irrigation, City Exchange	603.07	603.07	603.07	603.07	603.07	603.07	603.07	603.07	603.07	603.07	
Residential, Multi-Unit - FCLWD	281.04	281.04	281.04	281.04	281.04	281.04	281.04	281.04	281.04	281.04	
Residential, Multi-Unit - City	165.73	165.73	165.73	165.73	165.73	165.73	165.73	165.73	165.73	165.73	
Total	175.38	175.38	175.38	175.38	175.38	175.38	175.38	175.38	175.38	175.38	

Customer Class	2016 Actual Billed Consumption (Thousands of Gallons)									
	Tier Consumption				Percentage in Each Tier				Average Accounts	Average per Account
	1 to 8	8.001 to 15	Greater than 15	Total	1 to 8	8.001 to 15	Greater than 15	Total		
Residential, No Patio	874,236.01	363,181.13	795,172.86	2,032,590	43.0%	17.9%	39.1%	100%	13,306.00	152.76
Residential, No Patio, City Rates	122,924.70	40,910.76	37,024.54	200,860	61.2%	20.4%	18.4%	100%	1,870.00	107.41
Residential, No Patio, City Exchange	2,261.96	864.98	3,070.06	6,197	36.5%	14.0%	49.5%	100%	32.00	193.66
Residential, Patio	9,885.80	456.27	442.73	10,785	91.7%	4.2%	4.1%	100%	299.00	36.07
Commercial, FCLWD Rates	37,271.05	22,828.36	354,707.60	414,807	9.0%	5.5%	85.5%	100%	540.08	768.04
Commercial, Billed as City Use	961.47	756.90	19,420.70	21,139	4.5%	3.6%	91.9%	100%	13.00	1,626.08
Commercial, City Exchange Use	1,001.52	540.51	13,649.11	15,191	6.6%	3.6%	89.8%	100%	16.75	906.93
Irrigation, FCLWD Rates	9,089.97	7,294.80	317,423.91	333,809	2.7%	2.2%	95.1%	100%	113.25	2,947.54
Irrigation, City Rates	1,718.65	1,442.90	60,922.98	64,085	2.7%	2.3%	95.1%	100%	20.42	3,138.83
Irrigation, City Exchange	291.54	233.30	2,378.19	2,903	10.0%	8.0%	81.9%	100%	4.00	725.76
Residential, Multi-Unit	4,906.23	10,425.21	52,537.56	67,869	7.2%	15.4%	77.4%	100%	250.00	271.48
Residential, Multi-Unit, City Rates	12,701.42	6,015.67	5,597.92	24,315	52.2%	24.7%	23.0%	100%	148.00	164.29
Total System	1,077,250	454,951	1,662,348	3,194,549	33.7%	14.2%	52.0%	100%	16,613	192.30

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Average Billed Consumption per Account - Existing Disaggregated Rate Structure**

Customer Class	2015 Actual Billed Consumption (Thousands of Gallons)									Average Accounts	Average per Account
	Tier Consumption				Percentage in Each Tier						
	1 to 8	8,001 to 15	Greater than 15	Total	1 to 8	8,001 to 15	Greater than 15	Total			
Residential, No Patio	742,782.11	308,571.65	675,607.24	1,726,961	43.0%	17.9%	39.1%	100%	12,976.92	133.08	
Residential, No Patio, City Rates	108,481.25	36,103.82	32,674.21	177,259	61.2%	20.4%	18.4%	100%	1,857.00	95.45	
Residential, No Patio, City Exchange	2,067.11	790.46	2,805.59	5,663	36.5%	14.0%	49.5%	100%	32.00	176.97	
Residential, Patio	9,633.30	444.62	431.42	10,509	91.7%	4.2%	4.1%	100%	281.00	37.40	
Commercial, FCLWD Rates	33,192.64	20,330.35	315,893.52	369,417	9.0%	5.5%	85.5%	100%	532.42	693.85	
Commercial, Billed as City Use	850.81	669.79	17,185.51	18,706	4.5%	3.6%	91.9%	100%	12.00	1,558.84	
Commercial, City Exchange Use	852.59	460.13	11,619.35	12,932	6.6%	3.6%	89.8%	100%	16.75	772.06	
Irrigation, FCLWD Rates	6,744.89	5,412.85	235,533.23	247,691	2.7%	2.2%	95.1%	100%	115.25	2,149.16	
Irrigation, City Rates	1,495.70	1,255.72	53,019.84	55,771	2.7%	2.3%	95.1%	100%	19.00	2,935.33	
Irrigation, City Exchange	245.86	196.75	2,005.57	2,448	10.0%	8.0%	81.9%	100%	4.00	612.04	
Residential, Multi-Unit	4,788.76	10,175.60	51,279.64	66,244	7.2%	15.4%	77.4%	100%	243.00	272.61	
Residential, Multi-Unit, City Rates	12,767.23	6,046.84	5,626.93	24,441	52.2%	24.7%	23.0%	100%	147.00	166.27	
Total System	923,902	390,459	1,403,682	2,718,043	34.0%	14.4%	51.6%	100%	16,236	167.40	

Customer Class	2014 Actual Billed Consumption (Thousands of Gallons)									Average Accounts	Average per Account
	Tier Consumption				Percentage in Each Tier						
	1 to 8	8,001 to 15	Greater than 15	Total	1 to 8	8,001 to 15	Greater than 15	Total			
Residential, No Patio, FCLWD Rates	714,220.72	296,706.48	649,628.85	1,660,556	43.0%	17.9%	39.1%	100%	12,661.00	131.16	
Residential, No Patio, City Rates	105,828.64	35,220.99	31,875.26	172,925	61.2%	20.4%	18.4%	100%	1,819.00	95.07	
Residential, No Patio, City Exchange	1,762.14	673.84	2,391.67	4,828	36.5%	14.0%	49.5%	100%	32.00	150.86	
Residential, Patio	9,098.22	419.92	407.46	9,926	91.7%	4.2%	4.1%	100%	260.00	38.18	
Commercial, FCLWD Rates	31,947.99	19,568.01	304,048.24	355,564	9.0%	5.5%	85.5%	100%	506.17	702.46	
Commercial, Billed as City Use	816.90	643.09	16,500.52	17,961	4.5%	3.6%	91.9%	100%	13.00	1,381.58	
Commercial, City Exchange Use	749.14	404.30	10,209.52	11,363	6.6%	3.6%	89.8%	100%	17.17	661.92	
Irrigation, FCLWD Rates	6,844.24	5,492.57	239,002.36	251,339	2.7%	2.2%	95.1%	100%	109.67	2,291.85	
Irrigation, City Rates	1,478.21	1,241.04	52,400.01	55,119	2.7%	2.3%	95.1%	100%	20.92	2,635.18	
Irrigation, City Exchange	189.37	151.54	1,544.77	1,886	10.0%	8.0%	81.9%	100%	4.00	471.42	
Residential, Multi-Unit	4,669.22	9,921.58	49,999.55	64,590	7.2%	15.4%	77.4%	100%	216.00	299.03	
Residential, Multi-Unit, City Rates	11,316.37	5,359.68	4,987.48	21,664	52.2%	24.7%	23.0%	100%	130.00	166.64	
Total System	888,921	375,803	1,362,996	2,627,720	33.8%	14.3%	51.9%	100%	15,789	166.43	

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Billed Consumption - Existing Disaggregated Rate Structure**

Item	Actual 2016	Estimated 2017	Projected Price Elasticity Factors												
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual Revenue Increases			4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
% Decline in Consumption Due to Price Elasticity															
TIER 1	1.0%	0.0%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
TIER 2	2.0%	0.0%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
TIER 3	3.0%	0.0%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%

Customer Class	Consumption by Tier	Actual 2016	Estimated 2017	Projected Billed Consumption by TIER													
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Residential, No Patio, FCLWD Rates																	
1 to 8	43.0%	874,236	811,397	816,071	820,808	826,635	833,040	839,820	846,874	854,145	861,598	869,211	876,967	884,856	892,868	900,999	
8.001 to 15	17.9%	363,181	337,076	337,656	339,616	342,027	344,678	347,483	350,401	353,410	356,494	359,643	362,853	366,117	369,432	372,796	
Greater than 15	39.1%	795,173	738,016	736,306	740,580	745,838	751,617	757,734	764,098	770,658	777,383	784,252	791,250	798,368	805,597	812,933	
Total	100.0%	2,032,590	1,886,489	1,890,033	1,901,003	1,914,501	1,929,335	1,945,037	1,961,373	1,978,213	1,995,475	2,013,106	2,031,070	2,049,340	2,067,897	2,086,728	
Forecast Demand Before Elasticity Adjustment			1,886,489	1,904,976	1,923,645	1,942,497	1,961,533	1,980,756	2,000,168	2,019,769	2,039,563	2,059,551	2,079,734	2,100,116	2,120,697	2,141,480	
Annual Loss Due to Price Elasticity Response			0	(14,943)	(22,642)	(27,996)	(32,198)	(35,720)	(38,795)	(41,557)	(44,088)	(46,445)	(48,665)	(50,776)	(52,800)	(54,751)	
Annual % Loss Due to Price Elasticity Response			0.00%	-0.78%	-1.18%	-1.44%	-1.64%	-1.80%	-1.94%	-2.06%	-2.16%	-2.26%	-2.34%	-2.42%	-2.49%	-2.56%	
Cumulative Loss Due to Price Elasticity Response			0	(14,943)	(37,585)	(65,582)	(97,780)	(133,499)	(172,294)	(213,851)	(257,939)	(304,384)	(353,049)	(403,825)	(456,625)	(511,376)	
Cumulative % Loss Due to Price Elasticity Response			0.00%	-0.40%	-0.66%	-0.86%	-1.03%	-1.16%	-1.28%	-1.39%	-1.48%	-1.57%	-1.65%	-1.72%	-1.79%	-1.85%	
Residential, No Patio, City Rates																	
1 to 8	61.2%	122,925	115,927	116,595	117,364	118,261	119,226	120,236	121,281	122,352	123,447	124,562	125,696	126,848	128,016	129,201	
8.001 to 15	20.4%	40,911	38,582	38,648	38,903	39,200	39,520	39,855	40,202	40,557	40,920	41,289	41,665	42,047	42,434	42,827	
Greater than 15	18.4%	37,025	34,917	34,836	35,066	35,334	35,622	35,924	36,236	36,556	36,883	37,216	37,555	37,899	38,248	38,602	
Total	100.0%	200,860	189,425	190,079	191,333	192,795	194,369	196,016	197,718	199,465	201,250	203,068	204,917	206,794	208,699	210,630	
Forecast Demand Before Elasticity Adjustment			189,425	191,282	193,156	195,049	196,961	198,891	200,840	202,808	204,796	206,803	208,829	210,876	212,943	215,029	
Annual Loss Due to Price Elasticity Response			0	(1,203)	(1,823)	(2,254)	(2,592)	(2,875)	(3,122)	(3,343)	(3,546)	(3,735)	(3,913)	(4,082)	(4,243)	(4,399)	
Annual % Loss Due to Price Elasticity Response			0.00%	-0.63%	-0.94%	-1.16%	-1.32%	-1.45%	-1.55%	-1.65%	-1.73%	-1.81%	-1.87%	-1.94%	-2.00%	-2.05%	
Cumulative Loss Due to Price Elasticity Response			0	(1,203)	(3,026)	(5,281)	(7,873)	(10,748)	(13,870)	(17,213)	(20,760)	(24,495)	(28,407)	(32,489)	(36,732)	(41,132)	
Cumulative % Loss Due to Price Elasticity Response			0.00%	-0.32%	-0.53%	-0.69%	-0.82%	-0.93%	-1.03%	-1.11%	-1.18%	-1.25%	-1.31%	-1.37%	-1.43%	-1.48%	
Residential, No Patio, City Exchange																	
1 to 8	36.5%	2,262	2,071	2,083	2,094	2,109	2,125	2,142	2,159	2,178	2,196	2,216	2,235	2,255	2,275	2,296	
8.001 to 15	14.0%	865	792	793	798	803	809	816	822	829	837	844	851	859	867	874	
Greater than 15	49.5%	3,070	2,811	2,804	2,820	2,839	2,861	2,883	2,907	2,932	2,957	2,983	3,009	3,036	3,064	3,091	
Total	100.0%	6,197	5,674	5,681	5,712	5,751	5,794	5,841	5,889	5,939	5,990	6,043	6,096	6,150	6,206	6,262	
Forecast Demand Before Elasticity Adjustment			5,674	5,729	5,786	5,842	5,900	5,957	6,016	6,075	6,134	6,194	6,255	6,316	6,378	6,441	
Annual Loss Due to Price Elasticity Response			0	(49)	(74)	(91)	(105)	(117)	(127)	(136)	(144)	(152)	(159)	(166)	(173)	(179)	
Annual % Loss Due to Price Elasticity Response			0.00%	-0.85%	-1.28%	-1.57%	-1.78%	-1.96%	-2.11%	-2.24%	-2.35%	-2.45%	-2.54%	-2.63%	-2.71%	-2.78%	
Cumulative Loss Due to Price Elasticity Response			0	(49)	(123)	(214)	(319)	(436)	(563)	(699)	(843)	(995)	(1,154)	(1,320)	(1,492)	(1,671)	
Cumulative % Loss Due to Price Elasticity Response			0.00%	-0.43%	-0.72%	-0.94%	-1.12%	-1.27%	-1.40%	-1.51%	-1.61%	-1.71%	-1.79%	-1.87%	-1.94%	-2.01%	
Residential, Patio																	
1 to 8	91.7%	9,886	10,404	10,464	10,542	10,629	10,721	10,816	10,914	11,013	11,114	11,217	11,322	11,427	11,535	11,643	
8.001 to 15	4.2%	456	480	481	485	489	493	497	502	506	511	516	520	525	530	535	
Greater than 15	4.1%	443	466	465	468	472	476	481	485	489	494	498	503	508	512	517	
Total	100.0%	10,785	11,350	11,409	11,495	11,590	11,690	11,794	11,900	12,009	12,119	12,231	12,345	12,460	12,577	12,696	
Forecast Demand Before Elasticity Adjustment			10,785	11,350	11,461	11,573	11,687	11,801	11,917	12,034	12,152	12,271	12,391	12,512	12,635	12,759	12,884
Annual Loss Due to Price Elasticity Response			0	(52)	(78)	(97)	(111)	(123)	(134)	(143)	(152)	(160)	(167)	(175)	(181)	(188)	
Annual % Loss Due to Price Elasticity Response			0.00%	-0.45%	-0.68%	-0.83%	-0.94%	-1.03%	-1.11%	-1.18%	-1.24%	-1.29%	-1.34%	-1.38%	-1.42%	-1.46%	
Cumulative Loss Due to Price Elasticity Response			0	(52)	(130)	(226)	(337)	(461)	(594)	(737)	(889)	(1,049)	(1,216)	(1,391)	(1,572)	(1,761)	
Cumulative % Loss Due to Price Elasticity Response			0.00%	-0.23%	-0.38%	-0.49%	-0.59%	-0.66%	-0.73%	-0.79%	-0.84%	-0.89%	-0.94%	-0.98%	-1.01%	-1.05%	

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Billed Consumption - Existing Disaggregated Rate Structure**

Commercial, FCLWD Rates																
1 to 8	9.0%	37,271	35,710	36,279	36,797	37,389	38,025	38,692	39,386	40,102	40,839	41,596	42,372	43,167	43,981	44,813
8.001 to 15	5.5%	22,828	21,872	22,131	22,447	22,809	23,196	23,604	24,027	24,464	24,913	25,375	25,849	26,334	26,830	27,338
Greater than 15	85.5%	354,708	339,854	342,492	347,379	352,971	358,974	365,276	371,823	378,585	385,544	392,691	400,019	407,524	415,204	423,058
Total	100.0%	414,807	397,437	400,902	406,623	413,168	420,195	427,572	435,235	443,150	451,297	459,663	468,240	477,025	486,015	495,209
Forecast Demand Before Elasticity Adjustment			397,437	405,386	413,494	421,763	430,199	438,803	447,579	456,530	465,661	474,974	484,474	494,163	504,046	514,127
Annual Loss Due to Price Elasticity Response		0	(4,484)	(6,870)	(8,595)	(10,004)	(11,231)	(12,343)	(13,380)	(14,364)	(15,311)	(16,233)	(17,138)	(18,031)	(18,918)	
Annual % Loss Due to Price Elasticity Response	0.00%		-1.11%	-1.66%	-2.04%	-2.33%	-2.56%	-2.76%	-2.93%	-3.08%	-3.22%	-3.35%	-3.47%	-3.58%	-3.68%	
Cumulative Loss Due to Price Elasticity Response		0	(4,484)	(11,354)	(19,950)	(29,954)	(41,184)	(53,527)	(66,907)	(81,271)	(96,582)	(112,816)	(129,954)	(147,985)	(166,904)	
Cumulative % Loss Due to Price Elasticity Response	0.00%		-0.56%	-0.94%	-1.23%	-1.47%	-1.67%	-1.85%	-2.00%	-2.14%	-2.27%	-2.39%	-2.50%	-2.60%	-2.70%	
Commercial, Billed as City Use																
1 to 8	4.5%	961	918	933	946	961	977	994	1,012	1,030	1,049	1,068	1,088	1,109	1,129	1,151
8.001 to 15	3.6%	757	723	731	742	753	766	779	793	808	823	838	853	869	886	902
Greater than 15	91.9%	19,421	18,543	18,687	18,950	19,252	19,577	19,919	20,274	20,641	21,019	21,407	21,806	22,214	22,631	23,058
Total	100.0%	21,139	20,184	20,351	20,637	20,966	21,320	21,692	22,079	22,479	22,891	23,313	23,747	24,191	24,646	25,111
Forecast Demand Before Elasticity Adjustment		21,139	20,184	20,588	20,999	21,419	21,848	22,285	22,730	23,185	23,649	24,122	24,604	25,096	25,598	26,110
Annual Loss Due to Price Elasticity Response		0	0	(237)	(363)	(454)	(528)	(593)	(651)	(706)	(758)	(808)	(857)	(905)	(952)	(999)
Annual % Loss Due to Price Elasticity Response	0.00%		-1.15%	-1.73%	-2.12%	-2.42%	-2.66%	-2.87%	-3.05%	-3.21%	-3.35%	-3.48%	-3.61%	-3.72%	-3.83%	
Cumulative Loss Due to Price Elasticity Response		0	(237)	(599)	(1,053)	(1,581)	(2,173)	(2,825)	(3,531)	(4,289)	(5,097)	(5,954)	(6,859)	(7,811)	(8,810)	
Cumulative % Loss Due to Price Elasticity Response	0.00%		-0.58%	-0.98%	-1.28%	-1.53%	-1.74%	-1.92%	-2.08%	-2.23%	-2.36%	-2.48%	-2.60%	-2.71%	-2.81%	
Commercial, City Exchange Use																
1 to 8	6.6%	1,002	879	893	906	920	936	952	969	987	1,005	1,023	1,042	1,062	1,082	1,102
8.001 to 15	3.6%	541	474	480	487	495	503	512	521	530	540	550	560	571	581	592
Greater than 15	89.8%	13,649	11,978	12,071	12,242	12,438	12,648	12,870	13,099	13,337	13,582	13,833	14,091	14,354	14,625	14,901
Total	100.0%	15,191	13,332	13,444	13,634	13,852	14,087	14,333	14,589	14,854	15,126	15,406	15,693	15,987	16,288	16,595
Forecast Demand Before Elasticity Adjustment		15,191	13,332	13,598	13,870	14,148	14,430	14,719	15,013	15,314	15,620	15,932	16,251	16,576	16,908	17,246
Annual Loss Due to Price Elasticity Response		0	0	(154)	(236)	(295)	(344)	(386)	(424)	(460)	(494)	(526)	(558)	(589)	(620)	(650)
Annual % Loss Due to Price Elasticity Response	0.00%		-1.13%	-1.70%	-2.09%	-2.38%	-2.62%	-2.83%	-3.00%	-3.16%	-3.30%	-3.43%	-3.55%	-3.67%	-3.77%	
Cumulative Loss Due to Price Elasticity Response		0	(154)	(390)	(685)	(1,029)	(1,415)	(1,839)	(2,299)	(2,793)	(3,319)	(3,877)	(4,466)	(5,086)	(5,736)	
Cumulative % Loss Due to Price Elasticity Response	0.00%		-0.58%	-0.97%	-1.26%	-1.51%	-1.71%	-1.89%	-2.05%	-2.19%	-2.33%	-2.45%	-2.56%	-2.67%	-2.77%	
Irrigation, FCLWD Rates																
1 to 8	2.7%	9,090	7,747	7,870	8,076	8,237	8,402	8,570	8,741	8,916	9,094	9,276	9,461	9,651	9,844	10,041
8.001 to 15	2.2%	7,295	6,217	6,291	6,455	6,584	6,715	6,850	6,987	7,126	7,269	7,414	7,562	7,714	7,868	8,025
Greater than 15	95.1%	317,424	270,532	272,631	279,736	285,322	291,027	296,847	302,783	308,839	315,015	321,315	327,742	334,296	340,982	347,802
Total	100.0%	333,809	284,496	286,792	294,266	300,143	306,144	312,266	318,511	324,881	331,378	338,005	344,765	351,661	358,694	365,868
Forecast Demand Before Elasticity Adjustment		333,809	284,496	290,186	295,990	301,909	307,948	314,107	320,389	326,796	333,332	339,999	346,799	353,735	360,810	368,026
Annual Loss Due to Price Elasticity Response		0	0	(3,394)	(1,724)	(1,767)	(1,804)	(1,841)	(1,878)	(1,916)	(1,954)	(1,994)	(2,034)	(2,074)	(2,116)	(2,158)
Annual % Loss Due to Price Elasticity Response	0.00%		-1.17%	-0.58%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	
Cumulative Loss Due to Price Elasticity Response		0	(3,394)	(5,117)	(6,884)	(8,688)	(10,529)	(12,407)	(14,323)	(16,278)	(18,271)	(20,305)	(22,379)	(24,495)	(26,653)	
Cumulative % Loss Due to Price Elasticity Response	0.00%		-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	-0.59%	
Irrigation, City Rates																
1 to 8	2.7%	1,719	1,621	1,647	1,670	1,697	1,725	1,755	1,786	1,819	1,852	1,886	1,921	1,957	1,994	2,031
8.001 to 15	2.3%	1,443	1,361	1,377	1,397	1,419	1,443	1,468	1,494	1,521	1,549	1,577	1,606	1,636	1,667	1,699
Greater than 15	95.1%	60,923	57,475	57,921	58,728	59,660	60,664	61,720	62,819	63,954	65,124	66,325	67,557	68,819	70,111	71,433
Total	100.0%	64,085	60,457	60,945	61,795	62,775	63,832	64,943	66,099	67,294	68,524	69,788	71,085	72,413	73,772	75,163
Forecast Demand Before Elasticity Adjustment		64,085	60,457	61,667	62,900	64,158	65,441	66,750	68,085	69,447	70,835	72,252	73,697	75,171	76,675	78,208
Annual Loss Due to Price Elasticity Response		0	0	(721)	(1,105)	(1,382)	(1,609)	(1,807)	(1,986)	(2,153)	(2,311)	(2,464)	(2,613)	(2,758)	(2,902)	(3,045)
Annual % Loss Due to Price Elasticity Response	0.00%		-1.17%	-1.76%	-2.15%	-2.46%	-2.71%	-2.92%	-3.10%	-3.26%	-3.41%	-3.54%	-3.67%	-3.79%	-3.89%	
Cumulative Loss Due to Price Elasticity Response		0	(721)	(1,826)	(3,209)	(4,818)	(6,624)	(8,610)	(10,762)	(13,074)	(15,537)	(18,150)	(20,908)	(23,811)	(26,856)	
Cumulative % Loss Due to Price Elasticity Response	0.00%		-0.59%	-1.00%	-1.30%	-1.56%	-1.77%	-1.95%	-2.12%	-2.27%	-2.40%	-2.53%	-2.65%	-2.76%	-2.86%	

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Billed Consumption - Existing Disaggregated Rate Structure**

Irrigation, City Exchange																
1 to 8	10.0%	292	247	251	255	259	263	268	273	278	283	288	293	299	304	310
8.001 to 15	8.0%	233	198	200	203	206	210	213	217	221	225	229	234	238	243	247
Greater than 15	81.9%	2,378	2,016	2,031	2,061	2,094	2,130	2,167	2,206	2,246	2,287	2,330	2,373	2,418	2,464	2,510
Total	100.0%	2,903	2,461	2,482	2,518	2,559	2,602	2,648	2,696	2,745	2,795	2,847	2,901	2,955	3,011	3,068
Forecast Demand Before Elasticity Adjustment		2,903	2,461	2,510	2,560	2,611	2,663	2,717	2,771	2,826	2,883	2,941	2,999	3,059	3,121	3,183
Annual Loss Due to Price Elasticity Response		0	0	(27)	(42)	(52)	(61)	(68)	(75)	(81)	(87)	(93)	(99)	(104)	(110)	(115)
Annual % Loss Due to Price Elasticity Response	0.00%			-1.09%	-1.63%	-2.00%	-2.29%	-2.52%	-2.71%	-2.88%	-3.03%	-3.17%	-3.29%	-3.41%	-3.52%	-3.62%
Cumulative Loss Due to Price Elasticity Response		0	(27)	(69)	(121)	(182)	(251)	(326)	(407)	(495)	(588)	(687)	(791)	(901)	(1,016)	
Cumulative % Loss Due to Price Elasticity Response	0.00%			-0.55%	-0.93%	-1.21%	-1.44%	-1.64%	-1.81%	-1.97%	-2.10%	-2.23%	-2.35%	-2.46%	-2.56%	-2.65%
Residential, Multi-Unit - FCLWD																
1 to 8	7.2%	4,906	5,181	5,263	5,339	5,425	5,518	5,615	5,716	5,820	5,928	6,038	6,150	6,266	6,384	6,505
8.001 to 15	15.4%	10,425	11,008	11,139	11,299	11,482	11,678	11,884	12,097	12,318	12,545	12,778	13,017	13,261	13,512	13,768
Greater than 15	77.4%	52,538	55,476	55,906	56,712	57,630	58,614	59,646	60,718	61,825	62,964	64,134	65,332	66,560	67,817	69,101
Total	100.0%	67,869	71,665	72,308	73,350	74,537	75,810	77,145	78,532	79,963	81,436	82,949	84,500	86,088	87,712	89,374
Forecast Demand Before Elasticity Adjustment		67,869	71,665	73,098	74,560	76,051	77,572	79,124	80,706	82,320	83,967	85,646	87,359	89,106	90,888	92,706
Annual Loss Due to Price Elasticity Response		0	0	(790)	(1,210)	(1,514)	(1,762)	(1,979)	(2,174)	(2,357)	(2,530)	(2,697)	(2,859)	(3,019)	(3,176)	(3,332)
Annual % Loss Due to Price Elasticity Response	0.00%			-1.08%	-1.62%	-1.99%	-2.27%	-2.50%	-2.69%	-2.86%	-3.01%	-3.15%	-3.27%	-3.39%	-3.49%	-3.59%
Cumulative Loss Due to Price Elasticity Response		0	(790)	(2,000)	(3,515)	(5,277)	(7,256)	(9,430)	(11,787)	(14,318)	(17,015)	(19,874)	(22,892)	(26,068)	(29,400)	
Cumulative % Loss Due to Price Elasticity Response	0.00%			-0.55%	-0.92%	-1.20%	-1.44%	-1.63%	-1.80%	-1.95%	-2.09%	-2.22%	-2.33%	-2.44%	-2.54%	-2.64%
Residential, Multi-Unit - City Rates																
1 to 8	52.2%	12,701	13,069	13,277	13,496	13,733	13,983	14,242	14,509	14,783	15,064	15,353	15,647	15,949	16,257	16,571
8.001 to 15	24.7%	6,016	6,190	6,263	6,366	6,478	6,596	6,718	6,844	6,974	7,106	7,242	7,381	7,523	7,669	7,817
Greater than 15	23.0%	5,598	5,760	5,805	5,900	6,004	6,113	6,226	6,343	6,463	6,586	6,712	6,841	6,973	7,107	7,245
Total	100.0%	24,315	25,019	25,345	25,762	26,216	26,692	27,187	27,696	28,220	28,757	29,307	29,869	30,445	31,033	31,633
Forecast Demand Before Elasticity Adjustment		24,315	25,019	25,519	26,030	26,550	27,081	27,623	28,175	28,739	29,314	29,900	30,498	31,108	31,730	32,365
Annual Loss Due to Price Elasticity Response		0	0	(174)	(267)	(334)	(389)	(436)	(479)	(519)	(557)	(593)	(629)	(663)	(698)	(731)
Annual % Loss Due to Price Elasticity Response	0.00%			-0.68%	-1.03%	-1.26%	-1.44%	-1.58%	-1.70%	-1.81%	-1.90%	-1.98%	-2.06%	-2.13%	-2.20%	-2.26%
Cumulative Loss Due to Price Elasticity Response		0	(174)	(442)	(776)	(1,165)	(1,601)	(2,081)	(2,600)	(3,157)	(3,750)	(4,379)	(5,042)	(5,740)	(6,471)	
Cumulative % Loss Due to Price Elasticity Response	0.00%			-0.35%	-0.58%	-0.76%	-0.90%	-1.03%	-1.13%	-1.23%	-1.31%	-1.39%	-1.46%	-1.53%	-1.59%	-1.65%
Annual Use (All Classes)																
After Price Elasticity Adjustment		3,194,549	2,967,988	2,979,772	3,008,128	3,038,852	3,071,870	3,106,473	3,142,317	3,179,211	3,217,038	3,255,726	3,295,227	3,335,509	3,376,550	3,418,337
Before Price Elasticity Adjustment		540,095	2,967,988	3,006,000	3,044,563	3,083,685	3,123,377	3,163,648	3,204,506	3,245,962	3,288,025	3,330,705	3,374,013	3,417,958	3,462,552	3,507,805
% Difference		491.48%	0.00%	-0.87%	-1.20%	-1.45%	-1.65%	-1.81%	-1.94%	-2.06%	-2.16%	-2.25%	-2.34%	-2.41%	-2.48%	-2.55%
Cumulative Use (All Classes)																
Cumulative Total Use - After Price Elasticity Adjustment		3,194,549	6,162,537	9,142,309	12,150,437	15,189,289	18,261,159	21,367,633	24,509,950	27,689,161	30,906,199	34,161,925	37,457,153	40,792,662	44,169,212	47,587,549
Cumulative Total Use - Before Price Elasticity Adjustment		540,095	3,508,083	6,514,083	9,558,646	12,642,331	15,765,709	18,929,356	22,133,862	25,379,824	28,667,849	31,998,554	35,372,567	38,790,525	42,253,077	45,760,881
% Difference		491.48%	75.67%	40.35%	27.11%	20.15%	15.83%	12.88%	10.74%	9.10%	7.81%	6.76%	5.89%	5.16%	4.53%	3.99%

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Service Charge Revenue at Existing Rates**

Customer Class	Actual 2016	Estimated 2017	Projected Service Charge Revenue												
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Residential, No Patio, FCLWD Rates															
3/4"	\$2,139,122	\$2,181,905	\$2,225,543	\$2,270,054	\$2,315,455	\$2,361,764	\$2,408,999	\$2,457,179	\$2,506,323	\$2,556,449	\$2,607,578	\$2,659,730	\$2,712,924	\$2,767,183	\$2,822,527
1"	703	717	731	746	761	776	792	808	824	840	857	874	892	910	928
Total	2,139,825	2,182,622	2,226,274	2,270,800	2,316,216	2,362,540	2,409,791	2,457,987	2,507,147	2,557,290	2,608,435	2,660,604	2,713,816	2,768,092	2,823,454
Residential, No Patio, City Rates															
3/4"	300,696	306,710	312,844	319,101	325,483	331,993	338,633	345,405	352,313	359,360	366,547	373,878	381,355	388,982	396,762
Total	300,696	306,710	312,844	319,101	325,483	331,993	338,633	345,405	352,313	359,360	366,547	373,878	381,355	388,982	396,762
Residential, No Patio, City Exchange															
3/4"	5,146	5,249	5,353	5,461	5,570	5,681	5,795	5,911	6,029	6,149	6,272	6,398	6,526	6,656	6,790
Total	5,146	5,249	5,353	5,461	5,570	5,681	5,795	5,911	6,029	6,149	6,272	6,398	6,526	6,656	6,790
Residential, Patio															
3/4"	48,079	49,041	50,022	51,022	52,042	53,083	54,145	55,228	56,332	57,459	58,608	59,780	60,976	62,196	63,439
Total	48,079	49,041	50,022	51,022	52,042	53,083	54,145	55,228	56,332	57,459	58,608	59,780	60,976	62,196	63,439
Residential - All	2,493,746	2,543,621	2,594,494	2,646,384	2,699,311	2,753,297	2,808,363	2,864,531	2,921,821	2,980,258	3,039,863	3,100,660	3,162,673	3,225,927	3,290,445
Commercial - FCLWD Rates															
3/4"	56,307	57,433	58,582	59,753	60,948	62,167	63,411	64,679	65,972	67,292	68,638	70,010	71,411	72,839	74,296
1"	22,577	23,028	23,489	23,959	24,438	24,926	25,425	25,934	26,452	26,981	27,521	28,071	28,633	29,205	29,789
1.5"	21,479	21,909	22,347	22,794	23,250	23,715	24,189	24,673	25,166	25,670	26,183	26,707	27,241	27,786	28,341
2"	17,967	18,326	18,693	19,067	19,448	19,837	20,234	20,638	21,051	21,472	21,902	22,340	22,787	23,242	23,707
3"	10,689	10,903	11,121	11,343	11,570	11,802	12,038	12,278	12,524	12,774	13,030	13,290	13,556	13,827	14,104
4"	2,443	2,492	2,542	2,593	2,645	2,697	2,751	2,806	2,863	2,920	2,978	3,038	3,099	3,161	3,224
Walmart 1.5" as 2" Wtr	636	649	662	675	688	702	716	731	745	760	775	791	807	823	839
Walmart 8" as 3" Fire Line	1,222	1,246	1,271	1,296	1,322	1,349	1,376	1,403	1,431	1,460	1,489	1,519	1,549	1,580	1,612
1" Billed as 3/4"	161	164	167	171	174	178	181	185	188	192	196	200	204	208	212
Water 2" Billed as 3/4"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Foothills Gateway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	133,480	136,150	138,873	141,650	144,483	147,373	150,321	153,327	156,394	159,521	162,712	165,966	169,285	172,671	176,125
Commercial - City Rates															
3/4"	482	492	502	512	522	533	543	554	565	577	588	600	612	624	637
1"	234	239	244	249	254	259	264	269	275	280	286	291	297	303	309
1.5"	2,498	2,548	2,599	2,651	2,704	2,758	2,814	2,870	2,927	2,986	3,046	3,106	3,169	3,232	3,297
2"	1,272	1,297	1,323	1,350	1,377	1,404	1,432	1,461	1,490	1,520	1,551	1,582	1,613	1,645	1,678
3"	1,222	1,246	1,271	1,296	1,322	1,349	1,376	1,403	1,431	1,460	1,489	1,519	1,549	1,580	1,612
Total	5,709	5,823	5,939	6,058	6,179	6,303	6,429	6,558	6,689	6,822	6,959	7,098	7,240	7,385	7,533
Commercial - City Exchange															
3/4"	2,372	2,419	2,468	2,517	2,567	2,619	2,671	2,724	2,779	2,835	2,891	2,949	3,008	3,068	3,130
1"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.5"	416	425	433	442	451	460	469	478	488	498	508	518	528	539	549
2"	636	649	662	675	688	702	716	731	745	760	775	791	807	823	839
Total	3,424	3,493	3,563	3,634	3,706	3,781	3,856	3,933	4,012	4,092	4,174	4,258	4,343	4,430	4,518
Total Commercial - All	142,613	145,466	148,375	151,342	154,369	157,457	160,606	163,818	167,094	170,436	173,845	177,322	180,868	184,486	188,175

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Service Charge Revenue at Existing Rates**

Customer Class	Actual 2016	Estimated 2017	Projected Service Charge Revenue												
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Irrigation - FCLWD Rates															
3/4"	15,758	16,074	16,395	16,723	17,057	17,399	17,747	18,101	18,463	18,833	19,209	19,594	19,985	20,385	20,793
1"	10,312	10,518	10,728	10,943	11,162	11,385	11,613	11,845	12,082	12,324	12,570	12,821	13,078	13,339	13,606
1.5"	22,486	22,935	23,394	23,862	24,339	24,826	25,322	25,829	26,345	26,872	27,410	27,958	28,517	29,088	29,669
2"	17,172	17,515	17,866	18,223	18,588	18,959	19,338	19,725	20,120	20,522	20,933	21,351	21,778	22,214	22,658
Standby Wt Tap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	65,728	67,042	68,383	69,751	71,146	72,569	74,020	75,501	77,011	78,551	80,122	81,724	83,359	85,026	86,726
Irrigation - City Rates															
3/4"	2,090	2,132	2,175	2,218	2,263	2,308	2,354	2,401	2,449	2,498	2,548	2,599	2,651	2,704	2,758
1"	1,875	1,912	1,951	1,990	2,029	2,070	2,111	2,154	2,197	2,241	2,285	2,331	2,378	2,425	2,474
1.5"	6,662	6,796	6,932	7,070	7,212	7,356	7,503	7,653	7,806	7,962	8,121	8,284	8,450	8,619	8,791
2"	636	649	662	675	688	702	716	731	745	760	775	791	807	823	839
Total	11,264	11,489	11,719	11,953	12,192	12,436	12,685	12,938	13,197	13,461	13,730	14,005	14,285	14,571	14,862
Irrigation - City Exchange															
3/4"	965	984	1,004	1,024	1,044	1,065	1,087	1,108	1,130	1,153	1,176	1,200	1,224	1,248	1,273
1"	234	239	244	249	254	259	264	269	275	280	286	291	297	303	309
Total	1,199	1,223	1,248	1,273	1,298	1,324	1,350	1,377	1,405	1,433	1,462	1,491	1,521	1,551	1,582
Total Irrigation - All	78,191	79,754	81,350	82,977	84,636	86,329	88,055	89,817	91,613	93,445	95,314	97,220	99,165	101,148	103,171
Multi-Unit - FCLWD															
3/4"	237,341	242,088	246,929	251,868	256,905	262,043	267,284	272,630	278,083	283,644	289,317	295,103	301,006	307,026	313,166
1"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	237,341	242,088	246,929	251,868	256,905	262,043	267,284	272,630	278,083	283,644	289,317	295,103	301,006	307,026	313,166
Multi-Unit - City Rates															
3/4"	97,445	99,394	101,382	103,409	105,477	107,587	109,739	111,933	114,172	116,456	118,785	121,160	123,584	126,055	128,576
Total	97,445	99,394	101,382	103,409	105,477	107,587	109,739	111,933	114,172	116,456	118,785	121,160	123,584	126,055	128,576
Total Irrigation - All	334,786	341,481	348,311	355,277	362,383	369,630	377,023	384,563	392,255	400,100	408,102	416,264	424,589	433,081	441,742
Grand Total Charge Revenue	\$3,049,336	\$3,110,323	\$3,172,529	\$3,235,980	\$3,300,699	\$3,366,713	\$3,434,047	\$3,502,728	\$3,572,783	\$3,644,239	\$3,717,123	\$3,791,466	\$3,867,295	\$3,944,641	\$4,023,534

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Volumetric Revenue at Existing Rates**

Customer Class	Actual 2016	Estimated 2017	Projected Volumetric Revenue at Existing Rates														
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
Residential, No Patio, FCLWD Rates																	
1 to 8	\$1,363,808	\$1,265,779	\$1,273,070	\$1,280,460	\$1,289,551	\$1,299,543	\$1,310,119	\$1,321,123	\$1,332,466	\$1,344,093	\$1,355,969	\$1,368,069	\$1,380,375	\$1,392,875	\$1,405,559		
8 to 15	802,630	744,938	746,220	750,552	755,881	761,737	767,937	774,387	781,035	787,851	794,812	801,904	809,118	816,444	823,879		
Greater than 15	2,361,663	2,191,909	2,186,829	2,199,522	2,215,139	2,232,302	2,250,470	2,269,371	2,288,855	2,308,828	2,329,228	2,350,013	2,371,152	2,392,623	2,414,412		
Total	4,528,102	4,202,625	4,206,119	4,230,533	4,260,570	4,293,583	4,328,526	4,364,881	4,402,357	4,440,772	4,480,009	4,519,985	4,560,644	4,601,943	4,643,850		
Residential, No Patio, City Rates																	
1 to 8	335,584	316,480	318,303	320,404	322,852	325,487	328,246	331,096	334,021	337,010	340,055	343,151	346,295	349,485	352,718		
8 to 15	146,051	137,737	137,974	138,885	139,946	141,088	142,284	143,519	144,787	146,083	147,403	148,745	150,108	151,490	152,892		
Greater than 15	162,908	153,634	153,278	154,289	155,468	156,737	158,065	159,438	160,847	162,286	163,752	165,243	166,757	168,293	169,850		
Total	644,544	607,851	609,555	613,578	618,266	623,312	628,595	634,054	639,655	645,378	651,209	657,139	663,160	669,268	675,460		
Residential, No Patio, City Exchange																	
1 to 8	3,529	3,231	3,249	3,267	3,290	3,314	3,341	3,369	3,397	3,426	3,456	3,487	3,518	3,550	3,582		
8 to 15	1,912	1,750	1,753	1,763	1,775	1,788	1,803	1,818	1,833	1,849	1,865	1,881	1,898	1,915	1,933		
Greater than 15	9,118	8,348	8,329	8,374	8,432	8,496	8,564	8,634	8,708	8,783	8,860	8,938	9,018	9,099	9,181		
Total	14,558	13,329	13,332	13,404	13,496	13,599	13,707	13,821	13,938	14,058	14,181	14,306	14,434	14,564	14,695		
Residential, Patio																	
1 to 8	15,422	16,230	16,323	16,446	16,582	16,725	16,873	17,025	17,180	17,338	17,499	17,662	17,827	17,994	18,164		
8 to 15	1,008	1,061	1,063	1,071	1,080	1,089	1,099	1,109	1,119	1,129	1,140	1,150	1,161	1,172	1,183		
Greater than 15	1,315	1,384	1,381	1,391	1,402	1,415	1,427	1,440	1,453	1,466	1,480	1,494	1,508	1,522	1,536		
Total	17,745	18,675	18,767	18,908	19,064	19,229	19,399	19,574	19,752	19,934	20,118	20,306	20,496	20,688	20,883		
Residential All																	
1 to 8	1,718,343	1,601,719	1,610,946	1,620,577	1,632,274	1,645,070	1,658,579	1,672,613	1,687,064	1,701,868	1,716,979	1,732,368	1,748,015	1,763,904	1,780,022		
8 to 15	951,602	885,486	887,011	892,270	898,681	905,703	913,122	920,832	928,774	936,911	945,219	953,680	962,284	971,022	979,887		
Greater than 15	2,535,004	2,355,275	2,349,816	2,363,576	2,380,441	2,398,950	2,418,526	2,438,884	2,459,863	2,481,363	2,503,320	2,525,687	2,548,434	2,571,537	2,594,979		
Total	5,204,949	4,842,480	4,847,773	4,876,423	4,911,396	4,949,722	4,990,227	5,032,329	5,075,702	5,120,142	5,165,517	5,211,736	5,258,734	5,306,463	5,354,888		
Commercial, FCLWD Rates																	
1 to 8	58,143	55,708	56,595	57,403	58,327	59,319	60,360	61,442	62,559	63,709	64,890	66,101	67,341	68,610	69,908		
8 to 15	50,451	48,338	48,910	49,608	50,407	51,264	52,164	53,099	54,065	55,059	56,079	57,126	58,197	59,294	60,416		
Greater than 15	1,053,482	1,009,367	1,017,200	1,031,716	1,048,322	1,066,152	1,084,870	1,104,314	1,124,397	1,145,067	1,166,293	1,188,056	1,210,346	1,233,156	1,256,483		
Total	1,162,075	1,113,413	1,122,705	1,138,727	1,157,056	1,176,735	1,197,394	1,218,855	1,241,021	1,263,834	1,287,262	1,311,283	1,335,885	1,361,060	1,386,807		
Commercial, Billed as City Use																	
1 to 8	2,625	2,506	2,546	2,582	2,623	2,667	2,714	2,762	2,812	2,864	2,917	2,971	3,027	3,083	3,142		
8 to 15	2,702	2,580	2,611	2,647	2,689	2,735	2,783	2,832	2,884	2,936	2,991	3,046	3,103	3,162	3,221		
Greater than 15	85,451	81,590	82,223	83,378	84,707	86,138	87,641	89,205	90,820	92,484	94,192	95,945	97,740	99,577	101,456		
Total	90,778	86,676	87,380	88,607	90,020	91,540	93,138	94,799	96,516	98,284	100,100	101,962	103,869	105,822	107,819		
Commercial, City Exchange Use																	
1 to 8	1,562	1,371	1,393	1,413	1,435	1,460	1,485	1,512	1,539	1,567	1,596	1,626	1,656	1,688	1,719		
8 to 15	1,195	1,048	1,061	1,076	1,093	1,111	1,131	1,151	1,172	1,193	1,216	1,238	1,261	1,285	1,309		
Greater than 15	40,538	35,575	35,851	36,358	36,940	37,565	38,222	38,905	39,611	40,338	41,084	41,849	42,633	43,435	44,255		
Total	43,295	37,995	38,305	38,846	39,468	40,136	40,838	41,568	42,322	43,098	43,896	44,713	45,551	46,408	47,284		
Commercial All																	
1 to 8	62,330	59,585	60,534	61,397	62,385	63,445	64,559	65,716	66,911	68,140	69,403	70,698	72,024	73,381	74,769		
8 to 15	54,347	51,966	52,582	53,331	54,189	55,110	56,078	57,082	58,120	59,188	60,285	61,410	62,562	63,741	64,946		
Greater than 15	1,179,470	1,126,533	1,135,275	1,151,453	1,169,970	1,189,855	1,210,734	1,232,424	1,254,828	1,277,888	1,301,569	1,325,850	1,350,718	1,376,167	1,402,194		
Total	1,296,148	1,238,085	1,248,390	1,266,181	1,286,544	1,308,411	1,331,370	1,355,222	1,379,859	1,405,217	1,431,258	1,457,958	1,485,305	1,513,290	1,541,910		

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Total Revenue at Existing Rates**

Customer Class	Actual 2016	Estimated 2017	Projected Total Revenue at Existing Rates												
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Commercial, Billed as City Use															
1 to 8	\$2,625	\$2,506	\$2,546	\$2,582	\$2,623	\$2,667	\$2,714	\$2,762	\$2,812	\$2,864	\$2,917	\$2,971	\$3,027	\$3,083	\$3,142
8 to 15	2,702	2,580	2,611	2,647	2,689	2,735	2,783	2,832	2,884	2,936	2,991	3,046	3,103	3,162	3,221
Greater than 15	85,451	81,590	82,223	83,378	84,707	86,138	87,641	89,205	90,820	92,484	94,192	95,945	97,740	99,577	101,456
Total Volumetric	90,778	86,676	87,380	88,607	90,020	91,540	93,138	94,799	96,516	98,284	100,100	101,962	103,869	105,822	107,819
Total Service Charge	5,709	5,823	5,939	6,058	6,179	6,303	6,429	6,558	6,689	6,822	6,959	7,098	7,240	7,385	7,533
Total Volumetric + Service Charge	96,487	92,499	93,319	94,666	96,199	97,843	99,567	101,357	103,205	105,106	107,059	109,060	111,110	113,207	115,351
% Service Charge	5.9%	6.3%	6.4%	6.4%	6.4%	6.4%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
% TIER 1 + Service Charge	8.6%	9.0%	9.1%	9.1%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.3%
Commercial, City Exchange Use															
1 to 8	\$1,562	\$1,371	\$1,393	\$1,413	\$1,435	\$1,460	\$1,485	\$1,512	\$1,539	\$1,567	\$1,596	\$1,626	\$1,656	\$1,688	\$1,719
8 to 15	1,195	1,048	1,061	1,076	1,093	1,111	1,131	1,151	1,172	1,193	1,216	1,238	1,261	1,285	1,309
Greater than 15	40,538	35,575	35,851	36,358	36,940	37,565	38,222	38,905	39,611	40,338	41,084	41,849	42,633	43,435	44,255
Total Volumetric	43,295	37,995	38,305	38,846	39,468	40,136	40,838	41,568	42,322	43,098	43,896	44,713	45,551	46,408	47,284
Total Service Charge	3,424	3,493	3,563	3,634	3,706	3,781	3,856	3,933	4,012	4,092	4,174	4,258	4,343	4,430	4,518
Total Volumetric + Service Charge	46,719	41,488	41,868	42,480	43,174	43,917	44,695	45,501	46,334	47,191	48,070	48,971	49,893	50,837	51,802
% Service Charge	7.3%	8.4%	8.5%	8.6%	8.6%	8.6%	8.6%	8.6%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%
% TIER 1 + Service Charge	10.7%	11.7%	11.8%	11.9%	11.9%	11.9%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
Commercial All															
1 to 8	62,330	59,585	60,534	61,397	62,385	63,445	64,559	65,716	66,911	68,140	69,403	70,698	72,024	73,381	74,769
8 to 15	54,347	51,966	52,582	53,331	54,189	55,110	56,078	57,082	58,120	59,188	60,285	61,410	62,562	63,741	64,946
Greater than 15	1,179,470	1,126,533	1,135,275	1,151,453	1,169,970	1,189,855	1,210,734	1,232,424	1,254,828	1,277,888	1,301,569	1,325,850	1,350,718	1,376,167	1,402,194
Total Volumetric	1,296,148	1,238,085	1,248,390	1,266,181	1,286,544	1,308,411	1,331,370	1,355,222	1,379,859	1,405,217	1,431,258	1,457,958	1,485,305	1,513,290	1,541,910
Total Service Charge	142,613	9,316	9,502	9,692	9,886	10,084	10,285	10,491	10,701	10,915	11,133	11,356	11,583	11,814	12,051
Total Volumetric + Service Charge	1,438,761	1,247,400	1,257,892	1,275,873	1,296,429	1,318,495	1,341,655	1,365,713	1,390,560	1,416,132	1,442,391	1,469,314	1,496,887	1,525,104	1,553,961
% Service Charge	9.9%	0.7%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
% TIER 1 + Service Charge	14.2%	5.5%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%
Irrigation, FCLWD Rates															
1 to 8	\$14,180	\$12,086	\$12,278	\$12,598	\$12,849	\$13,106	\$13,368	\$13,636	\$13,909	\$14,187	\$14,470	\$14,760	\$15,055	\$15,356	\$15,663
8 to 15	16,121	13,740	13,903	14,265	14,550	14,841	15,137	15,440	15,749	16,064	16,385	16,713	17,047	17,388	17,736
Greater than 15	942,749	803,479	809,714	830,815	847,407	864,350	881,634	899,266	917,250	935,595	954,307	973,393	992,860	1,012,717	1,032,972
Total Volumetric	973,051	829,305	835,895	857,677	874,807	892,297	910,140	928,342	946,908	965,846	985,162	1,004,865	1,024,963	1,045,462	1,066,371
Total Service Charge	65,728	67,042	68,383	69,751	71,146	72,569	74,020	75,501	77,011	78,551	80,122	81,724	83,359	85,026	86,726
Total Volumetric + Service Charge	1,038,779	896,347	904,278	927,428	945,953	964,866	984,160	1,003,842	1,023,919	1,044,397	1,065,284	1,086,590	1,108,321	1,130,488	1,153,097
% Service Charge	6.3%	7.5%	7.6%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%	7.5%
% TIER 1 + Service Charge	7.7%	8.8%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%
Irrigation, City Rates															
1 to 8	\$4,692	\$4,426	\$4,497	\$4,559	\$4,632	\$4,710	\$4,792	\$4,877	\$4,965	\$5,056	\$5,149	\$5,245	\$5,343	\$5,443	\$5,546
8 to 15	5,151	4,860	4,917	4,986	5,065	5,150	5,240	5,333	5,429	5,529	5,631	5,735	5,842	5,952	6,064
Greater than 15	268,061	252,889	254,851	258,404	262,504	266,923	271,570	276,403	281,399	286,544	291,830	297,251	302,804	308,489	314,303
Total Volumetric	277,904	262,175	264,265	267,949	272,201	276,782	281,601	286,613	291,794	297,129	302,609	308,231	313,990	319,884	325,913
Total Service Charge	11,264	11,489	11,719	11,953	12,192	12,436	12,685	12,938	13,197	13,461	13,730	14,005	14,285	14,571	14,862
Total Volumetric + Service Charge	289,168	273,664	275,984	279,903	284,393	289,218	294,286	299,551	304,991	310,590	316,340	322,236	328,275	334,455	340,775
% Service Charge	3.9%	4.2%	4.2%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%	4.4%	4.4%
% TIER 1 + Service Charge	5.5%	5.8%	5.9%	5.9%	5.9%	5.9%	5.9%	5.9%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Irrigation, City Exchange															
1 to 8	\$455	\$385	\$392	\$397	\$404	\$411	\$418	\$425	\$433	\$441	\$449	\$458	\$466	\$475	\$484
8 to 15	516	437	442	449	456	464	472	480	489	498	507	517	526	536	546
Greater than 15	7,063	5,987	6,033	6,120	6,219	6,325	6,436	6,552	6,671	6,794	6,920	7,049	7,182	7,317	7,456
Total Volumetric	8,034	6,809	6,867	6,966	7,078	7,199	7,326	7,457	7,593	7,733	7,876	8,024	8,174	8,328	8,486
Total Service Charge	1,199	1,223	1,248	1,273	1,298	1,324	1,350	1,377	1,405	1,433	1,462	1,491	1,521	1,551	1,582
Total Volumetric + Service Charge	9,233	8,032	8,114	8,238	8,376	8,523	8,676	8,835	8,998	9,166	9,338	9,515	9,695	9,880	10,068
% Service Charge	13.0%	15.2%	15.4%	15.4%	15.5%	15.5%	15.6%	15.6%	15.6%	15.6%	15.7%	15.7%	15.7%	15.7%	15.7%
% TIER 1 + Service Charge	17.9%	20.0%	20.2%	20.3%	20.3%	20.4%	20.4%	20.4%	20.4%	20.4%	20.5%	20.5%	20.5%	20.5%	20.5%

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Detail of PIF Revenues - Potential New Structures with Water Cost and Tap Fee Scaling**

Hybrid PIF (Scaled Water Cost Only)		Water Cost	
PIF - Total Infrastructure	\$10,869	Cost per AF	\$21,836

PIF Component	Actual 2016	Estimated 2017	Projected PIF Revenues												
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Incremental SFRE Annual Growth			350	357	364	372	379	387	394	402	410	418	427	435	444
PIFs - Water Cost	\$10,057,500	\$6,250,000	\$7,645,279	\$7,798,185	\$7,954,148	\$8,113,231	\$8,275,496	\$8,441,006	\$8,609,826	\$8,782,022	\$8,957,663	\$9,136,816	\$9,319,552	\$9,505,943	\$9,696,062
PIFs - Infrastructure Component	2,942,100	1,700,000	3,805,574	3,881,685	3,959,319	4,038,505	4,119,275	4,201,661	4,285,694	4,371,408	4,458,836	4,548,013	4,638,973	4,731,753	4,826,388
Total PIF Revenues	\$12,999,600	\$7,950,000	\$11,450,853	\$11,679,870	\$11,913,467	\$12,151,737	\$12,394,771	\$12,642,667	\$12,895,520	\$13,153,430	\$13,416,499	\$13,684,829	\$13,958,526	\$14,237,696	\$14,522,450

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast of O&M Expenses**

		Actual 2016	Estimated 2017	Summary of Projected O&M Expenses												
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
40	Source and Treatment	3,254,954	5,094,000	5,284,020	5,481,691	5,687,339	5,901,306	6,123,950	6,355,644	6,596,777	6,847,757	7,109,011	7,380,983	7,664,139	7,958,966	8,265,974
50	Engineering	324,747	538,500	555,763	573,599	592,029	611,072	630,751	651,088	672,105	693,828	716,280	739,487	763,476	788,276	813,914
60	Distribution	1,963,445	2,540,000	2,622,798	2,708,410	2,796,936	2,888,483	2,983,157	3,081,073	3,182,347	3,287,101	3,395,462	3,507,562	3,623,536	3,743,527	3,867,682
70	Office	714,991	839,950	867,398	895,781	925,134	955,491	986,890	1,019,367	1,052,962	1,087,715	1,123,669	1,160,868	1,199,358	1,239,185	1,280,400
80	Administration	622,120	762,660	764,847	788,776	813,473	838,962	865,270	892,424	920,453	949,385	979,252	1,010,083	1,041,912	1,074,772	1,108,699
Total		6,880,257	9,775,110	10,094,826	10,448,257	10,814,911	11,195,315	11,590,018	11,999,595	12,424,644	12,865,786	13,323,673	13,798,983	14,292,421	14,804,727	15,336,668
40	Source and Treatment	47.3%	52.1%	52.3%	52.5%	52.6%	52.7%	52.8%	53.0%	53.1%	53.2%	53.4%	53.5%	53.6%	53.8%	53.9%
50	Engineering	4.7%	5.5%	5.5%	5.5%	5.5%	5.5%	5.4%	5.4%	5.4%	5.4%	5.4%	5.4%	5.3%	5.3%	5.3%
60	Distribution	28.5%	26.0%	26.0%	25.9%	25.9%	25.8%	25.7%	25.7%	25.6%	25.5%	25.5%	25.4%	25.4%	25.3%	25.2%
70	Office	10.4%	8.6%	8.6%	8.6%	8.6%	8.5%	8.5%	8.5%	8.5%	8.5%	8.4%	8.4%	8.4%	8.4%	8.3%
80	Administration	9.0%	7.8%	7.6%	7.5%	7.5%	7.5%	7.5%	7.4%	7.4%	7.4%	7.3%	7.3%	7.3%	7.3%	7.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Item		Actual 2016	Estimated 2017	Detail of Projected O&M Expenses												
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
40	Source and Treatment															
	4010 Assessments	\$931,857	\$1,500,000	\$1,545,000	\$1,591,350	\$1,639,091	\$1,688,263	\$1,738,911	\$1,791,078	\$1,844,811	\$1,900,155	\$1,957,160	\$2,015,875	\$2,076,351	\$2,138,641	\$2,202,801
	4020 Soldier Canyon	1,267,569	1,950,000	2,047,500	2,149,875	2,257,369	2,370,237	2,488,749	2,613,186	2,743,846	2,881,038	3,025,090	3,176,345	3,335,162	3,501,920	3,677,016
	4060 City of Loveland	14,939	50,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239	67,196	69,212	71,288	73,427
	4070 FTC - Water Sale IGA	816,583	824,000	848,720	874,182	900,407	927,419	955,242	983,899	1,013,416	1,043,819	1,075,133	1,107,387	1,140,609	1,174,827	1,210,072
	4071 FTC - Transmission charges	130,322	125,000	128,750	132,613	136,591	140,689	144,909	149,257	153,734	158,346	163,097	167,990	173,029	178,220	183,567
	4072 FTC - Water Exchange IGA	8,919	123,000	126,690	130,491	134,405	138,438	142,591	146,868	151,274	155,813	160,487	165,302	170,261	175,369	180,630
	4073 FTC - Water purchase	84,765	437,000	450,110	463,613	477,522	491,847	506,603	521,801	537,455	553,579	570,186	587,291	604,910	623,058	641,749
	4080 North Weld County Water District	0	25,000	25,750	26,523	27,318	28,138	28,982	29,851	30,747	31,669	32,619	33,598	34,606	35,644	36,713
	4090 R & M - Source and Supply	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4100 Water Resource Consulting	0	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Total		3,254,954	5,094,000	5,284,020	5,481,691	5,687,339	5,901,306	6,123,950	6,355,644	6,596,777	6,847,757	7,109,011	7,380,983	7,664,139	7,958,966	8,265,974
50	Engineering															
	5000 Engineering wages	229,502	240,000	\$247,200	\$254,616	\$262,254	\$270,122	\$278,226	\$286,573	\$295,170	\$304,025	\$313,146	\$322,540	\$332,216	\$342,183	\$352,448
	5010 Payroll taxes	19,291	20,000	20,600	21,218	21,855	22,510	23,185	23,881	24,597	25,335	26,095	26,878	27,685	28,515	29,371
	5020 Medical insurance	36,000	36,000	37,800	39,690	41,675	43,758	45,946	48,243	50,656	53,188	55,848	58,640	61,572	64,651	67,883
	5030 Life insurance	2,008	2,700	2,781	2,864	2,950	3,039	3,130	3,224	3,321	3,420	3,523	3,629	3,737	3,850	3,965
	5040 Retirement	14,951	14,400	15,120	15,876	16,670	17,503	18,378	19,297	20,262	21,275	22,339	23,456	24,629	25,860	27,153
	5050 Worker's compensation insurance	2,085	3,000	3,150	3,308	3,473	3,647	3,829	4,020	4,221	4,432	4,654	4,887	5,131	5,388	5,657
	5060 Cell phone service	355	1,200	1,236	1,273	1,311	1,351	1,391	1,433	1,476	1,520	1,566	1,613	1,661	1,711	1,762
	5065 Consulting	0	185,000	190,550	196,267	202,154	208,219	214,466	220,900	227,527	234,352	241,383	248,625	256,083	263,766	271,679
	5070 Dues and subscriptions	335	1,200	1,236	1,273	1,311	1,351	1,391	1,433	1,476	1,520	1,566	1,613	1,661	1,711	1,762
	5080 Education & training	936	6,000	6,180	6,365	6,556	6,753	6,956	7,164	7,379	7,601	7,829	8,063	8,305	8,555	8,811
	5090 Fuel	1,130	2,000	2,100	2,205	2,315	2,431	2,553	2,680	2,814	2,955	3,103	3,258	3,421	3,592	3,771
	5100 Miscellaneous	0	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305	1,344	1,384	1,426	1,469
	5115 R & M - equipment	0	2,500	2,575	2,652	2,732	2,814	2,898	2,985	3,075	3,167	3,262	3,360	3,461	3,564	3,671
	5120 R & M - vehicles	0	1,500	1,545	1,591	1,639	1,688	1,739	1,791	1,845	1,900	1,957	2,016	2,076	2,139	2,203
	5125 Software maintenance	17,239	19,000	19,570	20,157	20,762	21,385	22,026	22,687	23,368	24,069	24,791	25,534	26,300	27,089	27,902
	5130 Supplies	915	3,000	3,090	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914	4,032	4,153	4,277	4,406
Total		324,747	538,500	555,763	573,599	592,029	611,072	630,751	651,088	672,105	693,828	716,280	739,487	763,476	788,276	813,914

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast of O&M Expenses**

		Actual 2016	Estimated 2017	Summary of Projected O&M Expenses													
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
60	Distribution																
6010	Wages	932,811	965,000	993,950	1,023,769	1,054,482	1,086,116	1,118,699	1,152,260	1,186,828	1,222,433	1,259,106	1,296,879	1,335,786	1,375,859	1,417,135	
6020	Overtime & on-call pay	77,867	86,100	88,683	91,343	94,084	96,906	99,813	102,808	105,892	109,069	112,341	115,711	119,183	122,758	126,441	
6030	Payroll taxes	76,789	85,000	87,550	90,177	92,882	95,668	98,538	101,494	104,539	107,675	110,906	114,233	117,660	121,190	124,825	
6040	Medical insurance	192,000	192,000	201,600	211,680	222,264	233,377	245,064	257,298	270,163	283,671	297,855	312,748	328,385	344,804	362,045	
6050	Life insurance	8,205	8,000	8,240	8,487	8,742	9,004	9,274	9,552	9,839	10,134	10,438	10,751	11,074	11,406	11,748	
6060	Retirement	51,010	57,900	60,795	63,835	67,026	70,378	73,897	77,592	81,471	85,545	89,822	94,313	99,029	103,980	109,179	
6070	Worker's compensation insurance	24,589	30,000	31,500	33,075	34,729	36,465	38,288	40,203	42,213	44,324	46,540	48,867	51,310	53,876	56,569	
6080	R & M - lines & equipment	235,109	375,000	386,250	397,838	409,773	422,066	434,728	447,770	461,203	475,039	489,290	503,969	519,088	534,660	550,700	
6081	R & M - emergency contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6082	R & M - tank cleaning	0	275,000	283,250	291,748	300,500	309,515	318,800	328,364	338,215	348,362	358,813	369,577	380,664	392,084	403,847	
6090	Cell phone service	12,788	14,000	14,420	14,853	15,298	15,757	16,230	16,717	17,218	17,735	18,267	18,815	19,379	19,961	20,559	
6100	Education & training	4,679	12,000	12,360	12,731	13,113	13,506	13,911	14,329	14,758	15,201	15,657	16,127	16,611	17,109	17,622	
6110	Fuel	29,240	50,000	52,500	55,125	57,881	60,775	63,814	67,005	70,355	73,873	77,566	81,445	85,517	89,793	94,282	
6115	Internet hosting	16,949	7,500	7,725	7,957	8,195	8,441	8,695	8,955	9,224	9,501	9,786	10,079	10,382	10,693	11,014	
6117	Meter hosting service	12,717	60,000	61,800	63,654	65,564	67,531	69,556	71,643	73,792	76,006	78,286	80,635	83,054	85,546	88,112	
6120	Office supplies	415	2,000	2,060	2,122	2,185	2,251	2,319	2,388	2,460	2,534	2,610	2,688	2,768	2,852	2,937	
6140	R & M - vehicles	19,765	40,000	41,200	42,436	43,709	45,020	46,371	47,762	49,195	50,671	52,191	53,757	55,369	57,030	58,741	
6150	Safety program	8,715	8,000	8,240	8,487	8,742	9,004	9,274	9,552	9,839	10,134	10,438	10,751	11,074	11,406	11,748	
6160	Supplies	3,002	2,500	2,575	2,652	2,732	2,814	2,898	2,985	3,075	3,167	3,262	3,360	3,461	3,564	3,671	
6170	Telemetry	17,885	12,000	12,360	12,731	13,113	13,506	13,911	14,329	14,758	15,201	15,657	16,127	16,611	17,109	17,622	
6180	Uniforms	7,280	10,000	10,300	10,609	10,927	11,255	11,593	11,941	12,299	12,668	13,048	13,439	13,842	14,258	14,685	
6190	Utilities	190,930	205,000	211,150	217,485	224,009	230,729	237,651	244,781	252,124	259,688	267,479	275,503	283,768	292,281	301,049	
6200	Utility locates	18,401	18,000	18,540	19,096	19,669	20,259	20,867	21,493	22,138	22,802	23,486	24,190	24,916	25,664	26,434	
6210	Water quality testing	22,299	25,000	25,750	26,523	27,318	28,138	28,982	29,851	30,747	31,669	32,619	33,598	34,606	35,644	36,713	
	Total	1,963,445	2,540,000	2,622,798	2,708,410	2,796,936	2,888,483	2,983,157	3,081,073	3,182,347	3,287,101	3,395,462	3,507,562	3,623,536	3,743,527	3,867,682	
70	Office																
7000	Wages	419,143	460,000	473,800	488,014	502,654	517,734	533,266	549,264	565,742	582,714	600,196	618,202	636,748	655,850	675,526	
7010	Payroll taxes	31,420	36,800	37,904	39,041	40,212	41,419	42,661	43,941	45,259	46,617	48,016	49,456	50,940	52,468	54,042	
7020	Medical insurance	84,000	84,000	88,200	92,610	97,241	102,103	107,208	112,568	118,196	124,106	130,312	136,827	143,669	150,852	158,395	
7030	Life insurance	3,537	4,000	4,120	4,244	4,371	4,502	4,637	4,776	4,919	5,067	5,219	5,376	5,537	5,703	5,874	
7040	Retirement	23,715	27,600	28,980	30,429	31,950	33,548	35,225	36,987	38,836	40,778	42,817	44,957	47,205	49,566	52,044	
7050	Worker's compensation insurance	955	850	893	937	984	1,033	1,085	1,139	1,196	1,256	1,319	1,385	1,454	1,526	1,603	
7070	Education & training	570	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	6,334	6,524	6,720	6,921	7,129	7,343	
7100	Miscellaneous expense	415	2,500	2,575	2,652	2,732	2,814	2,898	2,985	3,075	3,167	3,262	3,360	3,461	3,564	3,671	
7105	On-line bill processing	7,158	22,000	22,660	23,340	24,040	24,761	25,504	26,269	27,057	27,869	28,705	29,566	30,453	31,367	32,308	
7110	Payroll processing	6,801	7,800	8,034	8,275	8,523	8,779	9,042	9,314	9,593	9,881	10,177	10,483	10,797	11,121	11,455	
7120	Postage	44,883	58,000	59,740	61,532	63,378	65,280	67,238	69,255	71,333	73,473	75,677	77,947	80,286	82,694	85,175	
7130	Printing	27,823	32,000	32,960	33,949	34,967	36,016	37,097	38,210	39,356	40,537	41,753	43,005	44,295	45,624	46,993	
7140	Publications & notices	893	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305	1,344	1,384	1,426	1,469	
7150	R & M - equipment	13,654	26,000	26,780	27,583	28,411	29,263	30,141	31,045	31,977	32,936	33,924	34,942	35,990	37,070	38,182	
7155	Software maintenance	21,089	41,700	42,951	44,240	45,567	46,934	48,342	49,792	51,286	52,824	54,409	56,041	57,723	59,454	61,238	
7160	Supplies	14,902	15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448	19,002	19,572	20,159	20,764	21,386	22,028	
7170	Telephone	13,757	15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448	19,002	19,572	20,159	20,764	21,386	22,028	
7190	Travel	276	700	721	743	765	788	811	836	861	887	913	941	969	998	1,028	
	Total	714,991	839,950	867,398	895,781	925,134	955,491	986,890	1,019,367	1,052,962	1,087,715	1,123,669	1,160,868	1,199,358	1,239,185	1,280,400	

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast of O&M Expenses**

		Actual	Estimated	Summary of Projected O&M Expenses												
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
80	Administration															
	8000 Wages	187,488	147,000	151,410	155,952	160,631	165,450	170,413	175,526	180,791	186,215	191,802	197,556	203,482	209,587	215,874
	8010 Payroll taxes	19,163	11,760	12,113	12,476	12,850	13,236	13,633	14,042	14,463	14,897	15,344	15,804	16,279	16,767	17,270
	8020 Medical insurance	4,065	14,000	14,700	15,435	16,207	17,017	17,868	18,761	19,699	20,684	21,719	22,805	23,945	25,142	26,399
	8030 Life insurance	774	1,200	1,236	1,273	1,311	1,351	1,391	1,433	1,476	1,520	1,566	1,613	1,661	1,711	1,762
	8040 Retirement	12,360	11,760	12,348	12,965	13,614	14,294	15,009	15,760	16,548	17,375	18,244	19,156	20,114	21,119	22,175
	8050 Worker's compensation insurance	1,955	2,500	2,625	2,756	2,894	3,039	3,191	3,350	3,518	3,694	3,878	4,072	4,276	4,490	4,714
	8060 Directors fees	7,654	8,000	8,240	8,487	8,742	9,004	9,274	9,552	9,839	10,134	10,438	10,751	11,074	11,406	11,748
	8070 Directors payroll taxes	644	640	659	679	699	720	742	764	787	811	835	860	886	912	940
	8080 Directors expenses	13,803	10,000	10,300	10,609	10,927	11,255	11,593	11,941	12,299	12,668	13,048	13,439	13,842	14,258	14,685
	8090 Audit & consulting fees	10,000	11,000	11,330	11,670	12,020	12,381	12,752	13,135	13,529	13,934	14,353	14,783	15,227	15,683	16,154
	8110 Collection Fees		21,000													
	8115 Consulting Services		175,000	180,250	185,658	191,227	196,964	202,873	208,959	215,228	221,685	228,335	235,185	242,241	249,508	256,993
	8120 Contingency	18,122	15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448	19,002	19,572	20,159	20,764	21,386	22,028
	8130 Customer relations	2,642	2,500	2,575	2,652	2,732	2,814	2,898	2,985	3,075	3,167	3,262	3,360	3,461	3,564	3,671
	8140 Dues & subscriptions	7,113	8,000	8,240	8,487	8,742	9,004	9,274	9,552	9,839	10,134	10,438	10,751	11,074	11,406	11,748
	8150 Education & training	45	6,000	6,180	6,365	6,556	6,753	6,956	7,164	7,379	7,601	7,829	8,063	8,305	8,555	8,811
	8160 Insurance - liability	36,996	45,000	46,350	47,741	49,173	50,648	52,167	53,732	55,344	57,005	58,715	60,476	62,291	64,159	66,084
	8170 Insurance - property	32,235	35,000	36,050	37,132	38,245	39,393	40,575	41,792	43,046	44,337	45,667	47,037	48,448	49,902	51,399
	8175 Janitorial service	8,430	10,500	10,815	11,139	11,474	11,818	12,172	12,538	12,914	13,301	13,700	14,111	14,534	14,970	15,420
	8180 Legal	165,546	150,000	154,500	159,135	163,909	168,826	173,891	179,108	184,481	190,016	195,716	201,587	207,635	213,864	220,280
	8190 Miscellaneous expenses	420	500	515	530	546	563	580	597	615	633	652	672	692	713	734
	8200 R & M - land and building	19,173	30,000	30,900	31,827	32,782	33,765	34,778	35,822	36,896	38,003	39,143	40,317	41,527	42,773	44,056
	8205 Trash removal service	1,440	1,800	1,854	1,910	1,967	2,026	2,087	2,149	2,214	2,280	2,349	2,419	2,492	2,566	2,643
	8210 Travel - manager	8,695	11,400	11,742	12,094	12,457	12,831	13,216	13,612	14,021	14,441	14,874	15,321	15,780	16,254	16,741
	8211 Utility - electricity	8,416	10,000	10,500	11,025	11,576	12,155	12,763	13,401	14,071	14,775	15,513	16,289	17,103	17,959	18,856
	8212 Utility - gas	4,240	7,000	7,350	7,718	8,103	8,509	8,934	9,381	9,850	10,342	10,859	11,402	11,972	12,571	13,200
	8213 Utility - sewer	1,339	1,600	1,680	1,764	1,852	1,945	2,042	2,144	2,251	2,364	2,482	2,606	2,737	2,873	3,017
	8214 Utility - storm water	1,849	2,500	2,575	2,652	2,732	2,814	2,898	2,985	3,075	3,167	3,262	3,360	3,461	3,564	3,671
	8215 Utility - water	1,700	2,000	2,060	2,122	2,185	2,251	2,319	2,388	2,460	2,534	2,610	2,688	2,768	2,852	2,937
	8220 Water conservation	45,813	10,000	10,300	10,609	10,927	11,255	11,593	11,941	12,299	12,668	13,048	13,439	13,842	14,258	14,685
	Total	622,120	762,660	764,847	788,776	813,473	838,962	865,270	892,424	920,453	949,385	979,252	1,010,083	1,041,912	1,074,772	1,108,699
	Grand Total	\$6,880,257	\$9,775,110	\$10,094,826	\$10,448,257	\$10,814,911	\$11,195,315	\$11,590,018	\$11,999,595	\$12,424,644	\$12,865,786	\$13,323,673	\$13,798,983	\$14,292,421	\$14,804,727	\$15,336,668

Fort Collins-Loveland Water District
 2017 Rate & Fee Study
 Forecast Inflated CIP

Source of Supply	100.0%	0.0%	0	386,250	4,349,690	6,797,855	11,957,406	10,694,303	4,791,732	5,165,470	8,085,793	9,002,935	5,241,274	0	0	0	66,472,708
Source of Supply	100.0%	0.0%	0	0	32,888	163,909	138,438	665,423	0	0	0	1,630,966	1,679,895	0	0	0	4,311,520
Source of Supply	100.0%	0.0%	409,492	332,652	862,914	759,137	942,794	579,637	597,026	614,937	633,385	652,387	671,958	692,117	712,880	734,267	8,786,091
Source of Supply	100.0%	0.0%	6,300	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Source of Supply	100.0%	0.0%	25,050	19,336	21,001	22,202	23,459	23,185	23,881	24,597	25,335	26,095	26,878	27,685	28,515	29,371	321,541
Meters	100.0%	0.0%	90,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meters	0.0%	100.0%	100,000	41,200	42,436	43,709	45,020	46,371	47,762	49,195	50,671	52,191	53,757	55,369	57,030	58,741	643,453
Meters	0.0%	100.0%	16,000	10,300	10,609	10,927	11,255	11,593	11,941	12,299	12,668	13,048	13,439	13,842	14,258	14,685	160,863
Distribution Mains	0.0%	100.0%	250,000	77,250	79,568	81,955	84,413	86,946	89,554	92,241	95,008	97,858	100,794	103,818	106,932	110,140	1,206,474
Distribution Mains	0.0%	100.0%	100,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239	67,196	69,212	71,288	73,427	804,316
Pumps	0.0%	100.0%	12,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Mains	0.0%	100.0%	75,000	0	0	81,955	0	89,554	0	97,858	0	106,932	0	116,240	0	126,000	269,366
Distribution Mains	0.0%	100.0%	200,000	128,750	132,613	136,591	140,689	144,909	149,257	153,734	158,346	163,097	167,990	173,029	178,220	183,567	2,010,791
Distribution Mains	0.0%	100.0%	0	386,250	0	0	0	0	0	0	0	0	0	0	0	0	386,250
Distribution Mains	0.0%	100.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Mains	50.0%	50.0%	0	25,750	0	0	0	0	0	0	0	0	0	0	0	0	25,750
Pumps	50.0%	50.0%	0	257,500	0	0	0	0	0	0	0	0	0	0	0	0	257,500
Transmission Mains	100.0%	0.0%	0	128,750	0	0	0	0	0	0	0	0	0	0	0	0	128,750
Transmission Mains	0.0%	100.0%	0	270,890	0	0	0	0	0	0	0	0	0	0	0	0	270,890
Transmission Mains	100.0%	0.0%	0	1,226,112	0	0	0	0	0	0	0	0	0	0	0	0	1,226,112
Transmission Mains	100.0%	0.0%	0	1,421,400	0	0	0	0	0	0	0	0	0	0	0	0	1,421,400
Transmission Mains	50.0%	50.0%	0	309,000	538,937	0	0	0	0	0	0	0	0	0	0	0	847,937
Transmission Mains	50.0%	50.0%	0	0	238,703	245,864	0	0	0	0	0	0	0	0	0	0	484,566
Transmission Mains	50.0%	50.0%	0	0	0	0	2,484,043	0	0	0	0	0	0	0	0	0	2,484,043
Transmission Mains	50.0%	50.0%	0	0	0	0	0	0	4,521,828	0	0	0	0	0	0	0	4,521,828
Transmission Mains	50.0%	50.0%	0	0	0	0	0	1,741,693	0	0	0	0	0	0	0	0	1,741,693
Transmission Mains	50.0%	50.0%	0	0	0	0	0	0	0	1,687,633	0	0	0	0	0	0	1,687,633
Transmission Mains	50.0%	50.0%	0	0	0	0	0	0	0	727,593	0	0	0	0	0	0	727,593
Transmission Mains	50.0%	50.0%	0	0	0	0	0	0	0	0	3,366,315	0	0	0	0	0	3,366,315
Transmission Mains	100.0%	0.0%	0	0	0	2,391,761	0	0	0	0	0	0	0	0	0	0	2,391,761
Transmission Mains	100.0%	0.0%	0	0	0	0	0	0	0	0	0	1,343,916	11,001,891	11,331,948	0	0	23,677,755
Distribution Mains	0.0%	100.0%	0	128,750	132,613	136,591	140,689	144,909	149,257	153,734	158,346	163,097	167,990	173,029	178,220	183,567	2,010,791
Treated Water Storage	0.0%	100.0%	0	0	0	0	281,377	0	0	0	0	326,193	0	0	0	0	607,570
Pumps	0.0%	100.0%	0	15,450	15,914	16,391	16,883	17,389	17,911	0	0	0	0	0	0	0	99,937
Administration	0.0%	100.0%	18,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration	0.0%	100.0%	15,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration	0.0%	100.0%	10,000	0	53,045	0	56,275	0	59,703	0	63,339	0	67,196	0	71,288	0	370,845
Administration	0.0%	100.0%	0	0	0	0	0	149,257	0	0	0	0	0	0	0	0	149,257
Administration	0.0%	100.0%	0	20,600	0	0	0	23,185	0	0	0	26,095	0	0	0	29,371	99,252
Administration	0.0%	100.0%	6,000	0	0	0	6,753	0	0	0	7,601	0	0	0	8,555	0	22,908
Administration	0.0%	100.0%	8,000	8,240	8,487	8,742	9,004	9,274	9,552	9,839	10,134	10,438	10,751	11,074	11,406	11,748	128,691
Administration	0.0%	100.0%	68,000	70,040	72,141	74,305	76,535	78,831	81,196	83,631	86,140	88,725	91,386	94,128	96,952	99,860	1,093,870
Administration	0.0%	100.0%	24,000	24,720	25,462	26,225	27,012	27,823	28,657	29,517	30,402	31,315	32,254	33,222	34,218	35,245	386,072
Administration	0.0%	100.0%	13,000	13,390	13,792	14,205	14,632	15,071	15,523	15,988	16,468	16,962	17,471	17,995	18,535	19,091	209,122
Administration	0.0%	100.0%	4,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration	0.0%	100.0%	5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration	0.0%	100.0%	11,500	11,845	12,200	12,566	12,943	13,332	13,732	14,144	14,568	15,005	15,455	15,919	16,396	16,888	184,993
Administration	0.0%	100.0%	8,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration	0.0%	100.0%	10,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration	0.0%	100.0%	50,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration	0.0%	100.0%	0	0	0	0	0	0	122,987	1,266,770	0	0	0	0	0	0	1,389,757
Administration	0.0%	100.0%	0	10,300	10,609	10,927	11,255	11,593	11,941	12,299	12,668	13,048	13,439	13,842	14,258	14,685	160,863

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
CIP Fund (Growth and Non-Growth)**

Growth CIP Fund	Budget	Projected CIP Fund Sources and Uses for Growth Capital Expenditures												
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Sources of Funds														
Beginning Balance	\$3,212,747	\$3,589,043	\$507,636	(\$6,089,027)	\$19,876,533	\$8,382,609	\$32,549,904	\$25,282,342	\$48,576,107	\$17,093,156	\$31,461,622	\$16,641,548	\$19,214,105	(\$18,313,108)
Transfer In from Operations	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PIFs - Water Resource Component	6,250,000	7,645,279	7,798,185	7,954,148	8,113,231	8,275,496	8,441,006	8,609,826	8,782,022	8,957,663	9,136,816	9,319,552	9,505,943	9,696,062
PIFs - Infrastructure Component	1,700,000	3,805,574	3,881,685	3,959,319	4,038,505	4,119,275	4,201,661	4,285,694	4,371,408	4,458,836	4,548,013	4,638,973	4,731,753	4,826,388
Total PIFs	7,950,000	11,450,853	11,679,870	11,913,467	12,151,737	12,394,771	12,642,667	12,895,520	13,153,430	13,416,499	13,684,829	13,958,526	14,237,696	14,522,450
Growth CIP Bond Proceeds	0	0	0	36,597,943	0	36,597,943	0	32,023,200	0	32,023,200	0	32,023,200	0	0
Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Income	0	2,526	0	98,888	41,705	161,940	125,783	241,672	85,041	156,525	82,794	95,593	0	0
Total Sources	11,162,747	15,042,421	12,187,506	42,521,271	32,069,974	57,537,262	45,318,353	70,442,733	61,814,578	62,689,380	45,229,245	62,718,866	33,451,801	(3,790,658)
Uses of Funds														
Growth CIP	7,573,705	14,534,785	18,276,533	20,042,680	21,085,308	19,783,244	14,831,897	14,385,712	37,240,507	21,470,043	18,829,982	31,470,246	42,007,193	16,910,166
Proposed Growth Debt Service	0	0	0	2,602,057	2,602,057	5,204,115	5,204,115	7,480,915	7,480,915	9,757,715	9,757,715	12,034,515	9,757,715	9,757,715
Other Uses	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Uses	7,573,705	14,534,785	18,276,533	22,644,738	23,687,365	24,987,359	20,036,012	21,866,627	44,721,422	31,227,758	28,587,697	43,504,761	51,764,908	26,667,881
Ending Balance	3,589,043	507,636	(6,089,027)	19,876,533	8,382,609	32,549,904	25,282,342	48,576,107	17,093,156	31,461,622	16,641,548	19,214,105	(18,313,108)	(30,458,539)
Target Reserve	3,633,696	4,569,133	5,010,670	5,271,327	4,945,811	3,707,974	3,596,428	9,310,127	5,367,511	4,707,495	7,867,561	10,501,798	4,227,541	3,633,696
Variance from Target Reserve	(\$44,654)	(\$4,061,497)	(\$11,099,697)	\$14,605,206	\$3,436,798	\$28,841,929	\$21,685,914	\$39,265,980	\$11,725,645	\$26,754,127	\$8,773,986	\$8,712,306	(\$22,540,649)	(\$34,092,235)

Non-Growth CIP Fund	Budget	Projected CIP Fund Sources and Uses for Non-Growth Capital Expenditures												
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Sources of Funds														
Beginning Balance	\$0	\$32,046,161	\$30,651,147	\$28,625,190	\$24,517,721	\$24,450,508	\$25,421,271	\$25,041,432	\$27,372,562	\$30,083,612	\$32,414,833	\$37,273,009	\$42,696,595	\$48,577,581
Transfer In from Operations	35,178,199	1,311,283	1,546,951	1,799,700	2,044,174	2,404,324	2,740,987	4,213,663	4,607,847	5,033,278	5,491,855	5,985,644	6,516,862	7,087,890
Non-Growth CIP Bond Proceeds	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Income	0	152,493	142,414	121,979	121,644	126,474	124,584	136,182	149,670	161,268	185,438	212,421	241,680	274,072
Total Sources	35,178,199	33,509,937	32,340,512	30,546,869	26,683,540	26,981,306	28,286,842	29,391,277	32,130,079	35,278,158	38,092,126	43,471,074	49,455,137	55,939,543
Uses of Funds														
Non-Growth CIP	3,132,038	2,858,790	3,715,322	6,029,147	2,233,032	1,560,035	3,245,410	2,018,715	2,046,467	2,863,325	819,117	774,479	877,556	851,015
Proposed Non-Growth Debt Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Uses	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Uses	3,132,038	2,858,790	3,715,322	6,029,147	2,233,032	1,560,035	3,245,410	2,018,715	2,046,467	2,863,325	819,117	774,479	877,556	851,015
Ending Balance	32,046,161	30,651,147	28,625,190	24,517,721	24,450,508	25,421,271	25,041,432	27,372,562	30,083,612	32,414,833	37,273,009	42,696,595	48,577,581	55,088,528
Target Reserve	714,697	928,831	1,507,287	558,258	390,009	811,353	504,679	511,617	715,831	204,779	193,620	219,389	212,754	714,697
Variance from Target Reserve	\$31,331,464	\$29,722,317	\$27,117,903	\$23,959,463	\$24,060,499	\$24,609,919	\$24,536,753	\$26,860,946	\$29,367,781	\$32,210,054	\$37,079,389	\$42,477,206	\$48,364,827	\$54,373,830

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Growth CIP Financing**

Discount Rate	4.77%
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Proposed Debt Issues Item	Projected Debt Service for Growth CIP Financing													
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Amount of Issue	\$0	\$0	\$0	\$40,000,000	\$0	\$40,000,000	\$0	\$35,000,000	\$0	\$35,000,000	\$0	\$35,000,000	\$0	\$0
Equal Annual Debt Service	0	0	0	2,602,057	0	2,602,057	0	2,276,800	0	2,276,800	0	2,276,800	0	0
Bond Issuance Expense	0	0	0	800,000	0	800,000	0	700,000	0	700,000	0	700,000	0	0
Debt Service Reserve	0	0	0	2,602,057	0	2,602,057	0	2,276,800	0	2,276,800	0	2,276,800	0	0
Net Bond Proceeds	0	0	0	36,597,943	0	36,597,943	0	32,023,200	0	32,023,200	0	32,023,200	0	0
Bond Issue Terms														
Month of Issue (Jan = 1)	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Repayment Delay (up to 15 years)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Rate (Annual Coupon Rate)	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Payment Period (Years)	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Issuance Expense (% of Total Issue)	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Debt Service Reserve (% of Annual Debt Service)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Proposed Total Debt Service														
2017 Revenue Bond Issue	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018 Revenue Bond Issue		0	0	0	0	0	0	0	0	0	0	0	0	0
2019 Revenue Bond Issue			0	0	0	0	0	0	0	0	0	0	0	0
2020 Revenue Bond Issue				2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057
2021 Revenue Bond Issue					0	0	0	0	0	0	0	0	0	0
2022 Revenue Bond Issue						2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057
2023 Revenue Bond Issue							0	0	0	0	0	0	0	0
2024 Revenue Bond Issue								2,276,800	2,276,800	2,276,800	2,276,800	2,276,800	2,276,800	2,276,800
2025 Revenue Bond Issue									0	0	0	0	0	0
2026 Revenue Bond Issue										2,276,800	2,276,800	2,276,800	2,276,800	2,276,800
2027 Revenue Bond Issue											0	0	0	0
2028 Revenue Bond Issue												2,276,800	2,276,800	2,276,800
2029 Revenue Bond Issue													0	0
2030 Revenue Bond Issue														0
Proposed Total Debt Service	\$0	\$0	\$0	\$2,602,057	\$2,602,057	\$5,204,115	\$5,204,115	\$7,480,915	\$7,480,915	\$9,757,715	\$9,757,715	\$12,034,515	\$12,034,515	\$12,034,515

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Debt Service Summary (Existing and Proposed)**

Type of Debt	Budget 2017	Projected Debt Service													Test Year 2018
		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Existing Debt Service															
City of Fort Collins															
Principal	\$349,744	\$367,637	\$386,446	\$406,218	\$427,000	\$448,847	\$471,810	\$495,949	\$521,323	\$547,995	\$576,031	\$605,502	\$636,481	\$669,044	\$367,637
Interest	448,539	430,645	411,836	392,065	371,282	349,436	326,472	302,333	276,960	250,288	222,251	192,780	161,802	129,238	430,645
Total	798,282	798,282	798,282	798,282	798,282	798,282	798,282	798,282	798,282	798,282	798,282	798,282	798,282	798,282	798,282
CWCB - 150052															
Principal	4,071	4,254	4,446	4,646	4,855	5,073	5,302	5,540	5,790	6,050	6,322	6,607	6,904	7,215	4,254
Interest	4,114	3,931	3,740	3,540	3,331	3,112	2,884	2,645	2,396	2,135	1,863	1,579	1,281	971	3,931
Total	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186	8,186
CWCB - 150065															
Principal	4,802	5,009	5,224	5,449	5,683	5,928	6,182	6,448	6,726	7,015	7,316	7,631	7,959	8,301	5,009
Interest	4,598	4,391	4,176	3,951	3,717	3,472	3,217	2,952	2,674	2,385	2,084	1,769	1,441	1,099	4,391
Total	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400
Series 2010 Revenue Bonds															
Principal	815,000	850,000	875,000	915,000	1,000,000	1,000,000	1,050,000								850,000
Interest	297,726	265,126	233,250	198,250	152,500	102,500	52,500								265,126
Total	1,112,726	1,115,126	1,108,250	1,113,250	1,152,500	1,102,500	1,102,500	0	0	0	0	0	0	0	1,115,126
Total Existing Debt Service	1,928,594	1,930,994	1,924,118	1,929,118	1,968,368	1,918,368	1,918,368	815,868	815,868	815,868	815,868	815,868	815,868	815,868	1,930,994
Proposed Growth Debt Service															
2017 Revenue Bond Issue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018 Revenue Bond Issue		0	0	0	0	0	0	0	0	0	0	0	0	0	0
2019 Revenue Bond Issue			0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Revenue Bond Issue				2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	0
2021 Revenue Bond Issue					0	0	0	0	0	0	0	0	0	0	0
2022 Revenue Bond Issue						2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	2,602,057	0
2023 Revenue Bond Issue							0	0	0	0	0	0	0	0	0
2024 Revenue Bond Issue								2,276,800	2,276,800	2,276,800	2,276,800	2,276,800	2,276,800	2,276,800	0
2025 Revenue Bond Issue									0	0	0	0	0	0	0
2026 Revenue Bond Issue										2,276,800	2,276,800	2,276,800	2,276,800	2,276,800	0
2027 Revenue Bond Issue											0	0	0	0	0
2028 Revenue Bond Issue												2,276,800	0	0	0
2029 Revenue Bond Issue													0	0	0
2030 Revenue Bond Issue														0	0
Total Proposed Growth Debt Service	0	0	0	2,602,057	2,602,057	5,204,115	5,204,115	7,480,915	7,480,915	9,757,715	9,757,715	12,034,515	9,757,715	9,757,715	0
Proposed Non-Growth Debt Service															
2017 Revenue Bond Issue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018 Revenue Bond Issue		0	0	0	0	0	0	0	0	0	0	0	0	0	0
2019 Revenue Bond Issue			0	0	0	0	0	0	0	0	0	0	0	0	0
2020 Revenue Bond Issue				0	0	0	0	0	0	0	0	0	0	0	0
2021 Revenue Bond Issue					0	0	0	0	0	0	0	0	0	0	0
2022 Revenue Bond Issue						0	0	0	0	0	0	0	0	0	0
2023 Revenue Bond Issue							0	0	0	0	0	0	0	0	0
2024 Revenue Bond Issue								0	0	0	0	0	0	0	0
2025 Revenue Bond Issue									0	0	0	0	0	0	0
2026 Revenue Bond Issue										0	0	0	0	0	0
2027 Revenue Bond Issue											0	0	0	0	0
2028 Revenue Bond Issue												0	0	0	0
2029 Revenue Bond Issue													0	0	0
2030 Revenue Bond Issue														0	0
Total Proposed Non-Growth Debt Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Debt Service	\$1,928,594	\$1,930,994	\$1,924,118	\$4,531,175	\$4,570,425	\$7,122,483	\$7,122,483	\$8,296,783	\$8,296,783	\$10,573,583	\$10,573,583	\$12,850,383	\$10,573,583	\$10,573,583	\$1,930,994

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Operating Fund Cash Flow**

Description	% Increase	Months Effective	Budget 2017	Projected Operating Cash Flows												
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Rate Revenues at Existing Rates			\$10,433,320	\$10,519,862	\$10,656,791	\$10,800,278	\$10,950,871	\$11,106,824	\$11,267,303	\$11,431,859	\$11,600,231	\$11,772,268	\$11,947,880	\$12,127,018	\$12,309,661	\$12,495,807
Year																
2018	4.00%	12		420,794	426,272	432,011	438,035	444,273	450,692	457,274	464,009	470,891	477,915	485,081	492,386	499,832
2019	4.00%	12			443,323	449,292	455,556	462,044	468,720	475,565	482,570	489,726	497,032	504,484	512,082	519,826
2020	4.00%	12				467,263	473,778	480,526	487,469	494,588	501,872	509,315	516,913	524,663	532,565	540,619
2021	4.00%	12					492,730	499,747	506,967	514,371	521,947	529,688	537,590	545,650	553,868	562,243
2022	4.00%	12						519,737	527,246	534,946	542,825	550,876	559,093	567,476	576,023	584,733
2023	4.00%	12							548,336	556,344	564,538	572,911	581,457	590,175	599,063	608,122
2024	4.00%	12								578,598	587,120	595,827	604,715	613,782	623,026	632,447
2025	4.00%	12									610,605	619,660	628,904	638,333	647,947	657,745
2026	4.00%	12										644,446	654,060	663,866	673,865	684,055
2027	4.00%	12											680,222	690,421	700,819	711,417
2028	4.00%	12												718,038	728,852	739,874
2029	4.00%	12													758,006	769,469
2030	4.00%	12														800,248
Additional Revenue from Rate Increases			0	420,794	869,594	1,348,566	1,860,099	2,406,326	2,989,430	3,611,687	4,275,486	4,983,340	5,737,901	6,541,969	7,398,503	8,310,630
Total Rate Revenue from Metered Water Sales			10,433,320	10,940,657	11,526,385	12,148,844	12,810,970	13,513,149	14,256,733	15,043,546	15,875,718	16,755,609	17,685,781	18,668,988	19,708,164	20,806,438
Miscellaneous Operating Revenues																
Water sales - construction			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town of Windsor			350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000
Water rental			110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000
Miscellaneous income			100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Management fees - SFCSD			468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871
Total Miscellaneous Operating Revenue			1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871
Miscellaneous Non-Operating Revenues																
Property taxes			1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000
Soldier Canyon Income			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest on investments			0	0	0	0	0	0	0	0	0	0	0	0	0	0
PIFs - Water Resource Component			0	0	0	0	0	0	0	0	0	0	0	0	0	0
PIFs - Infrastructure Component			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grants			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meter fees			80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000
Impact fees			220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000
Sale of assets			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inclusion fees			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Miscellaneous Non-Operating			1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000
Operating Fund Interest Income			0	97,504	102,428	107,678	113,117	119,367	125,741	138,021	145,199	152,812	160,881	169,435	178,498	188,102
Total Revenues			12,812,190	13,417,031	14,007,684	14,635,393	15,302,958	16,011,387	16,761,345	17,560,437	18,399,787	19,287,291	20,225,533	21,217,293	22,265,533	23,373,410
O&M Expenses																
Source and Treatment			5,094,000	5,284,020	5,481,691	5,687,339	5,901,306	6,123,950	6,355,644	6,596,777	6,847,757	7,109,011	7,380,983	7,664,139	7,958,966	8,265,974
Engineering			538,500	555,763	573,599	592,029	611,072	630,751	651,088	672,105	693,828	716,280	739,487	763,476	788,276	813,914
Distribution			2,540,000	2,622,798	2,708,410	2,796,936	2,888,483	2,983,157	3,081,073	3,182,347	3,287,101	3,395,462	3,507,562	3,623,536	3,743,527	3,867,682
Office			839,950	867,398	895,781	925,134	955,491	986,890	1,019,367	1,052,962	1,087,715	1,123,669	1,160,868	1,199,358	1,239,185	1,280,400
Administration			762,660	764,847	788,776	813,473	838,962	865,270	892,424	920,453	949,385	979,252	1,010,083	1,041,912	1,074,772	1,108,699
Total O&M Expenses			9,775,110	10,094,826	10,448,257	10,814,911	11,195,315	11,590,018	11,999,595	12,424,644	12,865,786	13,323,673	13,798,983	14,292,421	14,804,727	15,336,668
Net Revenues Available for Debt Service			3,037,080	3,322,206	3,559,427	3,820,482	4,107,643	4,421,368	4,761,749	5,135,793	5,534,001	5,963,617	6,426,551	6,924,871	7,460,807	8,036,743

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Consolidated Cash Flow**

Description	% Increase	Months Effective	Budget 2017	Projected Consolidated Cash Flows												
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Rate Revenues at Existing Rates			\$10,433,320	\$10,519,862	\$10,656,791	\$10,800,278	\$10,950,871	\$11,106,824	\$11,267,303	\$11,431,859	\$11,600,231	\$11,772,268	\$11,947,880	\$12,127,018	\$12,309,661	\$12,495,807
Year																
2018	4.00%	12		420,794	426,272	432,011	438,035	444,273	450,692	457,274	464,009	470,891	477,915	485,081	492,386	499,832
2019	4.00%	12			443,323	449,292	455,556	462,044	468,720	475,565	482,570	489,726	497,032	504,484	512,082	519,826
2020	4.00%	12				467,263	473,778	480,526	487,469	494,588	501,872	509,315	516,913	524,663	532,565	540,619
2021	4.00%	12					492,730	499,747	506,967	514,371	521,947	529,688	537,590	545,650	553,868	562,243
2022	4.00%	12						519,737	527,246	534,946	542,825	550,876	559,093	567,476	576,023	584,733
2023	4.00%	12							548,336	556,344	564,538	572,911	581,457	590,175	599,063	608,122
2024	4.00%	12								578,598	587,120	595,827	604,715	613,782	623,026	632,447
2025	4.00%	12									610,605	619,660	628,904	638,333	647,947	657,745
2026	4.00%	12										644,446	654,060	663,866	673,865	684,055
2027	4.00%	12											680,222	690,421	700,819	711,417
2028	4.00%	12												718,038	728,852	739,874
2029	4.00%	12													758,006	769,469
2030	4.00%	12														800,248
Additional Revenue from Rate Increases			0	420,794	869,594	1,348,566	1,860,099	2,406,326	2,989,430	3,611,687	4,275,486	4,983,340	5,737,901	6,541,969	7,398,503	8,310,630
Total Rate Revenue from Metered Water Sales			10,433,320	10,940,657	11,526,385	12,148,844	12,810,970	13,513,149	14,256,733	15,043,546	15,875,718	16,755,609	17,685,781	18,668,988	19,708,164	20,806,438
Miscellaneous Operating Revenues																
Water sales - construction			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Town of Windsor			350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000
Water rental			110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000
Miscellaneous income			100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Management fees - SFCSD			468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871	468,871
Total Miscellaneous Operating Revenue			1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871	1,028,871
Miscellaneous Non-Operating Revenues																
Property taxes			1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000	1,050,000
Soldier Canyon Income			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest on investments			0	0	0	0	0	0	0	0	0	0	0	0	0	0
PIFs - Water Resource Component			6,250,000	7,645,279	7,798,185	7,954,148	8,113,231	8,275,496	8,441,006	8,609,826	8,782,022	8,957,663	9,136,816	9,319,552	9,505,943	9,696,062
PIFs - Infrastructure Component			1,700,000	3,805,574	3,881,685	3,959,319	4,038,505	4,119,275	4,201,661	4,285,694	4,371,408	4,458,836	4,548,013	4,638,973	4,731,753	4,826,388
Grants			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meter fees			80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000
Impact fees			220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000	220,000
Sale of assets			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inclusion fees			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Miscellaneous Non-Operating			9,300,000	12,800,853	13,029,870	13,263,467	13,501,737	13,744,771	13,992,667	14,245,520	14,503,430	14,766,499	15,034,829	15,308,526	15,587,696	15,872,450
Interest Income			0	252,523	244,842	328,545	276,466	407,780	376,108	515,875	379,910	470,605	429,113	477,448	420,178	462,174
Total Revenues			20,762,190	25,022,903	25,829,967	26,769,727	27,618,043	28,694,572	29,654,378	30,833,811	31,787,928	33,021,583	34,178,594	35,483,832	36,744,909	38,169,933
O&M Expenses																
Source and Treatment			5,094,000	5,284,020	5,481,691	5,687,339	5,901,306	6,123,950	6,355,644	6,596,777	6,847,757	7,109,011	7,380,983	7,664,139	7,958,966	8,265,974
Engineering			538,500	555,763	573,599	592,029	611,072	630,751	651,088	672,105	693,828	716,280	739,487	763,476	788,276	813,914
Distribution			2,540,000	2,622,798	2,708,410	2,796,936	2,888,483	2,983,157	3,081,073	3,182,347	3,287,101	3,395,462	3,507,562	3,623,536	3,743,527	3,867,682
Office			839,950	867,398	895,781	925,134	955,491	986,890	1,019,367	1,052,962	1,087,715	1,123,669	1,160,868	1,199,358	1,239,185	1,280,400
Administration			762,660	764,847	788,776	813,473	838,962	865,270	892,424	920,453	949,385	979,252	1,010,083	1,041,912	1,074,772	1,108,699
Total O&M Expenses			9,775,110	10,094,826	10,448,257	10,814,911	11,195,315	11,590,018	11,999,595	12,424,644	12,865,786	13,323,673	13,798,983	14,292,421	14,804,727	15,336,668
Net Revenues Available for Debt Service			10,987,080	14,928,077	15,381,710	15,954,816	16,422,729	17,104,553	17,654,783	18,409,167	18,922,142	19,697,910	20,379,611	21,191,410	21,940,182	22,833,265
Debt Service																
Existing Debt Service			1,928,594	1,930,994	1,924,118	1,929,118	1,968,368	1,918,368	1,918,368	815,868	815,868	815,868	815,868	815,868	815,868	815,868
Proposed Debt Service			0	0	0	2,602,057	2,602,057	5,204,115	5,204,115	7,480,915	7,480,915	9,757,715	9,757,715	12,034,515	9,757,715	9,757,715
Total Debt Service			1,928,594	1,930,994	1,924,118	4,531,175	4,570,425	7,122,483	7,122,483	8,296,783	8,296,783	10,573,583	10,573,583	12,850,383	10,573,583	10,573,583

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Consolidated Cash Flow**

Description	% Increase	Months Effective	Budget 2017	Projected Consolidated Cash Flows												
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CIP Expenditures																
Growth CIP			7,573,705	14,534,785	18,276,533	20,042,680	21,085,308	19,783,244	14,831,897	14,385,712	37,240,507	21,470,043	18,829,982	31,470,246	42,007,193	16,910,166
Non-Growth CIP			3,132,038	2,858,790	3,715,322	6,029,147	2,233,032	1,560,035	3,245,410	2,018,715	2,046,467	2,863,325	819,117	774,479	877,556	851,015
Total CIP			10,705,743	17,393,574	21,991,855	26,071,828	23,318,340	21,343,279	18,077,307	16,404,427	39,286,974	24,333,367	19,649,099	32,244,724	42,884,749	17,761,181
Total Expenditures			22,409,446	29,419,394	34,364,230	41,417,914	39,084,080	40,055,780	37,199,385	37,125,853	60,449,543	48,230,624	44,021,665	59,387,529	68,263,059	43,671,432
Net Consolidated Cash Flow			(1,647,256)	(4,396,491)	(8,534,263)	(14,648,187)	(11,466,037)	(11,361,209)	(7,545,007)	(6,292,042)	(28,661,615)	(15,209,041)	(9,843,071)	(23,903,698)	(31,518,150)	(5,501,499)
Cash Reserves																
Beginning Balance			39,726,237	38,078,981	33,682,490	25,148,226	47,097,982	35,631,945	60,868,679	53,323,672	79,054,830	50,393,215	67,207,374	57,364,303	65,483,805	33,965,655
Add: Net Consolidated Cash Flow			(1,647,256)	(4,396,491)	(8,534,263)	(14,648,187)	(11,466,037)	(11,361,209)	(7,545,007)	(6,292,042)	(28,661,615)	(15,209,041)	(9,843,071)	(23,903,698)	(31,518,150)	(5,501,499)
Add: Net Bond Proceeds			0	0	0	36,597,943	0	36,597,943	0	32,023,200	0	32,023,200	0	32,023,200	0	0
Ending Operating Cash Balance			38,078,981	33,682,490	25,148,226	47,097,982	35,631,945	60,868,679	53,323,672	79,054,830	50,393,215	67,207,374	57,364,303	65,483,805	33,965,655	28,464,156
Target Reserve			6,077,474	7,092,840	7,622,734	7,975,055	7,744,640	6,605,479	6,596,327	12,416,288	8,583,957	8,038,414	11,317,307	14,074,904	7,928,723	7,467,863
Variance from Target Reserve			32,001,507	26,589,650	17,525,492	39,122,927	27,887,306	54,263,200	46,727,346	66,638,542	41,809,258	59,168,960	46,046,996	51,408,901	26,036,932	20,996,293
Debt Service Coverage Calculation (Including Connection Fees)																
Total Revenues (Including PIFs)			20,762,190	25,022,903	25,829,967	26,769,727	27,618,043	28,694,572	29,654,378	30,833,811	31,787,928	33,021,583	34,178,594	35,483,832	36,744,909	38,169,933
Less: O&M Expenses			9,775,110	10,094,826	10,448,257	10,814,911	11,195,315	11,590,018	11,999,595	12,424,644	12,865,786	13,323,673	13,798,983	14,292,421	14,804,727	15,336,668
Net Revenue Available for Debt Service (Including PIFs)			10,987,080	14,928,077	15,381,710	15,954,816	16,422,729	17,104,553	17,654,783	18,409,167	18,922,142	19,697,910	20,379,611	21,191,410	21,940,182	22,833,265
Debt Service			1,928,594	1,930,994	1,924,118	4,531,175	4,570,425	7,122,483	7,122,483	8,296,783	8,296,783	10,573,583	10,573,583	12,850,383	10,573,583	10,573,583
Debt Service Coverage Ratio (Including PIFs)			5.70	7.73	7.99	3.52	3.59	2.40	2.48	2.22	2.28	1.86	1.93	1.65	2.07	2.16
Debt Service Coverage Calculation (Excluding PIFs)																
Total Revenues (Excluding PIFs)			12,812,190	13,572,050	14,150,098	14,856,260	15,466,307	16,299,800	17,011,712	17,938,291	18,634,498	19,605,084	20,493,765	21,525,306	22,507,213	23,647,483
Less: O&M Expenses			9,775,110	10,094,826	10,448,257	10,814,911	11,195,315	11,590,018	11,999,595	12,424,644	12,865,786	13,323,673	13,798,983	14,292,421	14,804,727	15,336,668
Net Revenue Available for Debt Service (Excluding PIFs)			3,037,080	3,477,224	3,701,840	4,041,349	4,270,992	4,709,782	5,012,116	5,513,647	5,768,711	6,281,411	6,694,782	7,232,885	7,702,486	8,310,815
Debt Service			1,928,594	1,930,994	1,924,118	4,531,175	4,570,425	7,122,483	7,122,483	8,296,783	8,296,783	10,573,583	10,573,583	12,850,383	10,573,583	10,573,583
Debt Service Coverage Ratio (Excluding PIFs)			1.57	1.80	1.92	0.89	0.93	0.66	0.70	0.66	0.70	0.59	0.63	0.56	0.73	0.79

Appendix B
Fort Collins Loveland Water District Rate Study
Cost of Service Study

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
System Production Metrics**

Actual Total FCLWD Annual Flow (Thousands of Gallons)			Actual Total System Annual Treated Consumption	Estimated Water Loss (Thousands of Gallons)	
Year	Annual	Annual Average Day		Estimated Water Loss	Estimated Water Loss %
2016	3,397,482	9,308	3,194,551	202,931	5.97%
2015	2,886,386	7,908	2,717,789	168,597	5.84%
2014	2,884,187	7,902	2,628,127	256,060	8.88%
Average	3,056,018	8,373	2,846,822	209,196	6.85%

Actual Total System Coincident Max Month Production (Thousands of Gallons)			
Year	Actual Month of Occurrence	Actual Max Month Production	Average Day in Max Month
2016	July	610,490	19,693
2015	August	521,061	16,808
2014	July	474,019	15,291
Average		535,190	17,264

Actual Total System Coincident Max Day Production (Thousands of Gallons)				
Year	Actual Day of Occurrence	Actual Max Day Production	Ratio of Max Day Production to Annual Avg. Day	Ratio of Max Day Production to Avg. Day in Max Month
2016	July	21,624	2.32	1.10
2015	July	19,656	2.49	1.17
2014	July	18,713	2.37	1.22
Average		19,998	2.39	1.16

Estimated Total System Coincident Max Hour Production (Thousands of Gallons)					
Year	Actual Date and Time of Max Hour	3.20	Ratio of Max Hour Production to Annual Avg. Day	Ratio of Max Hour Production to Avg. Day in Max Month	Ratio of Max Hour to Max Day
		Estimated Max Hour Production			
2016	Unknown	29,786	3.20	1.51	1.38
2015	Unknown	25,305	3.20	1.51	1.29
2014	Unknown	25,286	3.20	1.65	1.35
Average		26,792	3.20	1.55	1.34

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
System Demand Ratios Used in Cost Allocations**

Calculated Base / Max Day Allocations	
System Max Day / Average Day Ratio	2.39
Base Allocation %	41.9%
Max Day Allocation %	58.1%
Total Allocation %	100.0%
Base / Max Hour Allocations	
System Max Hour to Average Day Ratio	3.20
Base Allocation %	31.3%
Max Hour Allocation %	68.8%
Total Allocation %	100.0%
Base / Max Day / Max Hour Allocation	
System Max Hour X System Max Day	7.64
Base Allocation %	31.3%
Max Day Allocation %	43.4%
Max Hour Allocation %	25.4%
Total Allocation %	100.0%

Check on Base / Max Day Allocations	
System Average Day	8,373
System Max Day	19,998
Base Allocation %	41.9%
Max Day Allocation %	58.1%
Total Allocation %	100.0%
Check on Base / Max Hour Allocations	
System Average Day	8,373
System Max Hour	26,792
Base Allocation %	31.3%
Max Hour Allocation %	68.8%
Total Allocation %	100.0%
Check on Base / Max Day / Max Hour Allocation	
System Average Day	8,373
System Max Day Less Average Day	11,625
System Max Hour Less Max Day	6,795
Base Allocation %	31.3%
Max Day Allocation %	43.4%
Max Hour Allocation %	25.4%
Total Allocation %	100.0%

Fort Collins-Loveland Water District

2017 Rate & Fee Study

Billed Consumption Data Used to Develop Peaking Factors - Existing Disaggregated Rate Structure

2016 Actual Billed Consumption (Kgals)														2016 Class Metrics			2016 System Metrics		2016 Peaking Factors	
Customer Class	31 Jan	28 Feb	31 March	30 April	31 May	30 June	31 July	31 August	30 Sept	31 Oct	30 Nov	31 Dec	Avg Day in Max Month	Annual Avg. Day	Ratio of Avg. Day in Max. Mo. to Annual Avg. Day	System Ratio of MD to Avg. Day in Max Mo.	System Ratio of MH to Avg. Day in Max Mo.	Customer Class MD Peak	Customer Class MH Peak	
Residential, No Patio, FCLWD Rates	54,001	52,432	63,419	78,936	186,702	381,644	386,524	320,654	273,856	111,797	62,156	60,468	12,721.5	5,568.7	2.28	1.10	1.51	2.51	3.46	
Residential, No Patio, City Rates	7,611	7,174	8,906	11,090	27,353	34,747	32,473	27,149	19,286	8,945	7,586	8,540	1,158.2	550.3	2.10	1.10	1.51	2.31	3.18	
Residential, No Patio, City Exchange	192	191	229	245	753	1,136	1,141	974	708	285	126	218	36.8	17.0	2.17	1.10	1.51	2.38	3.28	
Residential, Patio	679	606	732	788	1,023	1,287	1,214	1,083	1,014	770	784	803	42.9	29.5	1.45	1.10	1.51	1.59	2.20	
Commercial, FCLWD Rates	17,160	16,874	19,918	24,729	38,452	60,820	64,336	56,254	52,393	28,466	18,349	15,973	2,075.4	1,133.5	1.83	1.10	1.51	2.01	2.77	
Commercial, Billed as City Use	394	320	415	459	1,862	5,327	4,879	3,476	2,930	459	370	247	177.6	57.9	3.07	1.10	1.51	3.37	4.64	
Commercial, City Exchange Use	784	933	1,053	998	1,767	1,596	1,901	1,524	1,586	1,420	833	797	61.3	41.6	1.47	1.10	1.51	1.62	2.23	
Irrigation, FCLWD Rates	22	27	648	5,562	30,915	80,294	86,501	72,952	49,475	7,375	38	1	2,790.4	914.5	3.05	1.10	1.51	3.35	4.61	
Irrigation, City Rates	0	0	286	931	10,779	15,523	15,080	13,334	7,794	358	0	0	517.4	175.6	2.95	1.10	1.51	3.24	4.46	
Irrigation, City Exchange	0	0	0	18	207	771	921	563	364	59	0	0	29.7	8.0	3.73	1.10	1.51	4.10	5.65	
Residential, Multi-Unit, FCLWD Rates	7,121	6,573	7,202	6,566	8,108	9,354	9,365	8,659	8,198	6,904	6,749	7,385	302.1	252.6	1.20	1.10	1.51	1.31	1.81	
Residential, Multi-Unit, City Rates	33	31	35	56	101	196	220	183	138	41	30	18	7.1	3.0	2.39	1.10	1.51	2.63	3.62	
Total System	87,996	85,162	102,842	130,378	308,024	592,694	604,555	506,804	417,743	166,880	97,020	94,450	19,501.8	8,752.2	2.23					

2015 Actual Billed Consumption (Kgals)														2015 Class Metrics			2015 System Metrics		2015 Peaking Factors	
Customer Class	31 Jan	28 Feb	31 March	30 April	31 May	30 June	31 July	31 August	30 Sept	31 Oct	30 Nov	31 Dec	Avg Day in Max Month	Annual Avg. Day	Ratio of Avg. Day in Max. Mo. to Annual Avg. Day	System Ratio of MD to Avg. Day in Max Mo.	System Ratio of MH to Avg. Day in Max Mo.	Customer Class MD Peak	Customer Class MH Peak	
Residential, No Patio, FCLWD Rates	55,305	49,126	72,584	95,233	97,311	230,885	321,306	325,006	261,777	102,359	54,805	61,265	10,484.1	4,731.4	2.22	1.17	1.51	2.59	3.34	
Residential, No Patio, City Rates	7,760	6,769	9,834	11,744	14,824	23,789	30,941	28,708	18,355	8,634	7,497	8,405	926.1	485.6	1.91	1.17	1.51	2.23	2.87	
Residential, No Patio, City Exchange	196	170	251	285	400	774	1,142	1,095	698	242	191	219	36.8	15.5	2.37	1.17	1.51	2.78	3.57	
Residential, Patio	645	574	711	839	860	1,158	1,237	1,193	1,000	745	739	809	39.9	25.8	1.39	1.17	1.51	1.62	2.09	
Commercial, FCLWD Rates	18,493	16,382	21,337	24,555	28,058	43,211	50,665	55,997	50,235	25,393	17,347	17,489	1,806.4	1,011.4	1.79	1.17	1.51	2.09	2.69	
Commercial, Billed as City Use	384	313	581	679	773	3,486	4,426	3,877	2,827	711	403	248	142.8	51.2	2.79	1.17	1.51	3.26	4.19	
Commercial, City Exchange Use	756	817	1,006	789	1,115	1,455	1,695	1,347	1,198	1,025	950	779	54.7	35.4	1.54	1.17	1.51	1.80	2.32	
Irrigation, FCLWD Rates	23	16	1,879	6,305	9,636	43,811	61,147	67,301	51,039	6,263	176	96	2,171.0	678.6	3.20	1.17	1.51	3.74	4.82	
Irrigation, City Rates	0	0	481	2,252	3,881	12,354	14,806	14,251	7,565	181	0	0	477.6	152.8	3.13	1.17	1.51	3.66	4.71	
Irrigation, City Exchange	0	0	25	84	168	507	658	679	288	38	0	0	21.9	6.7	3.27	1.17	1.51	3.82	4.92	
Residential, Multi-Unit, FCLWD Rates	5,228	4,669	5,203	5,070	5,066	5,711	6,672	6,552	5,812	5,682	4,969	5,610	215.2	181.5	1.19	1.17	1.51	1.39	1.79	
Residential, Multi-Unit, City Rates	2,019	1,724	1,964	2,140	1,953	2,109	2,395	2,213	2,010	2,007	1,868	2,040	77.2	67.0	1.15	1.17	1.51	1.35	1.74	
Total System	90,810	80,561	115,855	149,976	164,045	369,249	497,087	508,218	402,804	153,280	88,944	96,959	16,394.1	7,446.0	2.20					

2014 Actual Billed Consumption (Kgals)														2014 Class Metrics			2014 System Metrics		2014 Peaking Factors	
Customer Class	31 Jan	28 Feb	31 March	30 April	31 May	30 June	31 July	31 August	30 Sept	31 Oct	30 Nov	31 Dec	Avg Day in Max Month	Annual Avg. Day	Ratio of Avg. Day in Max. Mo. to Annual Avg. Day	System Ratio of MD to Avg. Day in Max Mo.	System Ratio of MH to Avg. Day in Max Mo.	Customer Class MD Peak	Customer Class MH Peak	
Residential, No Patio, FCLWD Rates	55,378	48,093	61,192	137,490	195,253	272,259	278,636	239,905	170,615	90,451	53,823	57,460	8,988.3	4,549.5	1.98	1.22	1.65	2.42	3.27	
Residential, No Patio, City Rates	7,705	6,536	8,944	15,488	25,124	26,740	25,193	19,779	14,219	8,166	7,234	7,797	812.7	473.8	1.72	1.22	1.65	2.10	2.84	
Residential, No Patio, City Exchange	163	145	202	372	726	784	698	723	421	251	175	168	23.3	13.2	1.76	1.22	1.65	2.16	2.91	
Residential, Patio	648	561	695	894	977	1,061	1,098	990	847	733	666	757	35.4	27.2	1.30	1.22	1.65	1.59	2.15	
Commercial, FCLWD Rates	16,488	15,656	18,712	27,204	38,061	44,031	52,975	47,234	36,431	24,640	17,563	16,569	1,708.9	974.1	1.75	1.22	1.65	2.15	2.90	
Commercial, Billed as City Use	369	314	394	1,109	2,664	4,134	2,323	3,151	2,212	713	314	262	101.7	49.2	2.07	1.22	1.65	2.53	3.42	
Commercial, City Exchange Use	587	569	375	1,351	1,169	1,118	1,319	1,305	1,144	925	913	586	42.6	31.1	1.37	1.22	1.65	1.67	2.26	
Irrigation, FCLWD Rates	6	8	1,008	16,376	38,396	53,488	57,360	47,433	30,370	6,860	20	14	1,850.3	688.6	2.69	1.22	1.65	3.29	4.44	
Irrigation, City Rates	0	11	449	5,489	11,924	12,353	12,073	7,716	4,991	113	0	0	411.8	151.0	2.73	1.22	1.65	3.34	4.51	
Irrigation, City Exchange	0	0	3	183	330	384	478	378	129	0	0	0	15.4	5.2	2.98	1.22	1.65	3.65	4.94	
Residential, Multi-Unit, FCLWD Rates	5,069	4,342	4,706	5,229	5,893	6,310	6,149	5,948	5,517	5,225	4,812	5,391	210.3	177.0	1.19	1.22	1.65	1.45	1.97	
Residential, Multi-Unit, City Rates	1,701	1,481	1,677	1,554	2,024	1,886	1,914	1,815	1,921	1,912	1,824	1,954	61.7	59.4	1.04	1.22	1.65	1.27	1.72	
Lil'Thomp/City Lvind	342	0	36	14	0	0	15	0	0	0	0	0	11.0	1.1	9.90	1.223796936	1.653660958	12.11534745	16.37091618	
Total System	88458.4	77715.12	98393.44	212753	322542.9	424548.8	440231.4	376376.9	268815.2	139988.1	87344.01	90959.29	14201.01445	7200.347003	1.972268065					

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Customer Class Peaking Factor Summary - Existing Disaggregated Rate Structure**

Summary of Customer Class Peaking Factors								
Customer Class	Maximum Day Peaking Factors				Maximum Hour Peaking Factors			
	2014	2015	2016	Average	2014	2015	2016	Average
Residential, No Patio, FCLWD Rates	2.42	2.59	2.51	2.51	3.27	3.34	3.46	3.35
Residential, No Patio, City Rates	2.10	2.23	2.31	2.21	2.84	2.87	3.18	2.96
Residential, No Patio, City Exchange	2.16	2.78	2.38	2.44	2.91	3.57	3.28	3.26
Residential, Patio	1.59	1.62	1.59	1.60	2.15	2.09	2.20	2.15
Commercial, FCLWD Rates	2.15	2.09	2.01	2.08	2.90	2.69	2.77	2.79
Commercial, Billed as City Use	2.15	2.09	2.01	2.08	2.90	2.69	2.77	2.79
Commercial, City Exchange Use	1.67	1.80	1.62	1.70	2.26	2.32	2.23	2.27
Irrigation, FCLWD Rates	3.29	3.74	3.35	3.46	4.44	4.82	4.61	4.62
Irrigation, City Rates	3.29	3.74	3.35	3.46	4.44	4.82	4.61	4.62
Irrigation, City Exchange	3.65	3.82	4.10	3.86	4.94	4.92	5.65	5.17
Residential, Multi-Unit, FCLWD Rates	1.45	1.39	1.31	1.38	1.97	1.79	1.81	1.85
Residential, Multi-Unit, City Rates	1.45	1.39	1.31	1.38	1.97	1.79	1.81	1.85

Sort of Customer Class Peaking Factors from Highest to Lowest								
Customer Class	Maximum Day Peaking Factors				Maximum Hour Peaking Factors			
	2014	2015	2016	Average	2014	2015	2016	Average
Irrigation, City Exchange	3.65	3.82	4.10	3.86	4.63	4.61	5.30	4.84
Irrigation, City Rates	3.34	3.66	3.24	3.41	4.23	4.41	4.18	4.27
Irrigation, FCLWD Rates	3.29	3.74	3.35	3.46	4.17	4.52	4.33	4.34
Commercial, Billed as City Use	2.53	3.26	3.37	3.05	3.20	3.93	4.35	3.83
Residential, No Patio, FCLWD Rates	2.42	2.59	2.51	2.51	3.06	3.13	3.24	3.14
Residential, No Patio, City Exchange	2.16	2.78	2.38	2.44	2.73	3.35	3.07	3.05
Commercial, FCLWD Rates	2.15	2.09	2.01	2.08	2.72	2.52	2.60	2.61
Residential, No Patio, City Rates	2.10	2.23	2.31	2.21	2.66	2.69	2.98	2.78
Commercial, City Exchange Use	1.67	1.80	1.62	1.70	2.12	2.18	2.09	2.13
Residential, Patio	1.59	1.62	1.59	1.60	2.02	1.96	2.06	2.01
Residential, Multi-Unit, FCLWD Rates	1.45	1.39	1.31	1.38	1.84	1.67	1.70	1.74
Residential, Multi-Unit, City Rates	1.27	1.35	2.63	1.75	1.61	1.63	3.39	2.21

**Fort Collins-Loveland Water District
2017 Rate & Fee Study**

Billed Consumption Data Used to Develop Peaking Factors - Consolidated Customer Types

2016 Actual Billed Consumption (Kgals)														2016 Class Metrics			2016 System Metrics		2016 Peaking Factors	
Customer Class	31 Jan	28 Feb	31 March	30 April	31 May	30 June	31 July	31 August	30 Sept	31 Oct	30 Nov	31 Dec	Avg Day in Max Month	Annual Avg. Day	Ratio of Avg. Day in Max. Mo. to Annual Avg. Day	System Ratio of MD to Avg. Day in Max Mo.	System Ratio of MH to Avg. Day in Max Mo.	Customer Class MD Peak	Customer Class MH Peak	
Residential	62,482	60,403	73,286	91,059	215,832	418,814	421,351	349,860	294,865	121,798	70,652	70,029	13,960.5	6,165.6	2.26	1.10	1.51	2.49	3.42	
Commercial	18,338	18,128	21,386	26,186	42,081	67,742	71,117	61,254	56,910	30,345	19,552	17,017	2,294.1	1,233.0	1.86	1.10	1.51	2.04	2.81	
Irrigation	22	27	933	6,511	41,901	96,588	102,502	86,848	57,633	7,792	38	1	3,306.5	1,098.1	3.01	1.10	1.51	3.31	4.55	
Residential, Multi-Unit	7,154	6,604	7,237	6,622	8,210	9,550	9,585	8,842	8,336	6,945	6,778	7,403	309.2	255.5	1.21	1.10	1.51	1.33	1.83	
Total System	87,996	85,162	102,842	130,378	308,024	592,694	604,555	506,804	417,743	166,880	97,020	94,450	19,501.8	8,752.2	2.23					

2016 Actual Billed Consumption (Kgals)														2016 Class Metrics			2016 System Metrics		2016 Peaking Factors	
Customer Class	31 Jan	28 Feb	31 March	30 April	31 May	30 June	31 July	31 August	30 Sept	31 Oct	30 Nov	31 Dec	Avg Day in Max Month	Annual Avg. Day	Ratio of Avg. Day in Max. Mo. to Annual Avg. Day	System Ratio of MD to Avg. Day in Max Mo.	System Ratio of MH to Avg. Day in Max Mo.	Customer Class MD Peak	Customer Class MH Peak	
Residential	63,906	56,640	83,380	108,102	113,396	256,604	354,625	356,003	281,830	111,979	63,231	70,697	11,484.0	5,261.4	2.18	1.17	1.51	2.55	3.29	
Commercial	19,633	17,512	22,924	26,023	29,945	48,152	56,785	61,220	54,260	27,129	18,700	18,516	1,974.8	1,098.1	1.80	1.17	1.51	2.10	2.71	
Irrigation	23	16	2,385	8,642	13,685	56,673	76,611	82,230	58,892	6,483	176	96	2,652.6	838.1	3.16	1.17	1.51	3.70	4.76	
Residential, Multi-Unit	7,248	6,393	7,166	7,211	7,019	7,819	9,066	8,765	7,822	7,689	6,837	7,650	292.5	248.5	1.18	1.17	1.51	1.38	1.77	
Total System	90,810	80,561	115,855	149,976	164,045	369,249	497,087	508,218	402,804	153,280	88,944	96,959	16,394.1	7,446.0	2.20					

2016 Actual Billed Consumption (Kgals)														2016 Class Metrics			2016 System Metrics		2016 Peaking Factors	
Customer Class	31 Jan	28 Feb	31 March	30 April	31 May	30 June	31 July	31 August	30 Sept	31 Oct	30 Nov	31 Dec	Avg Day in Max Month	Annual Avg. Day	Ratio of Avg. Day in Max. Mo. to Annual Avg. Day	System Ratio of MD to Avg. Day in Max Mo.	System Ratio of MH to Avg. Day in Max Mo.	Customer Class MD Peak	Customer Class MH Peak	
Residential	63,895	55,334	71,033	154,244	222,081	300,844	305,625	261,396	186,101	99,600	61,898	66,183	9,858.9	5,063.7	1.95	1.22	1.65	2.38	3.22	
Commercial	17,444	16,540	19,482	29,665	41,895	49,283	56,617	51,690	39,786	26,278	18,790	17,418	1,826.4	1,054.5	1.73	1.22	1.65	2.12	2.86	
Irrigation	6	19	1,460	22,048	50,650	66,226	69,912	55,527	35,490	6,974	20	14	2,255.2	844.8	2.67	1.22	1.65	3.27	4.41	
Residential, Multi-Unit	6,771	5,823	6,383	6,782	7,917	8,196	8,063	7,764	7,439	7,136	6,636	7,345	273.2	236.3	1.16	1.22	1.65	1.41	1.91	
Lil'Thomp/City LvInd	342	0	36	14	0	0	15	0	0	0	0	0	11.0	1.1	9.90	1.22	1.65	12.12	16.37	
Total System	88,458	77,715	98,393	212,753	322,543	424,549	440,231	376,377	268,815	139,988	87,344	90,959	14,201.0	7,200.3	1.97					

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Combined Customer Class Peaking Factor Summary - Consolidated Customer Types**

Summary of Customer Class Peaking Factors									
Customer Class	Maximum Day Peaking Factors				Maximum Hour Peaking Factors				
	2014	2015	2016	Average	2014	2015	2016	Average	
Residential, No Patio, FCLWD Rates	2.42	2.59	2.51	2.51	3.27	3.34	3.46	3.35	
Residential, No Patio, City Rates	2.10	2.23	2.31	2.21	2.84	2.87	3.18	2.96	
Residential, No Patio, City Exchange	2.16	2.78	2.38	2.44	2.91	3.57	3.28	3.26	
Residential, Patio	1.59	1.62	1.59	1.60	2.15	2.09	2.20	2.15	
Commercial, FCLWD Rates	2.12	2.10	2.04	2.09	2.86	2.71	2.81	2.80	
Commercial, Billed as City Use	2.12	2.10	2.04	2.09	2.86	2.71	2.81	2.80	
Commercial, City Exchange Use	2.12	2.10	2.04	2.09	2.86	2.71	2.81	2.80	
Irrigation, FCLWD Rates	3.27	3.70	3.31	3.42	4.41	4.76	4.55	4.58	
Irrigation, City Rates	3.27	3.70	3.31	3.42	4.41	4.76	4.55	4.58	
Irrigation, City Exchange	3.27	3.70	3.31	3.42	4.41	4.76	4.55	4.58	
Residential, Multi-Unit, FCLWD Rates	1.41	1.38	1.33	1.37	1.91	1.77	1.83	1.84	
Residential, Multi-Unit, City Rates	1.41	1.38	1.33	1.37	1.91	1.77	1.83	1.84	

Sort of Customer Class Peaking Factors from Highest to Lowest									
Customer Class	Maximum Day Peaking Factors				Maximum Hour Peaking Factors				
	2014	2015	2016	Average	2014	2015	2016	Average	
Irrigation, FCLWD Rates	3.27	3.70	3.31	3.42	4.41	4.76	4.55	4.58	
Irrigation, City Rates	3.27	3.70	3.31	3.42	4.41	4.76	4.55	4.58	
Irrigation, City Exchange	3.27	3.70	3.31	3.42	4.41	4.76	4.55	4.58	
Residential, No Patio, FCLWD Rates	2.42	2.59	2.51	2.51	3.27	3.34	3.46	3.35	
Residential, No Patio, City Exchange	2.16	2.78	2.38	2.44	2.91	3.57	3.28	3.26	
Residential, No Patio, City Rates	2.10	2.23	2.31	2.21	2.84	2.87	3.18	2.96	
Commercial, FCLWD Rates	2.12	2.10	2.04	2.09	2.86	2.71	2.81	2.80	
Commercial, Billed as City Use	2.12	2.10	2.04	2.09	2.86	2.71	2.81	2.80	
Commercial, City Exchange Use	2.12	2.10	2.04	2.09	2.86	2.71	2.81	2.80	
Residential, Patio	1.59	1.62	1.59	1.60	2.15	2.09	2.20	2.15	
Residential, Multi-Unit, FCLWD Rates	1.41	1.38	1.33	1.37	1.91	1.77	1.83	1.84	
Residential, Multi-Unit, City Rates	1.41	1.38	1.33	1.37	1.91	1.77	1.83	1.84	

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Test Year 2018 Summary Asset Functionalization**

Detail of Main Sizes (Inch Feet)										
Size (Inches)	Copper	PVC	DI	CI	Steel	AC	Unknown	Other	Total Inch Feet	
1	1,964	11,595	507	0	0	0	0	0	0	14,066
1.25	0	0	713	0	0	0	0	0	0	713
1.5	238	190	95	0	0	0	0	0	0	523
2	291	228,096	507	253	887	0	17,614	0	0	247,649
2.5	0	30,888	0	0	0	0	0	0	0	30,888
3	0	602,744	3,612	4,372	0	1,999,832	950	0	0	2,611,509
4	0	3,111,990	9,377	221,253	507	2,301,996	1,774	0	0	5,646,897
6	0	22,281,558	192,361	483,564	0	2,621,964	27,372	0	0	25,606,817
8	0	81,980,237	161,188	14,700	7,096	445,548	10,644	0	0	82,619,412
10	0	10,824,422	21,542	12,672	0	1,876,723	634	0	0	12,735,994
12	0	45,978,071	959,524	514,737	10,644	12,165	4,562	0	0	47,479,703
14	0	58,545	1,207,261	93,139	0	7,474,199	0	0	0	8,833,144
15	0	8,554	0	0	0	0	0	5,037	0	13,591
16	0	1,676,759	2,332,662	0	18,248	1,983,928	0	0	0	6,011,597
18	0	20,529	1,227,156	0	14,051,854	0	0	0	0	15,299,539
20	0	0	3,221,222	0	1,899,533	0	0	0	0	5,120,755
22	0	0	0	0	2,053,244	0	0	0	0	2,053,244
24	0	4,542,152	7,586,473	0	3,080,817	0	0	0	0	15,209,441
30	0	0	1,406,592	0	5,221,498	0	0	0	0	6,628,090
36	0	0	5,421,842	0	5,738,895	0	0	0	0	11,160,737
48	0	0	1,785,231	0	0	0	0	0	0	1,785,231
Total	2,493	171,356,328	25,537,866	1,344,689	32,083,223	18,716,354	63,550	5,037		249,109,540
Inch Feet of 12" or Smaller Diameter	2,493	165,049,790	1,349,425	1,251,550	19,135	9,258,227	63,550	0		176,994,170
Inch Feet of 14" or Greater Diameter	0	6,306,538	24,188,440	93,139	32,064,088	9,458,127	0	5,037		72,115,370
Total Inch Feet	2,493	171,356,328	25,537,866	1,344,689	32,083,223	18,716,354	63,550	5,037		249,109,540
Inch Feet of 12" or Smaller Diameter	100.00%	96.32%	5.28%	93.07%	0.06%	49.47%	100.00%	0.00%		71.05%
Inch Feet of 14" or Greater Diameter	0.00%	3.68%	94.72%	6.93%	99.94%	50.53%	0.00%	100.00%		28.95%
Total Inch Feet	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%		100.00%

Detail of Main Sizes (Miles)										
Size (Inches)	Copper	PVC	DI	CI	Steel	AC	Unknown	Other	Total Miles	
1	0.031	0.183	0.008							0.222
1.25			0.009							0.009
1.5	0.003	0.002	0.001							0.006
2	0.002	1.800	0.004	0.002	0.007		0.139			1.954
2.5		0.195								0.195
3		3.171	0.019	0.023		10.521	0.005			13.739
4		12.279	0.037	0.873	0.002	9.083	0.007			22.281
6		58.611	0.506	1.272		6.897	0.072			67.358
8		161.735	0.318	0.029	0.014	0.879	0.021			162.996
10		17.084	0.034	0.02		2.962	0.001			20.101
12		60.472	1.262	0.677	0.014	0.016	0.006			62.447
14		0.066	1.361	0.105		8.426				9.958
15		0.009						0.005		0.014
16		1.654	2.301		0.018	1.957				5.930
18		0.018	1.076		12.321					13.415
20			2.542		1.499					4.041
22					1.473					1.473
24		2.987	4.989		2.026					10.002
30			0.740		2.747					3.487
36			2.377		2.516					4.893
48			0.587							0.587
Total	0.036	320.266	18.171	3.001	22.637	40.741	0.251	0.005		405.108

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Test Year 2018 Capital Cost Allocation to Demand Parameters**

Capital Cost Revenue Requirement Allocation Percentages										
Functional Category	Functionalized Revenue Requirement	Total %	Volumetric			Customer Service		Private Fire		Public Fire
			Base	Max Day	Max Hour	Equivalent Meters	Bills	Equivalent Connections	Bills	
Raw Water	\$6,718,602	100.00%	100.00%							
Source of Supply	430,436	100.00%	100.00%							
Treatment	2,393,144	100.00%	41.87%	58.13%						
Transmission Mains	1,523,744	100.00%	41.87%	58.13%						
Distribution Mains	2,725,020	100.00%	31.25%		68.75%					
Treated Water Storage	442,842	100.00%	31.25%		68.75%					
Pumps	150,155	100.00%	31.25%	43.39%	25.36%					
Meters	287,524	100.00%				100.00%				
Customer Service	0	100.00%					100.00%			
Administration	256,610	100.00%	66.97%	15.96%	15.10%	1.96%	0.00%	0.00%	0.00%	0.00%
Total Capital Cost Revenue Requirement	\$14,928,077	100.00%	66.97%	15.96%	15.10%	1.96%	0.00%	0.00%	0.00%	0.00%
<i>check</i>		0								

Capital Cost Revenue Requirement Dollar Percentages										
Functional Category	Functionalized Revenue Requirement	Total %	Volumetric			Customer Service		Private Fire		Public Fire
			Base	Max Day	Max Hour	Equivalent Meters	Bills	Equivalent Connections	Bills	
Raw Water	45.01%	\$6,718,602	\$6,718,602	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Source of Supply	2.88%	430,436	430,436	0	0	0	0	0	0	0
Treatment	16.03%	2,393,144	1,001,965	1,391,179	0	0	0	0	0	0
Transmission Mains	10.21%	1,523,744	637,963	885,781	0	0	0	0	0	0
Distribution Mains	18.25%	2,725,020	851,569	0	1,873,451	0	0	0	0	0
Treated Water Storage	2.97%	442,842	138,388	0	304,454	0	0	0	0	0
Pumps	1.01%	150,155	46,924	65,151	38,081	0	0	0	0	0
Meters	1.93%	287,524	0	0	0	287,524	0	0	0	0
Customer Service	0.00%	0	0	0	0	0	0	0	0	0
Administration	1.72%	256,610	171,858	40,964	38,758	5,029	0	0	0	0
Total Capital Cost Revenue Requirement	100.00%	\$14,928,077	\$9,997,705	\$2,383,075	\$2,254,744	\$292,553	\$0	\$0	\$0	\$0
Allocation Factor for Customer Service and Administration		100.00%	66.97%	15.96%	15.10%	1.96%	0.00%	0.00%	0.00%	0.00%

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Test Year 2018 O&M Functionalization**

O&M Functional Allocation Percentages												
O&M Cost Centers	Revenue Requirement	Total % Allocation	Raw Water	Source of Supply	Treatment	Transmission Mains	Distribution Mains	Treated Water Storage	Pumps	Meters	Customer Service	Administration
40 Source and Treatment												
4010 Assessments	\$1,545,000	100.0%			100.00%							
4020 Soldier Canyon	2,047,500	100.0%			100.00%							
4060 City of Loveland	51,500	100.0%			100.00%							
4070 FTC - Water Sale IGA	848,720	100.0%			100.00%							
4071 FTC - Transmission charges	128,750	100.0%			100.00%							
4072 FTC - Water Exchange IGA	126,690	100.0%			100.00%							
4073 FTC - Water purchase	450,110	100.0%			100.00%							
4080 North Weld County Water District	25,750	100.0%			100.00%							
4090 R & M - Source and Supply	0	100.0%			100.00%							
4100 Water Resource Consulting	60,000	100.0%			100.00%							
50 Engineering	555,763	100.0%	35.5%	2.1%	13.0%	15.6%	21.9%	5.0%	1.1%	3.1%	0.0%	2.7%
60 Distribution	2,622,798	100.0%				28.9%	71.1%					
70 Office	867,398	100.0%									100.00%	
80 Administration	764,847	100.0%	35.5%	2.1%	13.0%	15.6%	21.9%	5.0%	1.1%	3.1%	0.0%	2.7%
Total	\$10,094,826	100.0%	4.6%	0.3%	54.0%	9.6%	21.3%	0.7%	0.2%	0.4%	8.6%	0.4%

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O&M Functional Allocation Percentages												
O&M Cost Centers	% in Each Cost Center	Revenue Requirement	Raw Water	Source of Supply	Treatment	Transmission Mains	Distribution Mains	Treated Water Storage	Pumps	Meters	Customer Service	Administration
40 Source and Treatment												
4010 Assessments	15.3%	\$1,545,000	\$0	\$0	\$1,545,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4020 Soldier Canyon	20.3%	2,047,500	0	0	2,047,500	0	0	0	0	0	0	0
4060 City of Loveland	0.5%	51,500	0	0	51,500	0	0	0	0	0	0	0
4070 FTC - Water Sale IGA	8.4%	848,720	0	0	848,720	0	0	0	0	0	0	0
4071 FTC - Transmission charges	1.3%	128,750	0	0	128,750	0	0	0	0	0	0	0
4072 FTC - Water Exchange IGA	1.3%	126,690	0	0	126,690	0	0	0	0	0	0	0
4073 FTC - Water purchase	4.5%	450,110	0	0	450,110	0	0	0	0	0	0	0
4080 North Weld County Water District	0.3%	25,750	0	0	25,750	0	0	0	0	0	0	0
4090 R & M - Source and Supply	0.0%	0	0	0	0	0	0	0	0	0	0	0
4100 Water Resource Consulting	0.6%	60,000	0	0	60,000	0	0	0	0	0	0	0
50 Engineering	5.5%	555,763	197,107	11,745	72,244	86,505	121,779	27,753	6,373	17,353	0	14,903
60 Distribution	26.0%	2,622,798	0	0	0	759,281	1,863,517	0	0	0	0	0
70 Office	8.6%	867,398	0	0	0	0	0	0	0	0	867,398	0
80 Administration	7.6%	764,847	271,261	16,163	99,423	119,050	167,594	38,194	8,770	23,881	0	20,510
Total	100.0%	\$10,094,826	\$468,368	\$27,908	\$5,455,687	\$964,836	\$2,152,890	\$65,947	\$15,143	\$41,234	\$867,398	\$35,414

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Fort Collins-Loveland Water District

2017 Rate & Fee Study

Test Year 2018 O&M Expense Allocation to Demand Parameters

O&M Expense Revenue Requirement Allocation Percentages										
Functional Category	Functionalized Revenue Requirement	Total %	Volumetric			Customer Service		Private Fire		Public Fire
			Base	Max Day	Max Hour	Equivalent Meters	Bills	Equivalent Connections	Bills	
Raw Water	\$468,368	100.00%	100.00%							
Source of Supply	27,908	100.00%	100.00%							
Treatment	5,455,687	100.00%	41.87%	58.13%						
Mains	964,836	100.00%	41.87%	58.13%						
Mains	2,152,890	100.00%	31.25%		68.75%					
Water Storage	65,947	100.00%	31.25%		68.75%					
Pumps	15,143	100.00%	31.25%	43.39%	25.36%					
Meters	41,234	100.00%				100.00%				
Service	867,398	100.00%				98.00%	2.00%			
Administration	35,414	100.00%	42.24%	40.68%	16.64%	0.45%	0.00%	0.00%	0.00%	0.00%
Total O&M Revenue Requirement	\$10,094,826	100.00%	38.61%	37.18%	15.21%	8.83%	0.17%	0.00%	0.00%	0.00%

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O&M Expense Revenue Requirement Dollar Percentages										
Functional Category	Revenue Requirement Percentage	Revenue Requirement	Volumetric			Customer Service		Private Fire		Public Fire
			Base	Max Day	Max Hour	Equivalent Meters	Bills	Equivalent Connections	Bills	
Raw Water	4.64%	\$468,368	\$468,368	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Source of Supply	0.28%	27,908	27,908	0	0	0	0	0	0	0
Treatment	54.04%	5,455,687	2,284,195	3,171,492	0	0	0	0	0	0
Mains	9.56%	964,836	403,959	560,877	0	0	0	0	0	0
Mains	21.33%	2,152,890	672,778	0	1,480,112	0	0	0	0	0
Water Storage	0.65%	65,947	20,609	0	45,339	0	0	0	0	0
Pumps	0.15%	15,143	4,732	6,570	3,840	0	0	0	0	0
Meters	0.41%	41,234	0	0	0	41,234	0	0	0	0
Service	8.59%	867,398	0	0	0	850,050	17,348	0	0	0
Administration	0.35%	35,414	14,958	14,405	5,892	159	0	0	0	0
Total O&M Revenue Requirement	100.00%	\$10,094,826	\$3,897,508	\$3,753,344	\$1,535,183	\$891,443	\$17,348	\$0	\$0	\$0

Allocation Factor for Buildings/Office/Equip	100.00%	42.24%	40.68%	16.64%	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%
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Fort Collins-Loveland Water District

2017 Rate & Fee Study

Test Year 2018 Non-Rate Revenue Functional Allocation

Non-Rate Revenue Item	Non-Rate Revenue Functional Percentages											
	Total	Raw Water	Source of Supply	Treatment	Transmission Mains	Distribution Mains	Water Storage	Pumps	Meters	Cust. Svc.	Administration	Total
Water sales - construction	\$0	45%	3%	16%	10%	18%	3%	1%	2%	0%	2%	100%
Town of Windsor	350,000	45%	3%	16%	10%	18%	3%	1%	2%	0%	2%	100%
Water rental	110,000	45%	3%	16%	10%	18%	3%	1%	2%	0%	2%	100%
Miscellaneous income	100,000	45%	3%	16%	10%	18%	3%	1%	2%	0%	2%	100%
Management fees - SFCSD	468,871	45%	3%	16%	10%	18%	3%	1%	2%	0%	2%	100%
Property taxes	1,050,000	45%	3%	16%	10%	18%	3%	1%	2%	0%	2%	100%
Soldier Canyon Income	0											0%
Interest on investments	0											0%
PIFs - Water Resource Component	7,645,279	100%										100%
PIFs - Infrastructure Component	3,805,574		50%	35%	12%			4%				100%
Meter fees	80,000									100%		100%
Impact fees	220,000	45%	3%	16%	10%	18%	3%	1%	2%	0%	2%	100%
Sale of assets	0											0%
Inclusion fees	0											0%
Interest Income	252,523	45%	3%	16%	10%	18%	3%	1%	2%	0%	2%	100%
Total Non-Rate Revenues	\$14,082,246											

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Non-Rate Revenue Item	Non-Rate Revenue Functional Dollar Allocations										
	Total	Raw Water	Source of Supply	Treatment	Transmission Mains	Distribution Mains	Water Storage	Pumps	Meters	Cust. Svc.	Administration
Water sales - construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Town of Windsor	350,000	157,523	10,092	56,109	35,725	63,890	10,383	3,521	6,741	0	6,016
Water rental	110,000	49,507	3,172	17,634	11,228	20,080	3,263	1,106	2,119	0	1,891
Miscellaneous income	100,000	45,006	2,883	16,031	10,207	18,254	2,967	1,006	1,926	0	1,719
Management fees - SFCSD	468,871	211,022	13,519	75,165	47,859	85,589	13,909	4,716	9,031	0	8,060
Property taxes	1,050,000	472,568	30,276	168,327	107,176	191,670	31,148	10,562	20,224	0	18,049
Soldier Canyon Income	0	0	0	0	0	0	0	0	0	0	0
Interest on investments	0	0	0	0	0	0	0	0	0	0	0
PIFs - Water Resource Component	7,645,279	7,645,279	0	0	0	0	0	0	0	0	0
PIFs - Infrastructure Component	3,805,574	0	1,899,743	1,331,850	440,239	0	0	133,741	0	0	0
Meter fees	80,000	0	0	0	0	0	0	0	0	80,000	0
Impact fees	220,000	99,014	6,343	35,269	22,456	40,160	6,526	2,213	4,237	0	3,782
Sale of assets	0	0	0	0	0	0	0	0	0	0	0
Inclusion fees	0	0	0	0	0	0	0	0	0	0	0
Interest Income	252,523	113,652	7,281	40,482	25,776	46,096	7,491	2,540	4,864	0	4,341
Total Non-Rate Rate Revenues	\$14,082,246	\$8,793,571	\$1,973,310	\$1,740,868	\$700,666	\$465,740	\$75,687	\$159,404	\$49,141	\$80,000	\$43,858

**Fort Collins-Loveland Water District
 2017 Rate & Fee Study
 Test Year 2018 Non-Rate Revenue Allocation to Demand Parameters**

Non-Rate Revenue Requirement Allocation Percentages										
Functional Category	Functionalized Revenue Requirement	Total %	Volumetric			Customer Service		Private Fire		Public Fire
			Base	Max Day	Max Hour	Equivalent Meters	Bills	Equivalent Connections	Bills	
Raw Water	\$8,793,571	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Source of Supply	1,973,310	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Treatment	1,740,868	100.00%	41.87%	58.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mains	700,666	100.00%	41.87%	58.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mains	465,740	100.00%	31.25%	0.00%	68.75%	0.00%	0.00%	0.00%	0.00%	0.00%
Water Storage	75,687	100.00%	31.25%	0.00%	68.75%	0.00%	0.00%	0.00%	0.00%	0.00%
Pumps	159,404	100.00%	31.25%	43.39%	25.36%	0.00%	0.00%	0.00%	0.00%	0.00%
Meters	49,141	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Service	80,000	100.00%	0.00%	0.00%	0.00%	98.00%	2.00%	0.00%	0.00%	0.00%
Administration	43,858	100.00%	42.24%	40.68%	16.64%	0.45%	0.00%	0.00%	0.00%	0.00%
Total Non-Rate Revenue	\$14,082,246	100.00%	85.40%	10.70%	2.98%	0.91%	0.01%	0.00%	0.00%	0.00%

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Non-Rate Revenue Requirement Dollar Percentages										
Functional Category	Functionalized Revenue Requirement	Total %	Volumetric			Customer Service		Private Fire		Public Fire
			Base	Max Day	Max Hour	Equivalent Meters	Bills	Equivalent Connections	Bills	
Raw Water	62.44%	\$8,793,571	\$8,793,571	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Source of Supply	14.01%	1,973,310	1,973,310	0	0	0	0	0	0	0
Treatment	12.36%	1,740,868	728,869	1,011,999	0	0	0	0	0	0
Mains	4.98%	700,666	293,356	407,310	0	0	0	0	0	0
Mains	3.31%	465,740	145,544	0	320,196	0	0	0	0	0
Water Storage	0.54%	75,687	23,652	0	52,035	0	0	0	0	0
Pumps	1.13%	159,404	49,814	69,164	40,426	0	0	0	0	0
Meters	0.35%	49,141	0	0	0	49,141	0	0	0	0
Service	0.57%	80,000	0	0	0	78,400	1,600	0	0	0
Administration	0.31%	43,858	18,525	17,840	7,297	197	0	0	0	0
Total Non-Rate Revenue	100.00%	\$14,082,246	\$12,026,641	\$1,506,313	\$419,954	\$127,738	\$1,600	\$0	\$0	\$0

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Test Year 2018 Units of Service**

Customer Class	Forecast 2018 Billed	Estimated Lost Water	Base Demand	Base Avg. Day Demand	Max Day			Max Hour			Customer		Private Fire		Public Fire Hydrants	Allocation of Public Fire Hydrants Based on Equivalent Meters
					Max Day Peak	Total Capacity	Extra Capacity	Max Hour Peak	Total Capacity	Extra Capacity	Equivalent Meters	Bills	Equip. Connections	Bills		
Residential, No Patio, FCLWD Rates	1,890,033	129,380	2,019,413	5,533	2.51	13,864	8,331	3.35	18,550	4,686	13,845	166,123			2,051	78.8%
Residential, No Patio, City Rates	190,079	13,012	203,090	556	2.21	1,232	675	2.96	1,649	417	1,946	23,347			288	11.1%
Residential, No Patio, City Exchange	5,681	389	6,070	17	2.44	41	24	3.26	54	14	33	400			5	0.2%
Residential, Patio	11,409	781	12,191	33	1.60	54	20	2.15	72	18	311	3,733			46	1.8%
Commercial, FCLWD Rates	400,902	27,443	428,345	1,174	2.09	2,451	1,277	2.80	3,280	829	957	6,743			142	5.4%
Commercial, Billed as City Use	20,351	1,393	21,744	60	2.09	124	65	2.80	167	42	44	162			7	0.2%
Commercial, City Exchange Use	13,444	920	14,364	39	2.09	82	43	2.80	110	28	24	209			4	0.1%
Irrigation, FCLWD Rates	286,792	19,632	306,424	840	3.42	2,875	2,036	4.58	3,843	968	240	1,414			0	0.0%
Irrigation, City Rates	60,945	4,172	65,117	178	3.42	611	433	4.58	817	206	37	255			0	0.0%
Irrigation, City Exchange	2,482	170	2,652	7	3.42	25	18	4.58	33	8	5	50			0	0.0%
Residential, Multi-Unit, FCLWD Rates	72,308	4,950	77,258	212	1.37	291	79	1.84	389	98	260	3,121			39	1.5%
Residential, Multi-Unit, City Rates	25,345	1,735	27,080	74	1.37	102	28	1.84	136	34	154	1,848			23	0.9%
Private Fire						0	0		0	0			0	0		
Public Hydrants						450	450		3,600	3,150					2,603	
Total After Price Elasticity Adjustment	2,979,772	203,977	3,183,749	8,723		22,201	13,478		32,700	10,499	17,856	207,404	0	0	2,603	100.0%

Public Fire Flows				
	Fire #1	Fire #2	Fire #3	Total
Estimate of Max Day Fire Flow Volumes	Gallons	Gallons	Gallons	Gallons
Fire Flow per Minute	2,500	0	0	
Duration of Fire in Hours	3.00	0.00	0.00	
Duration of Fire in Minutes	180	0	0	
Total Max Day Fire Flow	450,000	0	0	450,000
	Fire #1	Fire #2	Fire #3	Total
Estimate of Max Hour Fire Flows	Gallons	Gallons	Gallons	Gallons
Fire Flow per Minute	2,500	0	0	
Duration of Fire Expressed on a 24-Hour Basis	1,440	1,440	1,440	
Total Max Hour Fire Flow	3,600,000	0	0	3,600,000

Meter Flow Equivalencies - AWWA Manual M6 (2012 Edition)			
Meter Type	Meter	Flow (Max Consistent GPM)	Calculated Flow Equivalency
Displacement	5/8" x 3/4"	15	1.00
Displacement	3/4"	25	1.00
Displacement	1"	40	1.60
Displacement	1 1/2"	50	2.00
Compound	2"	160	6.40
Compound	3"	320	12.80
Compound	4"	500	20.00
Compound	6"	1000	40.00
Compound	8"	1600	64.00
Compound	10"	2300	92.00
Class II Turbine	12"	5000	200.00

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Test Year 2018 Unit Cost of Service - Existing Disaggregated Rate Structure**

Item	Revenue Requirement	Volumetric Revenue Requirement	Fixed Revenue Requirement	Volumetric			Customer Service		Private Fire		Public Fire
				Base	Max Day	Max Hour	Equivalent Meters	Bills	Equivalent Connections	Bills	
					Extra Capacity	Extra Capacity					
Customer Class Units of Service											
Residential, No Patio, FCLWD Rates				2,019,413	8,331	4,686	13,845	166,123	0	0	2,051
Residential, No Patio, City Rates				203,090	675	417	1,946	23,347	0	0	288
Residential, No Patio, City Exchange				6,070	24	14	33	400	0	0	5
Residential, Patio				12,191	20	18	311	3,733	0	0	46
Commercial, FCLWD Rates				428,345	1,277	829	957	6,743	0	0	142
Commercial, Billed as City Use				21,744	65	42	44	162	0	0	7
Commercial, City Exchange Use				14,364	43	28	24	209	0	0	4
Irrigation, FCLWD Rates				306,424	2,036	968	240	1,414	0	0	0
Irrigation, City Rates				65,117	433	206	37	255	0	0	0
Irrigation, City Exchange				2,652	18	8	5	50	0	0	0
Residential, Multi-Unit, FCLWD Rates				77,258	79	98	260	3,121	0	0	39
Residential, Multi-Unit, City Rates				27,080	28	34	154	1,848	0	0	23
Subtotal				3,183,749	13,028	7,349	17,856	207,404	0	0	2,603
Private Fire				0	0	0	0	0	0	0	0
Public Hydrants				0	450	3,150	0	0	0	0	0
Total System Units of Service Before Adjustment for Outside City Multiplier				3,183,749	13,478	10,499	17,856	207,404	0	0	2,603
Capital Cost Revenue Requirement	\$14,928,077	\$14,635,524	\$292,553	\$9,997,705	\$2,383,075	\$2,254,744	\$292,553	\$0	\$0	\$0	\$0
Unit Cost of Service				\$3.1402	\$176.8092	\$214.7532	\$16.3836	\$0.0000	\$0.0000	\$0.0000	\$0.0000
O&M Revenue Requirement	\$10,094,826	\$9,186,035	\$908,791	\$3,897,508	\$3,753,344	\$1,535,183	\$891,443	\$17,348	\$0	\$0	\$0
Unit Cost of Service				\$1.2242	\$278.4745	\$146.2185	\$49.9229	\$0.0836	\$0.0000	\$0.0000	\$0.0000
Non-Rate Revenue Offset	\$14,082,246	\$13,952,908	\$129,338	\$12,026,641	\$1,506,313	\$419,954	\$127,738	\$1,600	\$0	\$0	\$0
Unit Cost of Service				\$3.7775	\$111.7589	\$39.9985	\$7.1536	\$0.0077	\$0.0000	\$0.0000	\$0.0000
Net Revenue Requirement from Rates	\$10,940,657	\$9,868,651	\$1,072,005	\$1,868,572	\$4,630,106	\$3,369,973	\$1,056,257	\$15,748	\$0	\$0	\$0
Unit Cost of Service Before Adjustment for Outside City Multiplier				\$0.5869	\$343.5248	\$320.9732	\$59.1529	\$0.0759	\$0.0000	\$0.0000	\$0.0000
Customer Class Units of Service FCLWD Rates											
Residential, No Patio, FCLWD Rates				2,019,413	8,331	4,686	13,845	166,123	0	0	2,051
Residential, No Patio, City Exchange				6,070	24	14	33	400	0	0	5
Residential, Patio				12,191	20	18	311	3,733	0	0	46
Commercial, FCLWD Rates				428,345	1,277	829	957	6,743	0	0	142
Commercial, City Exchange Use				14,364	43	28	24	209	0	0	4
Irrigation, FCLWD Rates				306,424	2,036	968	240	1,414	0	0	0
Irrigation, City Exchange				2,652	18	8	5	50	0	0	0
Residential, Multi-Unit, FCLWD Rates				77,258	79	98	260	3,121	0	0	39
Subtotal				2,866,717	11,828	6,650	15,676	181,792	0	0	2,286
Private Fire				0	0	0	0	0	0	0	0
Public Hydrants				0	409	2,850	0	0	0	0	0
Total Units of Service at FCLWD Rates Before Adjustment for Outside City Multiplier				2,866,717	12,236	9,500	15,676	181,792	0	0	2,286
Customer Class Units of Service City Rates											
Residential, No Patio, City Rates				203,090	675	417	1,946	23,347	0	0	288
Commercial, Billed as City Use				21,744	65	42	44	162	0	0	7
Irrigation, City Rates				65,117	433	206	37	255	0	0	0
Residential, Multi-Unit, City Rates				27,080	28	34	154	1,848	0	0	23
Subtotal				317,032	1,200	700	2,180	25,612	0	0	317
Private Fire				0	0	0	0	0	0	0	0
Public Hydrants				0	41	300	0	0	0	0	0
Total Units of Service, City Rates Before Adjustment for Outside City Multiplier				317,032	1,242	1,000	2,180	25,612	0	0	317

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Test Year 2018 Unit Cost of Service - Existing Disaggregated Rate Structure**

Item	Revenue Requirement	Volumetric Revenue Requirement	Fixed Revenue Requirement	Volumetric			Customer Service		Private Fire		Public Fire
				Base	Max Day	Max Hour	Equivalent Meters	Bills	Equivalent Connections	Bills	
					Extra Capacity	Extra Capacity					
City Volumetric Rate Multiplier	161.54%										
Unit Cost of Service, FCLWD Rates After Adjustment for OC Multiplier				\$0.5530	\$325.0933	\$303.2081	\$59.1529	\$0.0759	\$0.0000	\$0.0000	\$0.0000
Unit Cost of Service, City Rates After Adjustment for OC Multiplier				\$0.8933	\$525.1507	\$489.7977	\$59.1529	\$0.0759	\$0.0000	\$0.0000	\$0.0000
Customer Class Revenue Requirement, FCLWD Rates											
Residential, No Patio, FCLWD Rates	\$6,077,590	\$5,245,979	\$831,611	\$1,116,778	\$2,708,416	\$1,420,785	\$818,998	\$12,614	\$0	\$0	\$0
Residential, No Patio, City Exchange	17,250	15,250	2,000	3,357	7,770	4,124	1,969	30	0	0	0
Residential, Patio	37,465	18,780	18,685	6,742	6,545	5,493	18,401	283	0	0	0
Commercial, FCLWD Rates	960,799	903,651	57,148	236,884	415,302	251,466	56,636	512	0	0	0
Commercial, City Exchange Use	31,744	30,304	1,441	7,944	13,927	8,433	1,425	16	0	0	0
Irrigation, FCLWD Rates	1,139,097	1,124,783	14,314	169,459	661,800	293,523	14,207	107	0	0	0
Irrigation, City Exchange	10,023	9,736	287	1,467	5,729	2,541	283	4	0	0	0
Residential, Multi-Unit, FCLWD Rates	113,862	98,239	15,623	42,725	25,690	29,824	15,386	237	0	0	0
Private Fire	0	0	0	0	0	0	0	0	0	0	0
Public Hydrants	996,985	996,985	0	0	132,814	864,171	0	0	0	0	0
Total Revenue Requirement, FCLWD Rates	9,384,814	8,443,706	941,108	1,585,354	3,977,992	2,880,359	927,305	13,803	0	0	0
Customer Class Revenue Requirement, City Rates											
Residential, No Patio, City Rates	857,294	740,437	116,858	181,429	354,557	204,451	115,085	1,773	0	0	0
Commercial, Billed as City Use	76,711	74,101	2,609	19,425	34,056	20,621	2,597	12	0	0	0
Irrigation, City Rates	388,297	386,116	2,182	58,172	227,183	100,761	2,162	19	0	0	0
Residential, Multi-Unit, City Rates	64,873	55,625	9,249	24,192	14,546	16,887	9,108	140	0	0	0
Private Fire	0	0	0	0	0	0	0	0	0	0	0
Public Hydrants	168,667	168,667	0	0	21,772	146,895	0	0	0	0	0
Total Revenue Requirement, City Rates	1,555,843	1,424,945	130,897	283,218	652,114	489,614	128,952	1,945	0	0	0
Total	\$10,940,657	\$9,868,651	\$1,072,005	\$1,868,572	\$4,630,106	\$3,369,973	\$1,056,257	\$15,748	\$0	\$0	\$0

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Test Year 2018 Unit Cost of Service - Existing Disaggregated Rate Structure**

Revenue Requirement by Customer Class Before Reallocation of Public Fire Protection Costs															
Customer Class	Total Revenue Requirement	Volumetric						Customer Service					Private Fire		Public Fire
		Base	Max Day Extra Capacity	Max Hour Extra Capacity	Total Before RTS Adj.	RTS Adj. to Base	Total Ater RTS Adj.	Equivalent Meters	Bills	Total Before RTS Adj.	RTS Adjustment	Total Ater RTS Adj.	Equivalent Connections	Bills	
Customer Classes at FCLWD Rates															
Residential, No Patio, FCLWD Rates	\$6,077,590	\$1,116,778	\$2,708,416	\$1,420,785	\$5,245,979	\$444,484	\$4,801,495	\$818,997.78	\$12,614	\$831,611	\$444,484	\$1,276,095	\$0	\$0	\$0
Residential, No Patio, City Exchange	17,250	3,357	7,770	4,124	15,250	1,336	13,914	1,969	30	2,000	1,336	3,336	0	0	0
Residential, Patio	37,465	6,742	6,545	5,493	18,780	2,683	16,097	18,401	283	18,685	2,683	21,368	0	0	0
Commercial, FCLWD Rates	960,799	236,884	415,302	251,466	903,651	94,281	809,370	56,636	512	57,148	94,281	151,429	0	0	0
Commercial, City Exchange Use	31,744	7,944	13,927	8,433	30,304	3,162	27,142	1,425	16	1,441	3,162	4,602	0	0	0
Irrigation, FCLWD Rates	1,139,097	169,459	661,800	293,523	1,124,783	67,446	1,057,337	14,207	107	14,314	67,446	81,760	0	0	0
Irrigation, City Exchange	10,023	1,467	5,729	2,541	9,736	584	9,152	283	4	287	584	871	0	0	0
Residential, Multi-Unit, FCLWD Rates	113,862	42,725	25,690	29,824	98,239	17,005	81,234	15,386	237	15,623	17,005	32,628	0	0	0
Private Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public Hydrants	996,985	0	132,814	864,171	996,985	996,985	996,985	0	0	0	0	0	0	0	0
Total Customer Classes at FCLWD Rates	9,384,814	1,585,354	3,977,992	2,880,359	8,443,706	630,980	7,812,726	927,305	13,803	941,108	630,980	7,812,726	0	0	0
Customer Classes at City Rates															
Residential, No Patio, City Rates	857,294	181,429	354,557	204,451	740,437	72,210	668,227	115,085	1,773	116,858	72,210	189,067	0	0	0
Commercial, Billed as City Use	76,711	19,425	34,056	20,621	74,101	7,731	66,370	2,597	12	2,609	7,731	10,341	0	0	0
Irrigation, City Rates	388,297	58,172	227,183	100,761	386,116	23,153	362,963	2,162	19	2,182	23,153	25,334	0	0	0
Residential, Multi-Unit, City Rates	64,873	24,192	14,546	16,887	55,625	9,628	45,996	9,108	140	9,249	9,628	18,877	0	0	0
Private Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public Hydrants	168,667	0	21,772	146,895	168,667	168,667	168,667	0	0	0	0	0	0	0	0
Total Customer Classes at City Rates	1,555,843	283,218	652,114	489,614	1,424,945	112,722	1,312,223	128,952	1,945	130,897	112,722	1,312,223	0	0	0
Total System Revenue Requirement	\$10,940,657	\$1,868,572	\$4,630,106	\$3,369,973	\$9,868,651	\$743,702	\$9,124,949	\$1,056,257	\$15,748	\$1,072,005	\$743,702	\$1,815,707	\$0	\$0	\$0

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Selection of Public Fire Allocation Methodology	
1	Public Fire Reallocated on MD & MH Extra Capacity Volumes
2	Public Fire Reallocated on Equivalent Meters
2	Selection

Revenue Requirement by Customer Class After Reallocation of Public Fire Protection Costs										
Customer Class	Total Revenue Requirement	Volumetric			Customer Service			Private Fire		Public Fire
		Base After RTS Adj.	Max Day Extra Capacity	Max Hour Extra Capacity	Equivalent Meters	Bills	RTS Adjustment	Equivalent Connections	Bills	
Customer Classes at FCLWD Rates										
Residential, No Patio, FCLWD Rates	\$6,972,107	\$672,294	\$2,708,416	\$1,420,785	\$1,713,515	\$12,614	\$444,484	\$0	\$0	\$0
Residential, No Patio, City Exchange	19,401	2,021	7,770	4,124	4,120	30	1,336	0	0	0
Residential, Patio	57,563	4,058	6,545	5,493	38,499	283	2,683	0	0	0
Commercial, FCLWD Rates	1,022,657	142,603	415,302	251,466	118,494	512	94,281	0	0	0
Commercial, City Exchange Use	33,300	4,782	13,927	8,433	2,981	16	3,162	0	0	0
Irrigation, FCLWD Rates	1,139,097	102,013	661,800	293,523	14,207	107	67,446	0	0	0
Irrigation, City Exchange	10,023	883	5,729	2,541	283	4	584	0	0	0
Residential, Multi-Unit, FCLWD Rates	130,666	25,720	25,690	29,824	32,190	237	17,005	0	0	0
Total Customer Classes at FCLWD Rates	9,384,814	954,374	3,845,178	2,016,189	1,924,289	13,803	630,980	0	0	0
Customer Classes at City Rates										
Residential, No Patio, City Rates	1,010,390	109,219	354,557	204,451	268,180	1,773	72,210	0	0	0
Commercial, Billed as City Use	80,165	11,694	34,056	20,621	6,052	12	7,731	0	0	0
Irrigation, City Rates	388,297	35,019	227,183	100,761	2,162	19	23,153	0	0	0
Residential, Multi-Unit, City Rates	76,990	14,563	14,546	16,887	21,225	140	9,628	0	0	0
Total Customer Classes at City Rates	1,555,843	170,495	630,342	342,719	297,619	1,945	112,722	0	0	0
Total System Revenue Requirement	\$10,940,657	\$1,124,870	\$4,475,520	\$2,358,908	\$2,221,909	\$15,748	\$743,702	\$0	\$0	\$0

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Public Fire Allocation Factors		
% of Max Day	% of Max Hour	% of Equivalent
85.2%	82.6%	89.7%
0.2%	0.2%	0.2%
0.2%	0.3%	2.0%
13.1%	14.6%	6.2%
0.4%	0.5%	0.2%
0.8%	1.7%	1.7%
100.0%	100.0%	100.0%
87.9%	84.5%	90.8%
8.4%	8.5%	2.0%
3.6%	7.0%	7.2%
100.0%	100.0%	100.0%

**Fort Collins-Loveland Water District
2017 Rate & Fee Study**

Test Year 2018 Unit Cost of Service - Existing Disaggregated Rate Structure

Comparison of Test Year Revenue at Existing Rates vs. COS				
Customer Class	Test Year 2018 Revenue at Existing Rates	Test Year 2018 Cost of Service Service	\$ Change	% Change
Customer Classes at FCLWD Rates				
Residential, No Patio, FCLWD Rates	\$6,432,394	\$6,972,107	\$539,713	8.4%
Residential, No Patio, City Exchange	18,685	19,401	716	3.8%
Residential, Patio	68,788	57,563	(11,226)	-16.3%
Commercial, FCLWD Rates	1,122,705	1,022,657	(100,048)	-8.9%
Commercial, City Exchange Use	41,868	33,300	(8,567)	-20.5%
Irrigation, FCLWD Rates	904,278	1,139,097	234,819	26.0%
Irrigation, City Exchange	8,114	10,023	1,908	23.5%
Residential, Multi-Unit, FCLWD Rates	445,798	130,666	(315,132)	-70.7%
Total Customer Classes at FCLWD Rates	9,042,631	9,384,814	342,183	3.8%
Customer Classes at City Rates				
Residential, No Patio, City Rates	922,399	1,010,390	87,991	9.5%
Commercial, Billed as City Use	93,319	80,165	(13,154)	-14.1%
Irrigation, City Rates	275,984	388,297	112,313	40.7%
Residential, Multi-Unit, City Rates	185,528	76,990	(108,539)	-58.5%
Total Customer Classes at City Rates	1,477,231	1,555,843	78,611	5.3%
Total System Revenue Requirement	\$10,519,862	\$10,940,657	\$420,794	4.0%

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Average per Kgal Revenue	Average per Kgal COS	% Change	% Change
\$3.40	\$3.69	\$0.29	8.4%
\$3.29	\$3.42	\$0.13	3.8%
\$6.03	\$5.05	(\$0.98)	-16.3%
\$2.80	\$2.55	(\$0.25)	-8.9%
\$3.11	\$2.48	(\$0.64)	-20.5%
\$3.15	\$3.97	\$0.82	26.0%
\$3.27	\$4.04	\$0.77	23.5%
\$6.17	\$1.81	(\$4.36)	-70.7%
\$3.37	\$3.50	\$0.13	3.8%
\$4.85	\$5.32	\$0.46	9.5%
\$4.59	\$3.94	(\$0.65)	-14.1%
\$4.53	\$6.37	\$1.84	40.7%
\$7.32	\$3.04	(\$4.28)	-58.5%
\$4.98	\$5.24	\$0.26	5.3%
\$3.53	\$3.67	\$0.14	4.0%

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Cost of Service Rates - Existing Disaggregated Rate Design**

RTS Adjustment to Class COS	39.80%
Test Year Fixed Revenue Contribution	27.45%

Service Charge Rate Design														
COS Component	Revenue Requirement	Units of Service		Annual Unit Cost of Service	Meter Size	Existing Price Equivalency	Monthly Capacity Charge	Monthly Billing Component	Monthly Public Fire Component	Monthly RTS Component	Calculated Monthly Charge	Existing Fixed Charge	Dollar Difference	% Difference
Meters	\$1,056,257	17,856	Equivalent Meters	\$59.15	5/8 and 3/4"	1.00	\$4.93	\$0.08	\$5.44	\$3.47	\$13.92	\$13.40	\$0.52	3.88%
Billing and Collection	15,748	207,404	Bills	0.08	1"	1.46	7.20	0.08	7.94	5.07	20.28	19.53	0.75	3.84%
Public Fire	1,165,652	17,856	Equivalent Meters	65.28	1.5"	2.60	12.81	0.08	14.13	9.02	36.03	34.70	1.33	3.83%
Readiness to Serve Adjustment	743,702	17,856	Equivalent Meters	41.65	2"	3.97	19.57	0.08	21.60	13.78	55.03	53.00	2.03	3.83%
Total COS	\$2,981,359				3"	7.63	37.62	0.08	41.52	26.49	105.70	101.80	3.90	3.83%
	<i>Check</i> \$0				4"	15.27	75.27	0.08	83.07	53.00	211.41	203.60	7.81	3.84%

All Classes, FCLWD Rates - Volumetric Rate Design											All Classes, FCLWD - Service Charge Revenue			
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue
Block 1	1 to 8	879,174	32.77%	1.000	\$1,437,540	\$1.635	21.29%	\$1.560	\$0.075	4.81%	5/8 and 3/4"	14,934	\$13.92	\$2,494,544
Block 2	8 to 15	379,171	14.13%	1.417	\$878,311	2.316	13.01%	2.210	0.106	4.81%	1"	150	20.28	36,544
Block 3	Greater than 15	1,424,707	53.10%	1.904	\$4,435,091	3.113	65.70%	2.970	0.143	4.81%	1.5"	111	36.03	47,944
Block 4											2"	60	55.03	39,333
Block 5											3"	10	105.70	12,867
											4"	1	211.41	2,639
		2,683,052	100.00%	Forecast	\$6,750,943	\$2.516	100.00%					15,266		2,633,871
		<i>Check</i> 0		Target	\$6,750,943									
				Difference	\$0									
													Total Revenue Requirement	9,384,814
													Net Volumetric Revenue Requirement	\$6,750,943

Residential, No Patio, FCLWD Rates - Volumetric Rate Design											Residential, No Patio, FCLWD Rates, Service Charge Revenue			
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue
Block 1	1 to 8	816,071	43.18%	1.000	\$1,410,278	\$1.728	30.27%	\$1.560	\$0.168	10.78%	5/8 and 3/4"	13,840	\$13.92	\$2,311,907
Block 2	8 to 15	337,656	17.87%	1.417	\$826,645	2.448	17.74%	2.210	0.238	10.78%	1"	3	20.28	760
Block 3	Greater than 15	736,306	38.96%	1.904	\$2,422,517	3.290	51.99%	2.970	0.320	10.78%	1.5"		36.03	0
Block 4											2"		55.03	0
Block 5											3"		105.70	0
											4"		211.41	0
		1,890,033	100.00%	Forecast	\$4,659,440	\$2.465	100.00%					13,844		2,312,667
		<i>Check</i> 0		Target	\$4,659,440									
				Difference	\$0									
													Total Revenue Requirement	6,972,107
													Net Volumetric Revenue Requirement	\$4,659,440

Residential, No Patio, City Exchange - Volumetric Rate Design											Residential, No Patio, City Exchange, Service Charge Revenue			
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue
Block 1	1 to 8	2,083	36.67%	1.000	\$3,373	\$1.619	24.37%	\$1.560	\$0.059	3.81%	5/8 and 3/4"	33	\$13.92	\$5,561
Block 2	8 to 15	793	13.97%	1.417	\$1,820	2.294	13.15%	2.210	0.084	3.81%	1"		20.28	0
Block 3	Greater than 15	2,804	49.37%	1.904	\$8,646	3.083	62.48%	2.970	0.113	3.81%	1.5"		36.03	0
Block 4											2"		55.03	0
Block 5											3"		105.70	0
											4"		211.41	0
		5,681	100.00%	Forecast	\$13,840	\$2.436	100.00%					33		5,561
		<i>Check</i> 0		Target	\$13,840									
				Difference	\$0									
													Total Revenue Requirement	19,401
													Net Volumetric Revenue Requirement	\$13,840

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Cost of Service Rates - Existing Disaggregated Rate Design**

RTS Adjustment to Class COS	39.80%
Test Year Fixed Revenue Contribution	27.45%

Residential, Patio FCLWD Rates - Volumetric Rate Design											Residential, Patio FCLWD Service Charge Revenue				
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue	
Block 1	1 to 8	10,464	91.71%	1.000	\$4,871	\$0.466	86.98%	\$1.560	(\$1.094)	-70.16%	5/8 and 3/4"	311	\$13.92	\$51,963	
Block 2	8 to 15	481	4.22%	1.417	\$317	0.659	5.66%	2.210	(1.551)	-70.16%			1"	20.28	0
Block 3	Greater than 15	465	4.07%	1.904	\$412	0.886	7.36%	2.970	(2.084)	-70.16%			1.5"	36.03	0
Block 4													2"	55.03	0
Block 5													3"	105.70	0
													4"	211.41	0
		11,409	100.00%	Forecast	\$5,600	\$0.491	100.00%								
		Check 0		Target	\$5,600							311		51,963	
				Difference	\$0								Total Revenue Requirement	57,563	
													Net Volumetric Revenue Requirement	\$5,600	

Commercial, FCLWD Rates - Volumetric Rate Design											Commercial, FCLWD Rates, Service Charge Revenue					
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue		
Block 1	1 to 8	36,279	9.05%	1.000	\$44,281	\$1.221	5.04%	\$1.560	(\$0.339)	-21.76%	5/8 and 3/4"	365	\$13.92	\$61,029		
Block 2	8 to 15	22,131	5.52%	1.417	\$38,269	1.729	4.36%	2.210	(0.481)	-21.76%			1"	100	20.28	24,391
Block 3	Greater than 15	342,492	85.43%	1.904	\$795,882	2.324	90.60%	2.970	(0.646)	-21.76%			1.5"	54	36.03	23,204
Block 4													2"	30	55.03	20,096
Block 5													3"	10	105.70	12,867
													4"	1	211.41	2,639
		400,902	100.00%	Forecast	\$878,432	\$2.191	100.00%									
		Check 0		Target	\$878,432							561		144,225		
				Difference	\$0								Total Revenue Requirement	1,022,657		
													Net Volumetric Revenue Requirement	\$878,432		

Commercial, City Exchange - Volumetric Rate Design											Commercial, City Exchange, Service Charge Revenue					
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue		
Block 1	0	893	6.64%	1.000	\$1,076	\$1.205	3.64%	\$1.560	(\$0.355)	-22.73%	5/8 and 3/4"	15	\$13.92	\$2,563		
Block 2	0	480	3.57%	1.417	\$820	1.708	2.77%	2.210	(0.502)	-22.73%			1"	0	20.28	0
Block 3	0	12,071	89.79%	1.904	\$27,704	2.295	93.59%	2.970	(0.675)	-22.73%			1.5"	1	36.03	450
Block 4													2"	1	55.03	687
Block 5													3"	105.70	0	
													4"	1	211.41	0
		13,444	100.00%	Forecast	\$29,600	\$2.202	100.00%									
		Check 0		Target	\$29,600							17		3,700		
				Difference	\$0								Total Revenue Requirement	33,300		
													Net Volumetric Revenue Requirement	\$29,600		

Irrigation, FCLWD Rates - Volumetric Rate Design											Irrigation, FCLWD Rates, Service Charge Revenue					
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue		
Block 1	1 to 8	7,870	2.74%	1.000	\$15,688	\$1.993	1.47%	\$1.560	\$0.433	27.78%	5/8 and 3/4"	102	\$13.92	\$17,031		
Block 2	8.001 to 15	6,291	2.19%	1.417	\$17,764	2.824	1.66%	2.210	0.614	27.78%			1"	46	20.28	11,140
Block 3	Greater than 15	272,631	95.06%	1.904	\$1,034,632	3.795	96.87%	2.970	0.825	27.78%			1.5"	56	36.03	24,291
Block 4													2"	28	55.03	18,550
Block 5													3"	105.70	0	
													4"	1	211.41	0
		286,792	100.00%	Forecast	\$1,068,085	\$3.724	100.00%									
		Check 0		Target	\$1,068,085							232		71,012		
				Difference	\$0								Total Revenue Requirement	1,139,097		
													Net Volumetric Revenue Requirement	\$1,068,085		

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Cost of Service Rates - Existing Disaggregated Rate Design**

RTS Adjustment to Class COS	39.80%
Test Year Fixed Revenue Contribution	27.45%

Irrigation, City Exchange - Volumetric Rate Design											Irrigation, City Exchange, Service Charge Revenue				
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue	
Block 1	1 to 8	251	10.11%	1.000	\$498	\$1.983	5.70%	\$1.560	\$0.423	27.09%	5/8 and 3/4"	6	\$13.92	\$1,043	
Block 2	8.001 to 15	200	8.06%	1.417	\$562	2.809	6.44%	2.210	0.599	27.09%		1"	1	20.28	253
Block 3	Greater than 15	2,031	81.83%	1.904	\$7,667	3.775	87.86%	2.970	0.805	27.09%		1.5"		36.03	0
Block 4												2"		55.03	0
Block 5												3"		105.70	0
		2,482	100.00%	Forecast	\$8,727	\$3.515	100.00%				4"		211.41	0	
		<i>Check</i> 0		Target	\$8,727							7		1,296	
				<i>Difference</i> \$0											
													Total Revenue Requirement		10,023
													Net Volumetric Revenue Requirement		\$8,727

Multi-Unit, FCLWD Rates - Volumetric Rate Design											Multi-Unit, FCLWD Rates, Service Charge Revenue				
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue	
Block 1	1 to 8	5,263	7.28%	1.000	\$3,601	\$0.684	4.13%	\$1.560	(\$0.876)	-56.14%	5/8 and 3/4"	260	\$13.92	\$43,447	
Block 2	8.001 to 15	11,139	15.40%	1.417	\$10,796	0.969	12.38%	2.210	(1.241)	-56.14%		1"		20.28	0
Block 3	Greater than 15	55,906	77.32%	1.904	\$72,822	1.303	83.49%	2.970	(1.667)	-56.14%		1.5"		36.03	0
Block 4												2"		55.03	0
Block 5												3"		105.70	0
		72,308	100.00%	Forecast	\$87,219	\$1.206	100.00%				4"		211.41	0	
		<i>Check</i> 0		Target	\$87,219							260		43,447	
				<i>Difference</i> \$0											
													Total Revenue Requirement		130,666
													Net Volumetric Revenue Requirement		\$87,219

All Classes, City Rates - Volumetric Rate Design											All Classes, City Rates - Service Charge Revenue				
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue	
Block 1	1 to 8	132,452	44.64%	1.000	\$410,523	\$3.099	34.59%	\$2.730	\$0.369	13.53%	5/8 and 3/4"	2,116	\$13.92	\$353,486	
Block 2	8 to 15	47,020	15.85%	1.308	\$190,576	4.053	16.06%	3.570	0.483	13.53%		1"	9	20.28	2,279
Block 3	Greater than 15	117,248	39.51%	1.612	\$585,703	4.995	49.35%	4.400	0.595	13.53%		1.5"	23	36.03	9,896
Block 4												2"	3	55.03	2,061
Block 5												3"	1	105.70	1,320
		296,720	100.00%	Forecast	\$1,186,801	\$4.000	100.00%				4"	0	211.41	0	
		<i>Check</i> 0		Target	\$1,186,801							2,153		369,041	
				<i>Difference</i> \$0											
													Total Revenue Requirement		1,555,843
													Net Volumetric Revenue Requirement		\$1,186,801

Residential, No Patio, City Rates - Volumetric Rate Design											Residential, No Patio, City Rates - Service Charge Revenue				
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue	
Block 1	1 to 8	116,595	61.34%	1.000	\$357,912	\$3.070	52.22%	\$2.730	\$0.340	12.44%	5/8 and 3/4"	1,946	\$13.92	\$324,984	
Block 2	8 to 15	38,648	20.33%	1.308	\$155,143	4.014	22.64%	3.570	0.444	12.44%		1"		20.28	0
Block 3	Greater than 15	34,836	18.33%	1.612	\$172,351	4.948	25.15%	4.400	0.548	12.44%		1.5"		36.03	0
Block 4												2"		55.03	0
Block 5												3"		105.70	0
		190,079	100.00%	Forecast	\$685,406	\$3.606	100.00%				4"		211.41	0	
		<i>Check</i> 0		Target	\$685,406							1,946		324,984	
				<i>Difference</i> \$0											
													Total Revenue Requirement		1,010,390
													Net Volumetric Revenue Requirement		\$685,406

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Cost of Service Rates - Existing Disaggregated Rate Design**

RTS Adjustment to Class COS	39.80%
Test Year Fixed Revenue Contribution	27.45%

Commercial, City Rates - Volumetric Rate Design											Commercial, City Rates, Service Charge Revenue			
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue
Block 1	1 to 8	933	4.58%	1.000	\$2,156	\$2.312	2.91%	\$2.730	(\$0.418)	-15.31%	5/8 and 3/4"	3	\$13.92	\$521
Block 2	8 to 15	731	3.59%	1.308	\$2,211	3.023	2.99%	3.570	(0.547)	-15.31%	1"	1	20.28	253
Block 3	Greater than 15	18,687	91.82%	1.612	\$69,631	3.726	94.10%	4.400	(0.674)	-15.31%	1.5"	6	36.03	2,699
Block 4											2"	2	55.03	1,374
Block 5											3"	1	105.70	1,320
		20,351	100.00%	Forecast	\$73,998	\$3.636	100.00%				4"		211.41	0
		<i>Check</i> 0		Target	\$73,998							14		6,167
				<i>Difference</i>	\$0									
													Total Revenue Requirement	80,165
													Net Volumetric Revenue Requirement	\$73,998

Irrigation, City Rates - Volumetric Rate Design											Irrigation, City Rates, Service Charge Revenue			
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue
Block 1	1 to 8	1,647	2.70%	1.000	\$6,400	\$3.886	1.70%	\$2.730	\$1.156	42.33%	5/8 and 3/4"	14	\$13.92	\$2,259
Block 2	8 to 15	1,377	2.26%	1.308	\$6,999	5.081	1.86%	3.570	1.511	42.33%	1"	8	20.28	2,026
Block 3	Greater than 15	57,921	95.04%	1.612	\$362,729	6.263	96.44%	4.400	1.863	42.33%	1.5"	17	36.03	7,197
Block 4											2"	1	55.03	687
Block 5											3"		105.70	0
		60,945	100.00%	Forecast	\$376,128	\$6.172	100.00%				4"		211.41	0
		<i>Check</i> 0		Target	\$376,128							40		12,169
				<i>Difference</i>	\$0									
													Total Revenue Requirement	388,297
													Net Volumetric Revenue Requirement	\$376,128

Multi-Unit, City Rates - Volumetric Rate Design											Multi-Unit, City Rates, Service Charge Revenue			
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Proposed Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue
Block 1	1 to 8	13,277	52.39%	1.000	\$22,085	\$1.663	43.08%	\$2.730	(\$1.067)	-39.07%	5/8 and 3/4"	154	\$13.92	\$25,721
Block 2	8.001 to 15	6,263	24.71%	1.308	\$13,623	2.175	26.57%	3.570	(1.395)	-39.07%	1"		20.28	0
Block 3	Greater than 15	5,805	22.90%	1.612	\$15,561	2.681	30.35%	4.400	(1.719)	-39.07%	1.5"		36.03	0
											2"		55.03	0
											3"		105.70	0
		25,345	100.00%	Forecast	\$51,269	\$2.023	100.00%				4"		211.41	0
		<i>Check</i> 0		Target	\$51,269							154		25,721
				<i>Difference</i>	\$0									
													Total Revenue Requirement	76,990
													Net Volumetric Revenue Requirement	\$51,269

Appendix C
Fort Collins Loveland Water District Rate Study
Rate Design

Fort Collins-Loveland Water District

2017 Rate & Fee Study

Average Billed Consumption per Account - New Consolidated Rate Design

Customer Class	Historical Average Consumption per Account			Used in 2017
	2014	2015	2016	Forecast
Residential, FCLWD Rates	129.34	131.16	150.29	136.93
Residential, City Rates	95.07	95.45	107.41	99.31
Commercial, FCLWD Rates	701.13	696.23	772.22	723.20
Commercial, City Rates	1,381.58	1,558.84	1,626.08	1,522.17
Irrigation, FCLWD Rates	2,227.78	2,097.60	2,871.74	2,399.04
Irrigation, City Rates	2,635.18	2,935.33	3,138.83	2,903.12
Residential, Multi-Unit, FCLWD Rates	299.03	272.61	271.48	281.04
Residential, Multi-Unit, City Rates	166.64	166.27	164.29	165.73
Total	166.43	167.40	192.30	175.38

Demand Reduction Factors													
2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

Customer Class	Projected Average Consumption per Account													
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Residential, FCLWD Rates	135.56	134.21	132.86	131.54	130.22	128.92	127.63	126.35	125.09	123.84	122.60	121.37	120.16	
Residential, City Rates	98.32	97.33	96.36	95.40	94.44	93.50	92.56	91.64	90.72	89.81	88.92	88.03	87.15	
Commercial, FCLWD Rates	715.96	708.80	701.72	694.70	687.75	680.88	674.07	667.33	660.65	654.05	647.51	641.03	634.62	
Commercial, City Rates	1506.95	1491.88	1476.96	1462.19	1447.57	1433.09	1418.76	1404.57	1390.53	1376.62	1362.86	1349.23	1335.73	
Irrigation, FCLWD Rates	2399.04	2399.04	2399.04	2399.04	2399.04	2399.04	2399.04	2399.04	2399.04	2399.04	2399.04	2399.04	2399.04	
Irrigation, City Rates	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	2903.12	
Residential, Multi-Unit, FCLWD Rates	281.04	281.04	281.04	281.04	281.04	281.04	281.04	281.04	281.04	281.04	281.04	281.04	281.04	
Residential, Multi-Unit, City Rates	165.73	165.73	165.73	165.73	165.73	165.73	165.73	165.73	165.73	165.73	165.73	165.73	165.73	
Total	175.38	175.38	175.38	175.38	175.38	175.38	175.38	175.38	175.38	175.38	175.38	175.38	175.38	

Customer Class	2016 Actual Billed Consumption (Thousands of Gallons)										Average Accounts	Average per Account
	Tier Consumption				Percentage in Each Tier							
	1 to 8	8.001 to 22	Greater than 22	Total	1 to 8	8.001 to 22	Greater than 22	Total				
Residential, FCLWD Rates	886,365.99	605,461.70	557,744.11	2,049,572	43.2%	29.5%	27.2%	100%	13,637.00	150.29		
Residential, City Rates	122,924.70	40,910.76	37,024.54	200,860	61.2%	20.4%	18.4%	100%	1,870.00	107.41		
Commercial, FCLWD Rates	429,998.14	-	-	429,998	100%				556.83	772.22		
Commercial, City Rates	21,139.07	-	-	21,139	100%				13.00	1,626.08		
Irrigation, FCLWD Rates	336,711.71	-	-	336,712	100%				117.25	2,871.74		
Irrigation, City Rates	64,084.53	-	-	64,085	100%				20.42	3,138.83		
Residential, Multi-Unit, FCLWD Rates	67,869.00	-	-	67,869	100%				250.00	271.48		
Residential, Multi-Unit, City Rates	24,315.00	-	-	24,315	100%				148.00	164.29		
Total System	1,953,408	646,372	594,769	3,194,549	61.1%	20.2%	18.6%	100%	16,613	192.30		

Fort Collins-Loveland Water District

2017 Rate & Fee Study

Average Billed Consumption per Account - New Consolidated Rate Design

Customer Class	2015 Actual Billed Consumption (Thousands of Gallons)									Average Accounts	Average per Account
	Tier Consumption				Percentage in Each Tier						
	1 to 8	8.001 to 22	Greater than 22	Total	1 to 8	8.001 to 22	Greater than 22	Total			
Residential, FCLWD Rates	753,842.47	514,937.11	474,353.93	1,743,134	43.2%	29.5%	27.2%	100%	13,289.92	131.16	
Residential, City Rates	108,481.25	36,103.82	32,674.21	177,259	61.2%	20.4%	18.4%	100%	1,857.00	95.45	
Commercial, FCLWD Rates	382,348.57	-	-	382,349	100.0%	0.0%	0.0%	100%	549.17	696.23	
Commercial, City Rates	18,706.12	-	-	18,706	100.0%	0.0%	0.0%	100%	12.00	1,558.84	
Irrigation, FCLWD Rates	250,139.14	-	-	250,139	100.0%	0.0%	0.0%	100%	119.25	2,097.60	
Irrigation, City Rates	55,771.26	-	-	55,771	100.0%	0.0%	0.0%	100%	19.00	2,935.33	
Residential, Multi-Unit, FCLWD Rates	66,244.00	-	-	66,244	100.0%	0.0%	0.0%	100%	243.00	272.61	
Residential, Multi-Unit, City Rates	24,441.00	-	-	24,441	100.0%	0.0%	0.0%	100%	147.00	166.27	
Total System	1,659,974	551,041	507,028	2,718,043	61.1%	20.3%	18.7%	100%	16,236	167.40	

Customer Class	2014 Actual Billed Consumption (Thousands of Gallons)									Average Accounts	Average per Account
	Tier Consumption				Percentage in Each Tier						
	1 to 8	8.001 to 22	Greater than 22	Total	1 to 8	8.001 to 22	Greater than 22	Total			
Residential, FCLWD Rates	724,510.94	494,901.24	455,897.12	1,675,309	43.2%	29.5%	27.2%	100%	12,953.00	129.34	
Residential, City Rates	105,828.64	35,220.99	31,875.26	172,925	61.2%	20.4%	18.4%	100%	1,819.00	95.07	
Commercial, FCLWD Rates	366,927.19	-	-	366,927	100.0%	0.0%	0.0%	100%	523.33	701.13	
Commercial, City Rates	17,960.52	-	-	17,961	100.0%	0.0%	0.0%	100%	13.00	1,381.58	
Irrigation, FCLWD Rates	253,224.86	-	-	253,225	100.0%	0.0%	0.0%	100%	113.67	2,227.78	
Irrigation, City Rates	55,119.27	-	-	55,119	100.0%	0.0%	0.0%	100%	20.92	2,635.18	
Residential, Multi-Unit	64,590.35	-	-	64,590	100.0%	0.0%	0.0%	100%	216.00	299.03	
Residential, Multi-Unit, City Rates	21,663.53	-	-	21,664	100.0%	0.0%	0.0%	100%	130.00	166.64	
Total System	1,609,825	530,122	487,772	2,627,720	61.3%	20.2%	18.6%	100%	15,789	166.43	

Customer Class	2012 Actual Billed Consumption (Thousands of Gallons)									Average Accounts	Average per Account
	Tier Consumption				Percentage in Each Tier						
	1 to 8	8.001 to 22	Greater than 22	Total	1 to 8	8.001 to 22	Greater than 22	Total			
Residential, FCLWD Rates	945,278.61	645,703.92	594,814.76	2,185,797	43.2%	29.5%	27.2%	100%	12,082.00	180.91	
Residential, City Rates	123,157.43	40,988.22	37,094.63	201,240	61.2%	20.4%	18.4%	100%	1,699.00	118.45	
Commercial, FCLWD Rates	397,093.87	-	-	397,094	100.0%	0.0%	0.0%	100%	394.00	1,007.85	
Commercial, City Rates	22,928.13	-	-	22,928	100.0%	0.0%	0.0%	100%	10.67	2,149.51	
Irrigation, FCLWD Rates	331,283.67	-	-	331,284	100.0%	0.0%	0.0%	100%	92.42	3,584.67	
Irrigation, City Rates	66,541.69	-	-	66,542	100.0%	0.0%	0.0%	100%	20.83	3,194.00	
Residential, Multi-Unit	65,753.90	-	-	65,754	100.0%	0.0%	0.0%	100%	196.00	335.48	
Residential, Multi-Unit, City Rates	19,523.74	-	-	19,524	100.0%	0.0%	0.0%	100%	128.00	152.53	
Total System	1,971,561	686,692	631,909	3,290,163	59.9%	20.9%	19.2%	100%	14,623	225.00	

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Billed Consumption - New Consolidated Rate Design**

Item	Actual 2016	Estimated 2017	Projected Price Elasticity Factors													
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Annual Revenue Increases			4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
% Decline in Consumption Due to Price Elasticity																
TIER 1	1.0%	0.0%	1.5%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
TIER 2	2.0%	0.0%	2.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
TIER 3	3.0%	0.0%	4.4%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%

Customer Class	Consumption by Tier	Actual 2016	Estimated 2017	Projected Billed Consumption by TIER													
				2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Residential, FCLWD Rates																	
1 to 8	43.2%	886,366	823,706	819,536	825,032	830,936	837,399	844,228	851,325	858,636	866,128	873,778	881,571	889,496	897,544	905,711	
8.001 to 22	29.5%	605,462	562,660	551,449	561,302	565,319	569,716	574,362	579,190	584,165	589,262	594,466	599,768	605,160	610,635	616,191	
Greater than 22	27.2%	557,744	518,316	500,284	514,980	518,665	522,700	526,962	531,392	535,956	540,632	545,407	550,271	555,218	560,242	565,339	
Total	100.0%	2,049,572	1,904,682	1,871,269	1,901,315	1,914,921	1,929,815	1,945,551	1,961,907	1,978,757	1,996,022	2,013,652	2,031,611	2,049,873	2,068,421	2,087,241	
Forecast Demand Before Elasticity Adjustment			1,904,682	1,923,348	1,942,197	1,961,230	1,980,450	1,999,859	2,019,457	2,039,248	2,059,233	2,079,413	2,099,791	2,120,369	2,141,149	2,162,132	
Annual Loss Due to Price Elasticity Response			0	(52,079)	(40,882)	(46,309)	(50,635)	(54,308)	(57,550)	(60,491)	(63,211)	(65,761)	(68,181)	(70,496)	(72,727)	(74,891)	
Annual % Loss Due to Price Elasticity Response	0.00%			-2.71%	-2.10%	-2.36%	-2.56%	-2.72%	-2.85%	-2.97%	-3.07%	-3.16%	-3.25%	-3.32%	-3.40%	-3.46%	
Cumulative Loss Due to Price Elasticity Response			0	(52,079)	(92,961)	(139,270)	(189,906)	(244,213)	(301,764)	(362,255)	(425,466)	(491,227)	(559,407)	(629,903)	(702,630)	(777,521)	
Cumulative % Loss Due to Price Elasticity Response	0.00%			-1.38%	-1.64%	-1.83%	-1.99%	-2.13%	-2.25%	-2.35%	-2.44%	-2.53%	-2.61%	-2.68%	-2.75%	-2.81%	
Residential, City Rates																	
1 to 8	61.2%	122,925	115,927	115,340	116,352	117,232	118,180	119,174	120,202	121,257	122,336	123,436	124,554	125,690	126,843	128,011	
8.001 to 22	20.4%	40,911	38,582	37,813	38,568	38,859	39,174	39,503	39,844	40,194	40,551	40,916	41,287	41,663	42,045	42,433	
Greater than 22	18.4%	37,025	34,917	33,702	34,763	35,026	35,310	35,606	35,914	36,229	36,551	36,880	37,214	37,553	37,898	38,247	
Total	100.0%	200,860	189,425	186,855	189,683	191,117	192,663	194,284	195,959	197,680	199,439	201,231	203,054	204,906	206,786	208,691	
Forecast Demand Before Elasticity Adjustment			189,425	191,282	193,156	195,049	196,961	198,891	200,840	202,808	204,796	206,803	208,829	210,876	212,943	215,029	
Annual Loss Due to Price Elasticity Response			0	(4,427)	(3,473)	(3,932)	(4,298)	(4,607)	(4,881)	(5,128)	(5,357)	(5,572)	(5,775)	(5,970)	(6,157)	(6,339)	
Annual % Loss Due to Price Elasticity Response	0.00%			-2.31%	-1.80%	-2.02%	-2.18%	-2.32%	-2.43%	-2.53%	-2.62%	-2.69%	-2.77%	-2.83%	-2.89%	-2.95%	
Cumulative Loss Due to Price Elasticity Response			0	(4,427)	(7,900)	(11,832)	(16,129)	(20,737)	(25,617)	(30,746)	(36,103)	(41,675)	(47,450)	(53,419)	(59,576)	(65,915)	
Cumulative % Loss Due to Price Elasticity Response	0.00%			-1.18%	-1.40%	-1.56%	-1.70%	-1.81%	-1.91%	-2.00%	-2.08%	-2.15%	-2.22%	-2.28%	-2.33%	-2.39%	
Commercial, FCLWD Rates																	
All Use	100.0%	429,998	410,754	408,674	414,061	417,538	421,186	424,951	428,807	432,740	436,741	440,804	444,925	449,101	453,330	457,611	
Total	100.0%	429,998	410,754	408,674	414,061	417,538	421,186	424,951	428,807	432,740	436,741	440,804	444,925	449,101	453,330	457,611	
Forecast Demand Before Elasticity Adjustment			410,754	414,779	418,844	422,949	427,094	431,279	435,506	439,774	444,083	448,436	452,830	457,268	461,749	466,274	
Annual Loss Due to Price Elasticity Response			0	(6,105)	(4,783)	(5,410)	(5,908)	(6,328)	(6,699)	(7,033)	(7,342)	(7,632)	(7,906)	(8,167)	(8,419)	(8,663)	
Annual % Loss Due to Price Elasticity Response	0.00%			-1.47%	-1.14%	-1.28%	-1.38%	-1.47%	-1.54%	-1.60%	-1.65%	-1.70%	-1.75%	-1.79%	-1.82%	-1.86%	
Cumulative Loss Due to Price Elasticity Response			0	(6,105)	(10,888)	(16,299)	(22,206)	(28,535)	(35,233)	(42,267)	(49,609)	(57,241)	(65,146)	(73,314)	(81,733)	(90,396)	
Cumulative % Loss Due to Price Elasticity Response	0.00%			-0.75%	-0.88%	-0.99%	-1.07%	-1.14%	-1.20%	-1.26%	-1.31%	-1.35%	-1.39%	-1.43%	-1.46%	-1.50%	
Commercial, City Rates																	
All Use	100.0%	21,139	20,184	20,082	20,242	20,268	20,278	20,275	20,262	20,237	20,202	20,156	20,099	20,031	19,951	19,858	
Total	100.0%	21,139	20,184	20,082	20,242	20,268	20,278	20,275	20,262	20,237	20,202	20,156	20,099	20,031	19,951	19,858	
Forecast Demand Before Elasticity Adjustment			21,139	20,184	20,588	20,999	21,419	21,848	22,285	22,730	23,185	23,649	24,122	24,604	25,096	25,598	26,110
Annual Loss Due to Price Elasticity Response			0	(506)	(758)	(1,152)	(1,570)	(2,009)	(2,469)	(2,948)	(3,447)	(3,966)	(4,505)	(5,065)	(5,647)	(6,252)	
Annual % Loss Due to Price Elasticity Response	0.00%			-2.46%	-3.61%	-5.38%	-7.19%	-9.02%	-10.86%	-12.72%	-14.58%	-16.44%	-18.31%	-20.18%	-22.06%	-23.94%	
Cumulative Loss Due to Price Elasticity Response			0	(506)	(1,264)	(2,415)	(3,985)	(5,994)	(8,463)	(11,411)	(14,858)	(18,824)	(23,329)	(28,394)	(34,041)	(40,293)	
Cumulative % Loss Due to Price Elasticity Response	0.00%			-1.26%	-2.09%	-2.99%	-3.94%	-4.94%	-5.98%	-7.05%	-8.16%	-9.31%	-10.50%	-11.72%	-12.98%	-14.28%	

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Forecast Billed Consumption - New Consolidated Rate Design**

Item	Actual 2016	Estimated 2017	Projected Price Elasticity Factors													
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Annual Revenue Increases			4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
% Decline in Consumption Due to Price Elasticity																
TIER 1	1.0%	0.0%	1.5%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	
TIER 2	2.0%	0.0%	2.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	
TIER 3	3.0%	0.0%	4.4%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	
Irrigation, FCLWD Rates																
All Use	100.0%	336,712	286,914	288,344	299,537	304,392	310,203	316,297	322,567	328,987	335,546	342,244	349,080	356,054	363,170	370,429
Total	100.0%	336,712	286,914	288,344	299,537	304,392	310,203	316,297	322,567	328,987	335,546	342,244	349,080	356,054	363,170	370,429
Forecast Demand Before Elasticity Adjustment		336,712	286,914	292,652	298,505	304,475	310,564	316,776	323,111	329,573	336,165	342,888	349,746	356,741	363,876	371,153
Annual Loss Due to Price Elasticity Response	0	0	(4,307)	1,032	(83)	(361)	(479)	(544)	(587)	(618)	(644)	(667)	(687)	(706)	(724)	
Annual % Loss Due to Price Elasticity Response	0.00%	0.00%	-1.47%	0.35%	-0.03%	-0.12%	-0.15%	-0.17%	-0.18%	-0.18%	-0.19%	-0.19%	-0.19%	-0.19%	-0.20%	
Cumulative Loss Due to Price Elasticity Response	0	0	(4,307)	(3,275)	(3,358)	(3,719)	(4,198)	(4,743)	(5,329)	(5,948)	(6,592)	(7,259)	(7,945)	(8,651)	(9,375)	
Cumulative % Loss Due to Price Elasticity Response	0.00%	0.00%	-0.75%	-0.37%	-0.28%	-0.25%	-0.23%	-0.22%	-0.22%	-0.21%	-0.21%	-0.21%	-0.21%	-0.21%	-0.20%	
Irrigation, City Rates																
All Use	100.0%	64,085	60,457	60,759	62,179	63,334	64,531	65,765	67,031	68,327	69,654	71,011	72,397	73,813	75,259	76,736
Total	100.0%	64,085	60,457	60,759	62,179	63,334	64,531	65,765	67,031	68,327	69,654	71,011	72,397	73,813	75,259	76,736
Forecast Demand Before Elasticity Adjustment		64,085	60,457	61,667	62,900	64,158	65,441	66,750	68,085	69,447	70,835	72,252	73,697	75,171	76,675	78,208
Annual Loss Due to Price Elasticity Response	0	0	(908)	(721)	(824)	(910)	(985)	(1,054)	(1,119)	(1,181)	(1,241)	(1,300)	(1,358)	(1,415)	(1,472)	
Annual % Loss Due to Price Elasticity Response	0.00%	0.00%	-1.47%	-1.15%	-1.28%	-1.39%	-1.48%	-1.55%	-1.61%	-1.67%	-1.72%	-1.76%	-1.81%	-1.85%	-1.88%	
Cumulative Loss Due to Price Elasticity Response	0	0	(908)	(1,628)	(2,452)	(3,362)	(4,347)	(5,401)	(6,520)	(7,702)	(8,943)	(10,243)	(11,600)	(13,016)	(14,488)	
Cumulative % Loss Due to Price Elasticity Response	0.00%	0.00%	-0.75%	-0.89%	-0.99%	-1.08%	-1.15%	-1.22%	-1.27%	-1.32%	-1.37%	-1.41%	-1.45%	-1.49%	-1.52%	
Residential, Multi-Unit - FCLWD																
All Use	100.0%	67,869	71,665	72,022	73,706	75,074	76,494	77,956	79,456	80,994	82,567	84,175	85,818	87,497	89,211	90,961
Total	100.0%	67,869	71,665	72,022	73,706	75,074	76,494	77,956	79,456	80,994	82,567	84,175	85,818	87,497	89,211	90,961
Forecast Demand Before Elasticity Adjustment		67,869	71,665	73,098	74,560	76,051	77,572	79,124	80,706	82,320	83,967	85,646	87,359	89,106	90,888	92,706
Annual Loss Due to Price Elasticity Response	0	0	(1,076)	(854)	(977)	(1,078)	(1,168)	(1,250)	(1,327)	(1,400)	(1,471)	(1,541)	(1,609)	(1,677)	(1,745)	
Annual % Loss Due to Price Elasticity Response	0.00%	0.00%	-1.47%	-1.15%	-1.28%	-1.39%	-1.48%	-1.55%	-1.61%	-1.67%	-1.72%	-1.76%	-1.81%	-1.85%	-1.88%	
Cumulative Loss Due to Price Elasticity Response	0	0	(1,076)	(1,930)	(2,907)	(3,985)	(5,153)	(6,402)	(7,729)	(9,129)	(10,600)	(12,141)	(13,751)	(15,428)	(17,173)	
Cumulative % Loss Due to Price Elasticity Response	0.00%	0.00%	-0.75%	-0.89%	-0.99%	-1.08%	-1.15%	-1.22%	-1.27%	-1.32%	-1.37%	-1.41%	-1.45%	-1.49%	-1.52%	
Residential, Multi-Unit - City Rates																
All Use	100.0%	24,315	25,019	25,144	25,732	26,209	26,705	27,215	27,739	28,276	28,825	29,386	29,960	30,546	31,145	31,756
Total	100.0%	24,315	25,019	25,144	25,732	26,209	26,705	27,215	27,739	28,276	28,825	29,386	29,960	30,546	31,145	31,756
Forecast Demand Before Elasticity Adjustment		24,315	25,019	25,519	26,030	26,550	27,081	27,623	28,175	28,739	29,314	29,900	30,498	31,108	31,730	32,365
Annual Loss Due to Price Elasticity Response	0	0	(376)	(298)	(341)	(376)	(408)	(436)	(463)	(489)	(514)	(538)	(562)	(586)	(609)	
Annual % Loss Due to Price Elasticity Response	0.00%	0.00%	-1.47%	-1.15%	-1.28%	-1.39%	-1.48%	-1.55%	-1.61%	-1.67%	-1.72%	-1.76%	-1.81%	-1.85%	-1.88%	
Cumulative Loss Due to Price Elasticity Response	0	0	(376)	(674)	(1,015)	(1,391)	(1,799)	(2,235)	(2,698)	(3,187)	(3,701)	(4,239)	(4,801)	(5,386)	(5,995)	
Cumulative % Loss Due to Price Elasticity Response	0.00%	0.00%	-0.75%	-0.89%	-0.99%	-1.08%	-1.15%	-1.22%	-1.27%	-1.32%	-1.37%	-1.41%	-1.45%	-1.49%	-1.52%	
Annual Use (All Classes)																
After Price Elasticity Adjustment	3,194,549	2,969,100	2,933,149	2,986,454	3,012,854	3,041,875	3,072,293	3,103,728	3,135,997	3,168,996	3,202,659	3,236,944	3,271,822	3,307,273	3,343,284	
Before Price Elasticity Adjustment	514,119	2,969,100	3,002,932	3,037,191	3,071,882	3,107,011	3,142,586	3,178,611	3,215,094	3,252,041	3,289,459	3,327,355	3,365,736	3,404,607	3,443,978	
% Difference	521.36%	0.00%	-2.32%	-1.67%	-1.92%	-2.10%	-2.24%	-2.36%	-2.46%	-2.55%	-2.64%	-2.72%	-2.79%	-2.86%	-2.92%	
Cumulative Use (All Classes)																
Cumulative Total Use - After Price Elasticity Adjustment	3,194,549	6,163,649	9,096,798	12,083,252	15,096,106	18,137,982	21,210,275	24,314,003	27,450,001	30,618,997	33,821,655	37,058,599	40,330,421	43,637,694	46,980,978	
Cumulative Total Use - Before Price Elasticity Adjustment	514,119	3,483,219	6,486,151	9,523,342	12,595,224	15,702,236	18,844,821	22,023,433	25,238,527	28,490,568	31,780,028	35,107,383	38,473,118	41,877,726	45,321,704	
% Difference	521.36%	76.95%	40.25%	26.88%	19.86%	15.51%	12.55%	10.40%	8.76%	7.47%	6.42%	5.56%	4.83%	4.20%	3.66%	

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Test Year 2018 Unit Cost of Service - New Consolidated Rate Design**

Item	Revenue Requirement	Volumetric Revenue Requirement	Fixed Revenue Requirement	Volumetric			Customer Service		Private Fire		Public Fire
				Base	Max Day Extra Capacity	Max Hour Extra Capacity	Equivalent Meters	Bills	Equivalent Connections	Bills	
Customer Class Units of Service											
Residential, FCLWD Rates				2,037,673	8,375	4,718	14,190	170,255	0	0	2,102
Residential, City Rates				203,090	675	417	1,946	23,347	0	0	288
Commercial, FCLWD Rates				442,709	1,320	857	982	6,952	0	0	145
Commercial, City Rates				21,744	65	42	44	162	0	0	7
Irrigation, FCLWD Rates				309,077	2,053	976	245	1,464	0	0	0
Irrigation, City Rates				65,117	433	206	37	255	0	0	0
Multi-Unit, FCLWD Rates				77,258	79	98	260	3,121	0	0	39
Multi-Unit, City Rates				27,080	28	34	154	1,848	0	0	23
Subtotal				3,183,749	13,028	7,349	17,856	207,404	0	0	2,603
Private Fire				0	0	0	0	0	0	0	0
Public Hydrants				0	450	3,150	0	0	0	0	0
Total System Units of Service Before Adjustment for Outside City Multiplier				3,183,749	13,478	10,499	17,856	207,404	0	0	2,603
Capital Cost Revenue Requirement	\$14,928,077	\$14,635,524	\$292,553	\$9,997,705	\$2,383,075	\$2,254,744	\$292,553	\$0	\$0	\$0	\$0
Unit Cost of Service				\$3.1402	\$176.8092	\$214.7532	\$16.3836	\$0.0000	\$0.0000	\$0.0000	\$0.0000
O&M Revenue Requirement	\$10,094,826	\$9,186,035	\$908,791	\$3,897,508	\$3,753,344	\$1,535,183	\$891,443	\$17,348	\$0	\$0	\$0
Unit Cost of Service				\$1.2242	\$278.4745	\$146.2185	\$49.9229	\$0.0836	\$0.0000	\$0.0000	\$0.0000
Non-Rate Revenue Offset	\$14,082,246	\$13,952,908	\$129,338	\$12,026,641	\$1,506,313	\$419,954	\$127,738	\$1,600	\$0	\$0	\$0
Unit Cost of Service				\$3.7775	\$111.7589	\$39.9985	\$7.1536	\$0.0077	\$0.0000	\$0.0000	\$0.0000
Net Revenue Requirement from Rates	\$10,940,657	\$9,868,651	\$1,072,005	\$1,868,572	\$4,630,106	\$3,369,973	\$1,056,257	\$15,748	\$0	\$0	\$0
Unit Cost of Service Before Adjustment for Outside City Multiplier				\$0.5869	\$343.5248	\$320.9732	\$59.1529	\$0.0759	\$0.0000	\$0.0000	\$0.0000
Customer Class Units of Service FCLWD Rates											
Residential, FCLWD Rates				2,037,673	8,375	4,718	14,190	170,255	0	0	2,102
Commercial, FCLWD Rates				442,709	1,320	857	982	6,952	0	0	145
Irrigation, FCLWD Rates				309,077	2,053	976	245	1,464	0	0	0
Multi-Unit, FCLWD Rates				77,258	79	98	260	3,121	0	0	39
Subtotal				2,866,717	11,828	6,650	15,676	181,792	0	0	2,286
Private Fire				0	0	0	0	0	0	0	0
Public Hydrants				0	409	2,850	0	0	0	0	0
Total Units of Service at FCLWD Rates Before Adjustment for Outside City Multiplier				2,866,717	12,236	9,500	15,676	181,792	0	0	2,286
Customer Class Units of Service City Rates											
Residential, City Rates				203,090	675	417	1,946	23,347	0	0	288
Commercial, City Rates				21,744	65	42	44	162	0	0	7
Irrigation, City Rates				65,117	433	206	37	255	0	0	0
Multi-Unit, City Rates				27,080	28	34	154	1,848	0	0	23
Subtotal				317,032	1,200	700	2,180	25,612	0	0	317
Private Fire				0	0	0	0	0	0	0	0
Public Hydrants				0	41	300	0	0	0	0	0
Total Units of Service, City Rates Before Adjustment for Outside City Multiplier				317,032	1,242	1,000	2,180	25,612	0	0	317

Fort Collins-Loveland Water District

2017 Rate & Fee Study

Test Year 2018 Unit Cost of Service - New Consolidated Rate Design

Item	Revenue Requirement	Volumetric Revenue Requirement	Fixed Revenue Requirement	Volumetric			Customer Service		Private Fire		Public Fire
				Base	Max Day Extra Capacity	Max Hour Extra Capacity	Equivalent Meters	Bills	Equivalent Connections	Bills	
City Volumetric Rate Multiplier	161.54%										
Unit Cost of Service, FCLWD Rates After Adjustment for OC Multiplier				\$0.5530	\$325.0933	\$303.2081	\$59.1529	\$0.0759	\$0.0000	\$0.0000	\$0.0000
Unit Cost of Service, City Rates After Adjustment for OC Multiplier				\$0.8933	\$525.1507	\$489.7977	\$59.1529	\$0.0759	\$0.0000	\$0.0000	\$0.0000
Customer Class Revenue Requirement, FCLWD Rates											
Residential, FCLWD Rates	\$6,132,304	\$5,280,009	\$852,296	\$1,126,876	\$2,722,731	\$1,430,402	\$839,368	\$12,927	\$0	\$0	\$0
Commercial, FCLWD Rates	992,543	933,955	58,588	244,828	429,229	259,899	58,060	528	0	0	0
Irrigation, FCLWD Rates	1,149,120	1,134,519	14,601	170,926	667,529	296,064	14,490	111	0	0	0
Multi-Unit, FCLWD Rates	113,862	98,239	15,623	42,725	25,690	29,824	15,386	237	0	0	0
Private Fire	0	0	0	0	0	0	0	0	0	0	0
Public Hydrants	996,985	996,985	0	0	132,814	864,171	0	0	0	0	0
Total Revenue Requirement, FCLWD Rates	9,384,814	8,443,706	941,108	1,585,354	3,977,992	2,880,359	927,305	13,803	0	0	0
Customer Class Revenue Requirement, City Rates											
Residential, City Rates	857,294	740,437	116,858	181,429	354,557	204,451	115,085	1,773	0	0	0
Commercial, City Rates	76,711	74,101	2,609	19,425	34,056	20,621	2,597	12	0	0	0
Irrigation, City Rates	388,297	386,116	2,182	58,172	227,183	100,761	2,162	19	0	0	0
Multi-Unit, City Rates	64,873	55,625	9,249	24,192	14,546	16,887	9,108	140	0	0	0
Private Fire	0	0	0	0	0	0	0	0	0	0	0
Public Hydrants	168,667	168,667	0	0	21,772	146,895	0	0	0	0	0
Total Revenue Requirement, City Rates	1,555,843	1,424,945	130,897	283,218	652,114	489,614	128,952	1,945	0	0	0
Total	\$10,940,657	\$9,868,651	\$1,072,005	\$1,868,572	\$4,630,106	\$3,369,973	\$1,056,257	\$15,748	\$0	\$0	\$0

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Test Year 2018 Unit Cost of Service - New Consolidated Rate Design**

Revenue Requirement by Customer Class Before Reallocation of Public Fire Protection Costs															
Customer Class	Total Revenue Requirement	Volumetric						Customer Service					Private Fire		Public Fire
		Base	Max Day Extra Capacity	Max Hour Extra Capacity	Total Before RTS Adj.	RTS Adj. to Base	Total Ater RTS Adj.	Equivalent Meters	Bills	Total Before RTS Adj.	RTS Adjustment	Total Ater RTS Adj.	Equivalent Connections	Bills	
Customer Classes at FCLWD Rates															
Residential	\$6,132,304	\$1,126,876	\$2,722,731	\$1,430,402	\$5,280,009	\$453,004	\$4,827,005	\$839,368	\$12,927	\$852,296	\$453,004	\$1,305,300	\$0	\$0	\$0
Commercial	992,543	244,828	429,229	259,899	933,955	98,421	835,534	58,060	528	58,588	98,421	157,009	0	0	0
Irrigation	1,149,120	170,926	667,529	296,064	1,134,519	68,712	1,065,807	14,490	111	14,601	68,712	83,314	0	0	0
Multi-Unit	113,862	42,725	25,690	29,824	98,239	17,176	81,063	15,386	237	15,623	17,176	32,798	0	0	0
Private Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public Hydrants	996,985	0	132,814	864,171	996,985	0	996,985	0	0	0	0	0	0	0	0
Total Customer Classes at FCLWD Rates	9,384,814	1,585,354	3,977,992	2,880,359	8,443,706	637,312	7,806,394	927,305	13,803	941,108	637,312	7,806,394	0	0	0
Customer Classes at City Rates															
Residential	857,294	181,429	354,557	204,451	740,437	72,934	667,503	115,085	1,773	116,858	72,934	189,792	0	0	0
Commercial	76,711	19,425	34,056	20,621	74,101	7,809	66,292	2,597	12	2,609	7,809	10,418	0	0	0
Irrigation	388,297	58,172	227,183	100,761	386,116	23,385	362,731	2,162	19	2,182	23,385	25,567	0	0	0
Multi-Unit	64,873	24,192	14,546	16,887	55,625	9,725	45,899	9,108	140	9,249	9,725	18,974	0	0	0
Private Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Public Hydrants	168,667	0	21,772	146,895	168,667	0	168,667	0	0	0	0	0	0	0	0
Total Customer Classes at City Rates	1,555,843	283,218	652,114	489,614	1,424,945	113,853	1,311,092	128,952	1,945	130,897	113,853	1,311,092	0	0	0
Total System Revenue Requirement	\$10,940,657	\$1,868,572	\$4,630,106	\$3,369,973	\$9,868,651	\$751,166	\$9,117,486	\$1,056,257	\$15,748	\$1,072,005	\$751,166	\$1,823,171	\$0	\$0	\$0

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Selection of Public Fire Allocation Methodology	
1	Public Fire Reallocated on MD & MH Extra Capacity Volumes
2	Public Fire Reallocated on Equivalent Meters
2	Selection

Revenue Requirement by Customer Class After Reallocation of Public Fire Protection Costs										
Customer Class	Total Revenue Requirement	Volumetric			Customer Service			Private Fire		Public Fire
		Base After RTS Adj.	Max Day Extra Capacity	Max Hour Extra Capacity	Equivalent Meters	Bills	RTS Adjustment	Equivalent Connections	Bills	
Customer Classes at FCLWD Rates										
Residential	\$7,049,071	\$673,872	\$2,722,731	\$1,430,402	\$1,756,135	\$12,927	\$453,004	\$0	\$0	\$0
Commercial	1,055,957	146,407	429,229	259,899	121,475	528	98,421	0	0	0
Irrigation	1,149,120	102,214	667,529	296,064	14,490	111	68,712	0	0	0
Multi-Unit	130,666	25,550	25,690	29,824	32,190	237	17,176	0	0	0
Total Customer Classes at FCLWD Rates	9,384,814	948,042	3,845,178	2,016,189	1,924,289	13,803	637,312	0	0	0
Customer Classes at City Rates										
Residential	1,010,390	108,495	354,557	204,451	268,180	1,773	72,934	0	0	0
Commercial	80,165	11,616	34,056	20,621	6,052	12	7,809	0	0	0
Irrigation	388,297	34,787	227,183	100,761	2,162	19	23,385	0	0	0
Multi-Unit	76,990	14,467	14,546	16,887	21,225	140	9,725	0	0	0
Total Customer Classes at City Rates	1,555,843	169,364	630,342	342,719	297,619	1,945	113,853	0	0	0
Total System Revenue Requirement	\$10,940,657	\$1,117,406	\$4,475,520	\$2,358,908	\$2,221,909	\$15,748	\$751,166	\$0	\$0	\$0

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Public Fire Allocation Factors		
% of Max Day Extra Capacity Demand	% of Max Hour Extra Capacity Demand	% of Equivalent
85.7%	83.2%	92.0%
13.5%	15.1%	6.4%
0.8%	1.7%	1.7%
100.0%	100.0%	100.0%
87.9%	84.5%	90.8%
8.4%	8.5%	2.0%
3.6%	7.0%	7.2%
100.0%	100.0%	100.0%

Fort Collins-Loveland Water District

2017 Rate & Fee Study

Test Year 2018 Unit Cost of Service - New Consolidated Rate Design

Comparison of Test Year Revenue at Existing Rates vs. COS				
Customer Class	Test Year 2018 Revenue at Existing Rates	Test Year 2018 Cost of Service	\$ Change	% Change
Customer Classes at FCLWD Rates				
Residential	\$6,519,867	\$7,049,071	\$529,203	8.1%
Commercial	1,164,573	1,055,957	(108,616)	-9.3%
Irrigation	912,392	1,149,120	236,728	25.9%
Multi-Unit	445,798	130,666	(315,132)	-70.7%
Total Customer Classes at FCLWD Rates	9,042,631	9,384,814	342,183	3.8%
Customer Classes at City Rates				
Residential	922,399	1,010,390	87,991	9.5%
Commercial	93,319	80,165	(13,154)	-14.1%
Irrigation	275,984	388,297	112,313	40.7%
Multi-Unit	185,528	76,990	(108,539)	-58.5%
Total Customer Classes at City Rates	1,477,231	1,555,843	78,611	5.3%
Total System Revenue Requirement	\$10,519,862	\$10,940,657	\$420,794	4.0%

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\$0

\$0

Average per Kgal Revenue	Average per Kgal COS	\$ Change	% Change
\$3.42	\$3.70	\$0.28	8.1%
\$2.81	\$2.55	(\$0.26)	-9.3%
\$3.15	\$3.97	\$0.82	25.9%
\$6.17	\$1.81	(\$4.36)	-70.7%
\$3.37	\$3.50	\$0.13	3.8%
\$4.85	\$5.32	\$0.46	9.5%
\$4.59	\$3.94	(\$0.65)	-14.1%
\$4.53	\$6.37	\$1.84	40.7%
\$7.32	\$3.04	(\$4.28)	-58.5%
\$4.98	\$5.24	\$0.26	5.3%
\$3.53	\$3.67	\$0.14	4.0%

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Cost of Service Rates - New Consolidated Rate Design**

RTS Adjustment to Class COS	40.20%
Test Year Fixed Revenue Contribution	27.66%

Service Charge Rate Design														
COS Component	Revenue Requirement	Units of Service		Annual Unit Cost of Service	Meter Size	Existing Price Equivalency	Monthly Capacity Charge	Monthly Billing Component	Monthly Public Fire Component	Monthly RTS Component	Calculated Monthly Charge	Existing Fixed Charge	Difference	% Difference
Meters	\$1,056,257	17,856	Equivalent Meters	\$59.15	5/8 and 3/4"	1.00	\$4.93	\$0.08	\$5.44	\$3.51	\$13.95	\$13.40	\$0.55	4.10%
Billing and Collection	15,748	207,404	Bills	0.08	1"	1.46	7.20	0.08	7.94	5.12	20.33	19.53	0.80	4.10%
Public Fire	1,165,652	17,856	Equivalent Meters	65.28	1.5"	2.60	12.81	0.08	14.13	9.11	36.12	34.70	1.42	4.09%
Readiness to Serve Adjustment	751,166	17,856	Equivalent Meters	42.07	2"	3.97	19.57	0.08	21.60	13.92	55.17	53.00	2.17	4.09%
Total COS	\$2,988,823				3"	7.63	37.62	0.08	41.52	26.75	105.96	101.80	4.16	4.09%
<i>Check</i>	\$0				4"	15.27	75.27	0.08	83.07	53.53	211.94	203.60	8.34	4.10%

Residential, FCLWD Rates - Volumetric Rate Design											Residential, FCLWD Rates, Service Charge Revenue			
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue
Block 1	1 to 8	835,239	43.80%	1.000	\$1,500,194	\$1.796	32.10%	\$1.560	\$0.236	15.14%	5/8 and 3/4"	14,185	\$13.95	\$2,374,538
Block 2	8 to 22	562,015	29.47%	1.417	\$1,430,053	2.545	30.60%	2.210	0.335	15.14%	1"	3	20.33	761
Block 3	Over 22	509,870	26.74%	1.904	\$1,743,524	3.420	37.30%	2.970	0.450	15.14%	1.5"		36.12	0
Block 4											2"		55.17	0
Block 5											3"		105.96	0
		1,907,123	100.00%	Forecast	\$4,673,771	\$2.451	100.00%				4"		211.94	0
<i>Check</i>	0			Target	\$4,673,771	\$1.80						14,188		2,375,299
				Difference	\$0	\$2.55		Rounded Rate						
						\$3.42		Rounded Rate						
											Total Revenue Requirement		7,049,071	
											Net Volumetric Revenue Requirement		\$4,673,771	

Commercial, FCLWD Rates - Volumetric Rate Design											Commercial, FCLWD Rates, Service Charge Revenue			
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue
Block 1	All Use	414,346	100%	1.000	\$907,685	2.191	100.00%	\$1.560	\$0.631	40.43%	5/8 and 3/4"	381	\$13.95	\$63,729
Block 2		0		1.000	\$0	2.191	0.00%	2.210	(0.019)	-0.88%	1"	100	20.33	24,451
Block 3		0		1.000	\$0	2.191	0.00%	2.970	(0.779)	-26.24%	1.5"	55	36.12	23,713
Block 4											2"	31	55.17	20,836
Block 5											3"	10	105.96	12,898
		414,346	100.00%	Forecast	\$907,685	\$2.191	100.00%				4"	1	211.94	2,646
<i>Check</i>	0			Target	\$907,685	\$2.20						578		148,273
				Difference	\$0	\$2.20		Rounded Rate						
						\$2.20		Rounded Rate						
											Total Revenue Requirement		1,055,957	
											Net Volumetric Revenue Requirement		\$907,685	

Irrigation, FCLWD Rates - Volumetric Rate Design											Irrigation, FCLWD Rates, Service Charge Revenue			
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue
Block 1	All Use	289,275	100%	1.000	\$1,076,637	\$3.722	100.00%	\$1.560	\$2.162	138.58%	5/8 and 3/4"	108	\$13.95	\$18,113
Block 2		0		1.000	\$0	3.722	0.00%	2.210	1.512	68.41%	1"	47	20.33	11,422
Block 3		0		1.000	\$0	3.722	0.00%	2.970	0.752	25.31%	1.5"	56	36.12	24,351
Block 4											2"	28	55.17	18,597
Block 5											3"	0	105.96	0
		289,275	100.00%	Forecast	\$1,076,637	\$3.722	100.00%				4"		211.94	0
<i>Check</i>	0			Target	\$1,076,637	\$3.73						239		72,483
				Difference	\$0	\$3.73		Rounded Rate						
						\$3.73		Rounded Rate						
											Total Revenue Requirement		1,149,120	
											Net Volumetric Revenue Requirement		\$1,076,637	

Multi-Unit, FCLWD Rates - Volumetric Rate Design											Multi-Unit, FCLWD Rates, Service Charge Revenue			
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue
Block 1	All Use	72,308	100%	1.000	\$87,125	\$1.205	100.00%	\$1.560	(\$0.355)	-22.76%	5/8 and 3/4"	260	\$13.95	\$43,541
Block 2		0		1.000	\$0	1.205	0.00%	2.210	(1.005)	-45.48%	1"	0	20.33	0
Block 3		0		1.000	\$0	1.205	0.00%	2.970	(1.765)	-59.43%	1.5"		36.12	0
Block 4											2"		55.17	0
Block 5											3"		105.96	0
		72,308	100.00%	Forecast	\$87,125	\$1.205	100.00%				4"		211.94	0
<i>Check</i>	0			Target	\$87,125	\$1.21						260		43,541
				Difference	\$0	\$1.21		Rounded Rate						
						\$1.21		Rounded Rate						
											Total Revenue Requirement		130,666	
											Net Volumetric Revenue Requirement		\$87,125	

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Cost of Service Rates - New Consolidated Rate Design**

RTS Adjustment to Class COS	40.20%
Test Year Fixed Revenue Contribution	27.66%

Residential, City Rates - Volumetric Rate Design											Residential, No Patio, City Rates - Service Charge Revenue				
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue	
Block 1	1 to 8	116,595	61.34%	1.000	\$357,546	\$3.067	52.22%	\$2.730	\$0.337	12.33%	5/8 and 3/4"	1,946	\$13.95	\$325,685	
Block 2	8 to 22	38,648	20.33%	1.308	\$154,984	4.010	22.64%	3.570	0.440	12.33%			1"	20.33	0
Block 3	Over 22	34,836	18.33%	1.612	\$172,175	4.942	25.15%	4.400	0.542	12.33%			1.5"	36.12	0
Block 4													2"	55.17	0
Block 5													3"	105.96	0
													4"	211.94	0
		190,079	100.00%	Forecast	\$684,705	\$3.602	100.00%								
	Check	0		Target	\$684,705	\$3.07	Rounded Rate					1,946		325,685	
				Difference	\$0	\$4.02	Rounded Rate								
						\$4.95	Rounded Rate								
													Total Revenue Requirement	1,010,390	
													Net Volumetric Revenue Requirement	\$684,705	

Commercial, City Rates - Volumetric Rate Design											Commercial, City Rates, Service Charge Revenue					
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue		
Block 1	All Use	933	4.58%	1.000	\$3,390	\$3.635	4.58%	\$2.730	\$0.905	33.16%	5/8 and 3/4"	3	\$13.95	\$522		
Block 2		731	3.59%	1.000	\$2,658	3.635	3.59%	3.570	0.065	1.83%			1"	1	20.33	254
Block 3		18,687	91.82%	1.000	\$67,934	3.635	91.82%	4.400	(0.765)	-17.38%			1.5"	6	36.12	2,706
Block 4													2"	2	55.17	1,378
Block 5													3"	1	105.96	1,323
													4"		211.94	0
		20,351	100.00%	Forecast	\$73,983	\$3.635	100.00%									
	Check	0		Target	\$73,983	\$3.64	Rounded Rate					14		6,182		
				Difference	\$0	\$3.64	Rounded Rate									
						\$3.64	Rounded Rate									
													Total Revenue Requirement	80,165		
													Net Volumetric Revenue Requirement	\$73,983		

Irrigation, City Rates - Volumetric Rate Design											Irrigation, City Rates, Service Charge Revenue					
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue		
Block 1	All Use	1,647	2.70%	1.000	\$10,165	\$6.171	2.70%	\$2.730	\$3.441	126.05%	5/8 and 3/4"	14	\$13.95	\$2,264		
Block 2		1,377	2.26%	1.000	\$8,500	6.171	2.26%	3.570	2.601	72.86%			1"	8	20.33	2,031
Block 3		57,921	95.04%	1.000	\$357,434	6.171	95.04%	4.400	1.771	40.25%			1.5"	17	36.12	7,215
Block 4													2"	1	55.17	689
Block 5													3"		105.96	0
													4"		211.94	0
		60,945	100.00%	Forecast	\$376,099	\$6.171	100.00%									
	Check	0		Target	\$376,099	\$6.18	Rounded Rate					40		12,199		
				Difference	\$0	\$6.18	Rounded Rate									
						\$6.18	Rounded Rate									
													Total Revenue Requirement	388,297		
													Net Volumetric Revenue Requirement	\$376,099		

Multi-Unit, City Rates - Volumetric Rate Design											Multi-Unit, City Rates, Service Charge Revenue				
Consumption Block	Proposed Blocks	Billed Usage	Distribution of Usage	Proposed Steepness	Forecast Revenue	Calculated Rates	Revenue Distribution	Existing Rates	Dollar Change	% Change	Meter Size	Billable Units	Monthly Service Charge	Revenue	
Block 1	All Use	25,345	100%	1.000	\$51,214	\$2.021	100.00%	\$2.730	(\$0.709)	-25.98%	5/8 and 3/4"	154	\$13.95	\$25,776	
Block 2		0		1.000	\$0	2.021	0.00%	3.570	(1.549)	-43.40%			1"	20.33	0
Block 3		0		1.000	\$0	2.021	0.00%	4.400	(2.379)	-54.08%			1.5"	36.12	0
													2"	55.17	0
													3"	105.96	0
													4"	211.94	0
		25,345	100.00%	Forecast	\$51,214	\$2.021	100.00%								
	Check	0		Target	\$51,214	\$2.03	Rounded Rate					154		25,776	
				Difference	\$0	\$2.03	Rounded Rate								
						\$2.03	Rounded Rate								
													Total Revenue Requirement	76,990	
													Net Volumetric Revenue Requirement	\$51,214	

Fort Collins-Loveland Water District

2017 Rate & Fee Study

Summary and Forecast of Cost of Service Rates - New Consolidated Rate Design

Summary of Volumetric Rates - New Consolidated Rate Design				
Customer Class	Existing	Calculated	\$ Change	% Change
Residential, FCLWD Rates - Volumetric Rate Design				
1 to 8	1.560	1.800	0.240	15.38%
8 to 22	2.210	2.550	0.340	15.38%
Over 22	2.970	3.420	0.450	15.15%
Commercial, FCLWD Rates - Volumetric Rate Design				
1 to 8	1.560	2.200	0.640	41.03%
8 to 15	2.210	2.200	(0.010)	-0.45%
Greater than 15	2.970	2.200	(0.770)	-25.93%
Irrigation, FCLWD Rates - Volumetric Rate Design				
1 to 8	1.560	3.730	2.170	139.10%
8 to 15	2.210	3.730	1.520	68.78%
Greater than 15	2.970	3.730	0.760	25.59%
Multi-Unit, FCLWD Rates - Volumetric Rate Design				
1 to 8	1.560	1.560	0.000	0.00%
8 to 15	2.210	1.560	(0.650)	-29.41%
Greater than 15	2.970	1.560	(1.410)	-47.47%
Residential, City Rates - Volumetric Rate Design				
1 to 8	2.730	3.070	0.340	12.45%
8 to 15	3.570	4.020	0.450	12.61%
Greater than 15	4.400	4.950	0.550	12.50%
Commercial, City Rates - Volumetric Rate Design				
1 to 8	2.730	3.640	0.910	33.33%
8 to 15	3.570	3.640	0.070	1.96%
Greater than 15	4.400	3.640	(0.760)	-17.27%
Irrigation, City Rates - Volumetric Rate Design				
1 to 8	2.730	6.180	3.450	126.37%
8 to 15	3.570	6.180	2.610	73.11%
Greater than 15	4.400	6.180	1.780	40.45%
Multi-Unit, City Rates - Volumetric Rate Design				
1 to 8	2.730	2.730	0.000	0.00%
8 to 15	3.570	2.730	(0.840)	-23.53%
Greater than 15	4.400	2.730	(1.670)	-37.95%

Forecast Volumetric Rates at Financial Plan Increases													
Customer Class	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Residential, FCLWD Rates - Volumetric Rate Design													
1 to 8	\$1.80	\$1.88	\$1.96	\$2.04	\$2.13	\$2.22	\$2.31	\$2.41	\$2.51	\$2.62	\$2.73	\$2.84	\$2.96
8 to 22	2.55	2.66	2.77	2.89	3.01	3.14	3.27	3.41	3.55	3.70	3.85	4.01	4.18
Over 22	3.42	3.56	3.71	3.86	4.02	4.19	4.36	4.54	4.73	4.92	5.12	5.33	5.55
Commercial, FCLWD Rates - Volumetric Rate Design													
1 to 8	2.20	2.29	2.38	2.47	2.57	2.68	2.78	2.90	3.01	3.13	3.26	3.39	3.52
8 to 22	2.20	2.29	2.38	2.47	2.57	2.68	2.78	2.90	3.01	3.13	3.26	3.39	3.52
Over 22	2.20	2.29	2.38	2.47	2.57	2.68	2.78	2.90	3.01	3.13	3.26	3.39	3.52
Irrigation, FCLWD Rates - Volumetric Rate Design													
1 to 8	3.73	3.88	4.03	4.20	4.36	4.54	4.72	4.91	5.10	5.31	5.52	5.74	5.97
8 to 22	3.73	3.88	4.03	4.20	4.36	4.54	4.72	4.91	5.10	5.31	5.52	5.74	5.97
Over 22	3.73	3.88	4.03	4.20	4.36	4.54	4.72	4.91	5.10	5.31	5.52	5.74	5.97
Multi-Unit, FCLWD Rates - Volumetric Rate Design													
1 to 8	1.56	1.62	1.69	1.75	1.82	1.90	1.97	2.05	2.13	2.22	2.31	2.40	2.50
8 to 22	1.56	1.62	1.69	1.75	1.82	1.90	1.97	2.05	2.13	2.22	2.31	2.40	2.50
Over 22	1.56	1.62	1.69	1.75	1.82	1.90	1.97	2.05	2.13	2.22	2.31	2.40	2.50
Residential, City Rates - Volumetric Rate Design													
1 to 8	3.07	3.19	3.32	3.45	3.59	3.74	3.88	4.04	4.20	4.37	4.54	4.73	4.92
8 to 22	4.02	4.18	4.35	4.52	4.70	4.89	5.09	5.29	5.50	5.72	5.95	6.19	6.44
Over 22	4.95	5.15	5.35	5.57	5.79	6.02	6.26	6.51	6.77	7.05	7.33	7.62	7.93
Commercial, City Rates - Volumetric Rate Design													
1 to 8	3.64	3.79	3.94	4.09	4.26	4.43	4.61	4.79	4.98	5.18	5.39	5.60	5.83
8 to 22	3.64	3.79	3.94	4.09	4.26	4.43	4.61	4.79	4.98	5.18	5.39	5.60	5.83
Over 22	3.64	3.79	3.94	4.09	4.26	4.43	4.61	4.79	4.98	5.18	5.39	5.60	5.83
Irrigation, City Rates - Volumetric Rate Design													
1 to 8	6.18	6.43	6.68	6.95	7.23	7.52	7.82	8.13	8.46	8.80	9.15	9.51	9.89
8 to 22	6.18	6.43	6.68	6.95	7.23	7.52	7.82	8.13	8.46	8.80	9.15	9.51	9.89
Over 22	6.18	6.43	6.68	6.95	7.23	7.52	7.82	8.13	8.46	8.80	9.15	9.51	9.89
Multi-Unit, City Rates - Volumetric Rate Design													
1 to 8	2.73	2.84	2.95	3.07	3.19	3.32	3.45	3.59	3.74	3.89	4.04	4.20	4.37
8 to 22	2.73	2.84	2.95	3.07	3.19	3.32	3.45	3.59	3.74	3.89	4.04	4.20	4.37
Over 22	2.73	2.84	2.95	3.07	3.19	3.32	3.45	3.59	3.74	3.89	4.04	4.20	4.37

Forecast Monthly Service Charges at Financial Plan Increases													
Customer Class	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
5/8 and 3/4"	\$13.95	\$14.51	\$15.09	\$15.69	\$16.32	\$16.97	\$17.65	\$18.36	\$19.09	\$19.86	\$20.65	\$21.48	\$22.33
1"	20.33	21.14	21.99	22.87	23.78	24.73	25.72	26.75	27.82	28.94	30.09	31.30	32.55
1.5"	36.12	37.56	39.07	40.63	42.26	43.95	45.70	47.53	49.43	51.41	53.47	55.61	57.83
2"	55.17	57.38	59.67	62.06	64.54	67.12	69.81	72.60	75.50	78.52	81.67	84.93	88.33
3"	105.96	110.20	114.61	119.19	123.96	128.92	134.07	139.44	145.01	150.81	156.85	163.12	169.65
4"	211.94	220.42	229.23	238.40	247.94	257.86	268.17	278.90	290.05	301.66	313.72	326.27	339.32

Fort Collins-Loveland Water District

2017 Rate & Fee Study

Summary and Forecast of Cost of Service Rates - District vs. City Rate Differentials

Existing Rate Structure			
Rate/Charge	Existing District	Existing City	Differential
Monthly Base Charge			
5/8" and 3/4"	\$13.40	\$13.40	
1"	19.53	19.53	
1.5"	34.7	34.7	
2"	53	53	
3"	101.8	101.8	
4"	203.6	203.6	
Multi Unit Base Charge per Unit	\$13.40	\$13.40	
Volume Rate per Kgals			
1 to 8	\$1.56	\$2.73	75%
8 to 15	\$2.21	\$3.57	62%
Greater than 15	\$2.97	\$4.40	48%

New Consolidated Rate Structure - Residential			
Rate/Charge	District Residential	City Residential	Differential
Monthly Base Charge			
5/8" and 3/4"	\$13.95	\$13.95	
1"	20.33	20.33	
1.5"	36.12	36.12	
2"	55.17	55.17	
3"	105.96	105.96	
4"	211.94	211.94	
Volume Rate per Kgals			
1,000 to 8,000	\$1.80	\$3.07	70.6%
8,000 to 22,000	\$2.55	\$4.02	57.6%
Greater than 22,000	\$3.42	\$4.95	44.7%

New Consolidated Rate Structure - Non-Residential			
Rate/Charge	Residential	City Non-Residential	Differential
Monthly Base Charge			
5/8" and 3/4"	\$13.95	\$13.95	
1"	20.33	20.33	
1.5"	36.12	36.12	
2"	55.17	55.17	
3"	105.96	105.96	
4"	211.94	211.94	
Volume Rate per Kgals			
Commercial	\$2.20	\$3.64	65.5%
Irrigation	\$3.73	\$6.18	65.7%
Multi-Unit	\$1.21	\$2.03	67.8%

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
2018 District Residential Monthly Bill Impacts**

District Residential - 3/4" Meter								
Kgals	Existing Rate Structure			New Consolidated Structure			Difference	
	Service Charge Component	Volumetric Component	Total Bill	Service Charge Component	Volumetric Component	Total Bill	\$	%
1	\$13.94	\$1.62	\$15.56	\$13.95	\$1.80	\$15.75	\$0.19	1.23%
2	\$13.94	\$3.24	17.18	13.95	3.60	17.55	0.37	2.15%
3	\$13.94	\$4.87	18.80	13.95	5.40	19.35	0.55	2.91%
4	\$13.94	\$6.49	20.43	13.95	7.20	21.15	0.72	3.55%
5	\$13.94	\$8.11	22.05	13.95	9.00	22.95	0.90	4.09%
6	\$13.94	\$9.73	23.67	13.95	10.80	24.75	1.08	4.56%
7	\$13.94	\$11.36	25.29	13.95	12.60	26.55	1.26	4.97%
8	\$13.94	\$12.98	26.92	13.95	14.40	28.35	1.43	5.33%
9	\$13.94	\$15.28	29.21	13.95	16.95	30.90	1.69	5.77%
10	\$13.94	\$17.58	31.51	13.95	19.50	33.45	1.94	6.15%
11	\$13.94	\$19.87	33.81	13.95	22.05	36.00	2.19	6.48%
12	\$13.94	\$22.17	36.11	13.95	24.60	38.55	2.44	6.76%
13	\$13.94	\$24.47	38.41	13.95	27.15	41.10	2.69	7.01%
14	\$13.94	\$26.77	40.71	13.95	29.70	43.65	2.94	7.23%
15	\$13.94	\$29.07	43.00	13.95	32.25	46.20	3.20	7.43%
16	\$13.94	\$32.16	46.09	13.95	34.80	48.75	2.66	5.76%
17	\$13.94	\$35.25	49.18	13.95	37.35	51.30	2.12	4.31%
18	\$13.94	\$38.33	52.27	13.95	39.90	53.85	1.58	3.02%
19	\$13.94	\$41.42	55.36	13.95	42.45	56.40	1.04	1.88%
20	\$13.94	44.51	58.45	13.95	45.00	58.95	0.50	0.86%
21	\$13.94	47.60	61.54	13.95	47.55	61.50	(0.04)	-0.06%
22	\$13.94	50.69	64.63	13.95	50.10	64.05	(0.58)	-0.89%
23	\$13.94	53.78	67.71	13.95	53.52	67.47	(0.24)	-0.36%
24	\$13.94	56.87	70.80	13.95	56.94	70.89	0.09	0.12%
25	\$13.94	59.96	73.89	13.95	60.36	74.31	0.42	0.57%
26	\$13.94	63.04	76.98	13.95	63.78	77.73	0.75	0.97%
27	\$13.94	66.13	80.07	13.95	67.20	81.15	1.08	1.35%
28	\$13.94	69.22	83.16	13.95	70.62	84.57	1.41	1.70%
29	\$13.94	72.31	86.25	13.95	74.04	87.99	1.74	2.02%
30	\$13.94	75.40	89.34	13.95	77.46	91.41	2.07	2.32%
31	\$13.94	78.49	92.42	13.95	80.88	94.83	2.41	2.60%
32	\$13.94	81.58	95.51	13.95	84.30	98.25	2.74	2.86%
33	\$13.94	84.67	98.60	13.95	87.72	101.67	3.07	3.11%
34	\$13.94	87.76	101.69	13.95	91.14	105.09	3.40	3.34%
35	\$13.94	90.84	104.78	13.95	94.56	108.51	3.73	3.56%
36	\$13.94	93.93	107.87	13.95	97.98	111.93	4.06	3.76%
37	\$13.94	97.02	110.96	13.95	101.40	115.35	4.39	3.96%
38	\$13.94	100.11	114.05	13.95	104.82	118.77	4.72	4.14%
39	\$13.94	103.20	117.14	13.95	108.24	122.19	5.05	4.32%
40	\$13.94	106.29	120.22	13.95	111.66	125.61	5.39	4.48%
41	\$13.94	109.38	123.31	13.95	115.08	129.03	5.72	4.64%
42	\$13.94	112.47	126.40	13.95	118.50	132.45	6.05	4.79%
43	\$13.94	115.55	129.49	13.95	121.92	135.87	6.38	4.93%
44	\$13.94	118.64	132.58	13.95	125.34	139.29	6.71	5.06%
45	\$13.94	121.73	135.67	13.95	128.76	142.71	7.04	5.19%
46	\$13.94	124.82	138.76	13.95	132.18	146.13	7.37	5.31%
47	\$13.94	127.91	141.85	13.95	135.60	149.55	7.70	5.43%
48	\$13.94	131.00	144.93	13.95	139.02	152.97	8.04	5.54%
49	\$13.94	134.09	148.02	13.95	142.44	156.39	8.37	5.65%
50	\$13.94	137.18	151.11	13.95	145.86	159.81	8.70	5.76%

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
2018 District Annual Bill Impacts**

	Annual Bills			
	Existing Rate Structure	New Consolidated Structure	\$ Change	% Change
District Residential Customers - 3/4"				
Low Usage (48 Kgals Annual Use)				
Volume Rates	\$77.88	\$86.40	\$8.52	10.9%
Base Charge	167.23	167.40	0.17	0.1%
Total Bill	\$245.11	\$253.80	\$8.69	3.5%
Medium Usage (192 Kgals Annual Use)				
Volume Rates	\$385.88	\$417.60	\$31.72	8.2%
Base Charge	167.23	167.40	0.17	0.1%
Total Bill	\$553.11	\$585.00	\$31.89	5.8%
High Usage (300 Kgals Annual Use)				
Volume Rates	\$719.47	\$724.32	\$4.85	0.7%
Base Charge	167.23	167.40	0.17	0.1%
Total Bill	\$886.70	\$891.72	\$5.02	0.6%
High Usage (8,400 Kgals Annual Use)				
Volume Rates	\$2,387.42	\$2,571.12	\$183.70	7.7%
Base Charge	167.23	167.40	0.17	0.1%
Total Bill	\$2,554.66	\$2,738.52	\$183.86	7.2%

	Annual Bills			
	Existing Rate Structure	New Consolidated Structure	\$ Change	% Change
District Commercial Customers				
Low Usage (3/4", 24 Kgals Annual Use)				
Volume Rates	\$38.87	\$64.69	\$25.82	66.4%
Base Charge	167.23	167.40	0.17	0.1%
Total Bill	\$206.11	\$232.09	\$25.99	12.6%
Medium Usage (1", 595 Kgals Annual Use)				
Volume Rates	\$1,630.50	\$1,606.36	(\$24.15)	-1.5%
Base Charge	243.73	243.96	0.23	0.1%
Total Bill	\$1,874.24	\$1,850.32	(\$23.92)	-1.3%
High Usage (3", 3,427 kgals Annual Use)				
Volume Rates	\$10,378.15	\$9,252.90	(\$1,125.25)	-10.8%
Base Charge	1,270.46	1,271.52	1.06	0.1%
Total Bill	\$11,648.61	\$10,524.42	(\$1,124.19)	-9.7%

	Annual Bills			
	Existing Rate Structure	New Consolidated Structure	\$ Change	% Change
District Multi-Unit Customers				
Low Usage (3/4", 2 Units, 117 Kgals Annual Use)				
Volume Rates	\$215.41	\$182.45	(32.95)	-15.3%
Base Charge	334.46	167.40	(167.06)	-49.9%
Total Bill	\$549.87	\$349.85	(200.02)	-36.4%
Medium Usage (2", 20 Units, 569 Kgals Annual Use)				
Volume Rates	\$1,549.50	\$887.21	(662.29)	-42.7%
Base Charge	3,344.64	662.04	(2,682.60)	-80.2%
Total Bill	\$4,894.14	\$1,549.25	(3,344.89)	-68.3%
High Usage (1 1/2", 70 Units, 3,377 Kgals Annual Use)				
Volume Rates	\$10,223.07	\$5,267.80	(4,955.27)	-48.5%
Base Charge	11,706.24	433.44	(11,272.80)	-96.3%
Total Bill	\$21,929.31	\$5,701.24	(16,228.07)	-74.0%

	Annual Bills			
	Existing Rate Structure	New Consolidated Structure	\$ Change	% Change
District Irrigation Customers				
Low Usage (3/4", 117 Kgals Annual Use)				
Volume Rates	\$283.64	\$493.78	\$210.14	74.1%
Base Charge	167.23	167.40	0.17	0.1%
Total Bill	\$450.87	\$661.18	\$210.31	46.6%
Medium Usage (1", 1,070 Kgals Annual Use)				
Volume Rates	\$3,220.09	\$4,528.00	\$1,307.92	40.6%
Base Charge	243.73	243.96	0.23	0.1%
Total Bill	\$3,463.82	\$4,771.96	\$1,308.14	37.8%
Medium Usage (2", 3,910 Kgals Annual Use)				
Volume Rates	\$11,972.34	\$16,537.54	\$4,565.20	38.1%
Base Charge	661.44	662.04	0.60	0.1%
Total Bill	\$12,633.78	\$17,199.58	\$4,565.80	36.1%

Appendix D
Fort Collins Loveland Water District Rate Study
Plant Investment Fees

**Fort Collins-Loveland Water District
2017 Rate & Fee Study**

Plant Investment Fee Calculation Under Industry Accepted Approaches

Equity Buy-In Approach	
Treatment Component	
Asset Valuation	
Treatment	\$34,852,589
Transmission Mains	24,434,059
Treated Water Storage	8,076,605
Pumps	2,453,602
CWIP - Treated Water Storage	4,062,297
Total Value of Existing Infrastructure	73,879,152
Existing Treatment Plant Capacity	
Soldier Canyon Existing Capacity (MGD)	45.0
FCLWD Ownership Share in Existing Capacity	35.651%
FCLWD Share of Soldier Canyon Existing Capacity (MGD)	16.043
Capacity Purchased from City of Fort Collins (MGD)	5.0
Total Capacity (MGD)	21.04
Total Capacity (Gallons)	21,043,000
Single Family Residential Equivalent Capacity Demand	
Annual Demand (Residential, No Patio, FCLWD Rates)	183,379
GPD Demand (Residential No Patio, FCLWD Rates)	502.41
Max Day Peaking Factor (Residential, No Patio, FCLWD Rates)	2.51
GPD Max Day Demand (Residential No Patio, FCLWD Rates)	1,258.95
Single Family Residential Equivalent Units that Can be Served	16,715
Single Family Residential PIF - Treatment Component	\$4,420
Source of Supply Component	
Asset Valuation	
Source of Supply	\$6,406,589
Existing Source of Supply Capacity	
Acre Feet per Year	17,699
Weighted Firm Yield	50.00%
Acre Feet Per Year - Actual Firm Yield	8,850
Gallons per Year - Actual Firm Yield	2,883,618,425
Single Family Residential Equivalent Capacity Demand	
Annual Demand (Residential, No Patio, FCLWD Rates)	183,379
Single Family Residential Equivalent Units that Can be Served	15,725
Single Family Residential PIF - Source of Supply Component	\$407
Single Family Residential Equivalent PIF - Total	\$4,827

Incremental Cost Approach	
Treatment Component	
Asset Valuation	
Treatment	\$59,866,273
Transmission Mains	28,429,300
Treated Water Storage	0
Pumps	125,000
Add: Borrowing Costs on Future Debt	33,751,389
Total Value of Planned Growth-Related Infrastructure	122,171,962
Future Treatment Plant Capacity	
Soldier Canyon Incremental Capacity (MGD)	15.0
FCLWD Ownership Share in Incremental Capacity	46.667%
FCLWD Share of Soldier Canyon Incremental Capacity (MGD)	7.0
Incremental Capacity Purchased from City of Fort Collins (MGD)	5.0
Incremental NISP Treatment Capacity (MGD)	7.0
Total Capacity (MGD)	19.0
Total Capacity (Gallons)	19,000,000
Single Family Residential Equivalent Capacity Demand	
Annual Demand (Residential, No Patio, FCLWD Rates)	183,379
GPD Demand (Residential No Patio, FCLWD Rates)	502.41
Max Day Peaking Factor (Residential, No Patio, FCLWD Rates)	2.51
GPD Max Day Demand (Residential No Patio, FCLWD Rates)	1,258.95
Single Family Residential Equivalent Units that Can be Served	15,092
Single Family Residential PIF - Treatment Component	\$8,095
Source of Supply Component	
Asset Valuation	
Source of Supply	\$67,067,299
Add: Borrowing Costs on Future Debt	25,600,541
Total Value of Planned Growth-Related Infrastructure	92,667,840
Future Source of Supply Capacity	
NISP Acre Feet per Year	3,000
Other Acre Feet per Year	0
Total Acre Feet per Year	3,000
Firm Yield Assumption	100.00%
Acre Feet Per Year - Actual Firm Yield	3,000
Gallons per Year - Actual Firm Yield	977,553,000
Single Family Residential Equivalent Capacity Demand	
Annual Demand (Residential, No Patio, FCLWD Rates)	183,379
Single Family Residential Equivalent Units that Can be Served	5,331
Single Family Residential PIF - Source of Supply Component	\$17,384
Single Family Residential Equivalent PIF - Total	\$25,479

Hybrid Approach	
Treatment Component	
Asset Valuation	
Treatment	\$94,718,861
Transmission Mains	52,863,359
Treated Water Storage (Includes Timnath Tank CWIP)	8,076,605
Pumps	2,578,602
CWIP - Treated Water Storage	\$4,062,297
Add: Borrowing Costs on Future Debt	33,751,389
Total Value	196,051,114
Treatment Plant Capacity	
Solder Canyon (MGD)	23.043
City of Fort Collins (MGD)	10.000
NISP Treatment Plant (MGD)	7.000
Total MGD	40.043
Total Gallons	40,043,000
Single Family Residential Equivalent Capacity Demand	
Annual Demand (Residential, No Patio, FCLWD Rates)	183,379
GPD Demand (Residential No Patio, FCLWD Rates)	502.41
Max Day Peaking Factor (Residential, No Patio, FCLWD Rates)	2.506
GPD Max Day Demand (Residential No Patio, FCLWD Rates)	1258.95
Single Family Residential Equivalent Units that Can be Served	31,807
Single Family Residential PIF - Treatment Component	\$6,164
Source of Supply Component	
Asset Valuation	
Source of Supply	\$73,473,888
Add: Borrowing Costs on Future Debt	25,600,541
Total Value	99,074,429
Source of Supply Capacity	
Existing Firm Yield	8,850
Incremental Acre Feet Firm Yield	3,000
Total Acre Feet Firm Yield	11,850
Gallons per Year - Actual Firm Yield	3,861,171,425
Single Family Residential Equivalent Capacity Demand	
Annual Demand (Residential, No Patio, FCLWD Rates)	183,379
Single Family Residential Equivalent Units that Can be Served	21,056
Single Family Residential PIF - Source of Supply Component	\$4,705
Single Family Residential Equivalent PIF - Total	\$10,869

Fort Collins-Loveland Water District**2017 Rate & Fee Study****Plant Investment Fee Calculation Under Industry Accepted Approaches**

Residential Water Plant Investment Fee Schedule (Excluding Meter Cost)							
Square Footage Range	Required CB-T Share	Annual Allotment (Gallons)	Water Resource Cost	Infrastructure PIF	Total	Existing	\$ Change
<= 6,000	0.524	85,366	\$14,252	\$10,869	\$25,121	\$32,000	(\$6,879)
6,001-7,000	0.762	124,161	20,728	10,869	31,597	32,000	(403)
7,001-8,000	0.803	130,795	21,836	10,869	32,705	32,000	705
8,001-9,000	0.888	144,623	24,144	10,869	35,014	32,000	3,014
9,001-10,000	1.015	165,405	27,614	10,869	38,483	32,000	6,483
10,001-11,000	1.078	175,672	29,328	10,869	40,197	32,000	8,197
11,001-12,000	1.145	186,587	31,150	10,869	42,019	32,000	10,019
>12,000	1.776	289,338	48,304	10,869	59,173	32,000	27,173

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Commercial and Irrigation PIFS Calculated Using 2016 3/4" Demand**

Calculated Commercial							Existing PIF	\$ Difference
Meter Size	Design GPM	Design GPM Ratio	Infrastructure Component	Total C-BT Shares	Water Cost	Total PIF		
3/4"	10	1	\$10,869	2.14	58,141	69,010	32,000	37,010
1"	25	2.5	27,173	5.34	145,352	172,525	80,000	92,525
1 1/2"	50	5	54,346	10.69	290,704	345,050	160,000	185,050
2"	80	8	86,953	17.10	465,126	552,080	256,000	296,080
3"	175	17.5	190,211	37.41	1,017,463	1,207,674	560,000	647,674
4"	300	30	326,075	64.13	1,744,223	2,070,298	962,000	1,108,298
6"	625	62.5	679,324	133.60	3,633,798	4,313,122	2,000,000	2,313,122

Based on annual 3/4" irrigation usage of 331,670 gallons, CB-T annual firm yield of 162,926 gallons, 5% water loss

Calculated Irrigation							Existing PIF	\$ Difference
Meter Size	Design GPM	Design GPM Ratio	Infrastructure Component	Total C-BT Shares	Water Cost	Total PIF		
3/4"	10	1	\$10,869	4.65	126,615	137,484	32,000	105,484
1"	25	2.5	27,173	11.64	316,538	343,711	80,000	263,711
1 1/2"	50	5	54,346	23.27	633,077	687,422	160,000	527,422
2"	80	8	86,953	37.24	1,012,923	1,099,876	256,000	843,876
3"	175	17.5	190,211	81.46	2,215,768	2,405,979	560,000	1,845,979
4"	300	30	326,075	139.65	3,798,460	4,124,535	962,000	3,162,535
6"	625	62.5	679,324	290.94	7,913,457	8,592,781	2,000,000	6,592,781

Based on annual 3/4" irrigation usage of 722,299 gallons, CB-T annual firm yield of 162,926 gallons, 5% water loss

**Fort Collins-Loveland Water District
2017 Rate & Fee Study
Commercial and Irrigation PIFS Calculated at 1.0 C-BT Shares for a 3/4" Meter**

Recommended Commercial							Existing PIF	\$ Difference
Meter Size	Design GPM	Design GPM Ratio	Infrastructure Component	Total C-BT Shares	Water Cost	Total PIF		
3/4"	10	1	\$10,869	1.00	27,200	38,069	32,000	6,069
1"	25	2.5	27,173	2.50	68,000	95,173	80,000	15,173
1 1/2"	50	5	54,346	5.00	136,000	190,346	160,000	30,346
2"	80	8	86,953	8.00	217,600	304,553	256,000	48,553
3"	175	17.5	190,211	17.50	476,000	666,211	560,000	106,211
4"	300	30	326,075	30.00	816,000	1,142,075	962,000	180,075
6"	625	62.5	679,324	62.50	1,700,000	2,379,324	2,000,000	379,324

Based on annual 3/4" irrigation usage of 331,670 gallons, CB-T annual firm yield of 162,926 gallons, 5% water loss

Recommended Irrigation							Existing PIF	\$ Difference
Meter Size	Design GPM	Design GPM Ratio	Infrastructure Component	Total C-BT Shares	Water Cost	Total PIF		
3/4"	10	1	\$10,869	1.00	27,200	38,069	32,000	6,069
1"	25	2.5	27,173	2.50	68,000	95,173	80,000	15,173
1 1/2"	50	5	54,346	5.00	136,000	190,346	160,000	30,346
2"	80	8	86,953	8.00	217,600	304,553	256,000	48,553
3"	175	17.5	190,211	17.50	476,000	666,211	560,000	106,211
4"	300	30	326,075	30.00	816,000	1,142,075	962,000	180,075
6"	625	62.5	679,324	62.50	1,700,000	2,379,324	2,000,000	379,324

Based on annual 3/4" irrigation usage of 722,299 gallons, CB-T annual firm yield of 162,926 gallons, 5% water loss

