Ken-Caryl Ranch Water & Sanitation District

Water and Sewer Service Rate and Tap Fee Study

Report / April 19, 2019







April 19, 2019

Mr. Timothy R. Anderson District Manager 10698 W. Centennial Road Littleton, Colorado 80127

Subject: Water and Sewer Rate and Tap Fee Study

Dear Mr. Anderson,

Raftelis is pleased to provide this Water and Sewer Rate and Tap Fee Study (Rate Study) Report for the Ken-Caryl Ranch Water and Sanitation District. The major objectives of the Rate Study included:

- The development of 10-year water and wastewater utility financial plans to identify funding requirements and a capital financing strategy to pay for projected water and wastewater capital expenditures.
- The completion of water and wastewater cost of service studies to equitably allocate costs to the District's different customer classes based on their unique customer class characteristics.
- A review of the District's water and wastewater rate structures to insure the equitable recovery of the costs allocated to each customer class while promoting conservation/efficient water use.
- An update of the District's water and wastewater system development charges.

This report summarizes our key rate study findings and recommendations. It has been a pleasure working with you and District staff. Please do not hesitate to contact John or myself if you have any questions regarding the attached report and/or the project.

Sincerely,

John J. Wright

John J. Wart

Manager

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Study Background

On March 26, 2018, the Ken-Caryl Ranch Water and Sanitation District (District) engaged Raftelis to conduct a Water and Sewer Rate and Tap Fee Study (Rate Study) for its water and wastewater utilities. During the period April 2018 - December 2018, Raftelis completed the study with the assistance of District staff. On December 19, 2018, the District Board of Directors (Board) adopted water and wastewater rates and tap fees for 2019 based on the findings and recommendations described in this report. The major objectives of the Rate Study included:

- The development of 10-year water and wastewater utility financial plans to identify funding requirements and a capital financing strategy to pay for projected water and wastewater capital expenditures.
- The completion of water and wastewater cost of service studies to equitably allocate costs to the District's different customer classes based on their unique customer class characteristics.
- A review of the District's water and wastewater rate structures to insure the equitable recovery of the costs allocated to each customer class while promoting conservation/efficient water use.
- An update of the District's water and wastewater system development charges.

Water Utility Rate Study

Water Utility Profile

Table 1 provides a profile of the District's water utility customer billed consumption and revenue based on actual 2017 results. Note that approximately 40% of the District's total water rate revenue was earned from minimum charges under the rate structure that is being significantly modified in 2019. Under the new rate structure adopted by the Board for 2019, the percentage of revenues recovered from fixed charges (i.e., a monthly service charge based on meter size) will fall to approximately 34%.

Customer Type	Customer Accounts	Billed Consumption (Kgal)	Minimum Charge Revenue	Volumetric Revenue	Total Revenue
Residential	3,396	415,591	\$1,088,078	1,388,415	2,476,493
Multi-Family Residential	317	37,470	394,092	151,023	545,115
Commercial	171	165,014	217,581	765,558	983,139
Irrigation-Only	42	59,846	50,286	314,259	364,544
Total	3,926	677,921	\$1,750,037	\$2,619,254	\$4,369,291

Table 1: Water Service Customer Metrics

Water Utility Financial Plan

Raftelis prepared a financial plan for the District's water utility for the years 2019-2028. The purpose of the financial plan was to estimate the amount of rate revenue required to insure the on-going financial integrity of the District's water utility. Financial integrity was defined as a level of funding adequate to pay for projected capital improvement program (CIP) expenditures and maintain adequate cash reserve balances. The financial planning process is to establish the total amount of revenue that must be recovered from utility customers during each year of the planning horizon. This utility-wide revenue requirement from rates is then allocated, through the cost of service process, to each customer class based on the specific demands they impose on the utility system. Figure 1 illustrates the role of financial planning in the utility cost of service process. Note that in Figure 1, references are made to projected debt

service payments and target debt service coverage ratios. The District's water and wastewater utilities currently have no outstanding debt and no new debt is projected to be required for either utility over the 2019-2028 planning horizon analyzed by Raftelis.

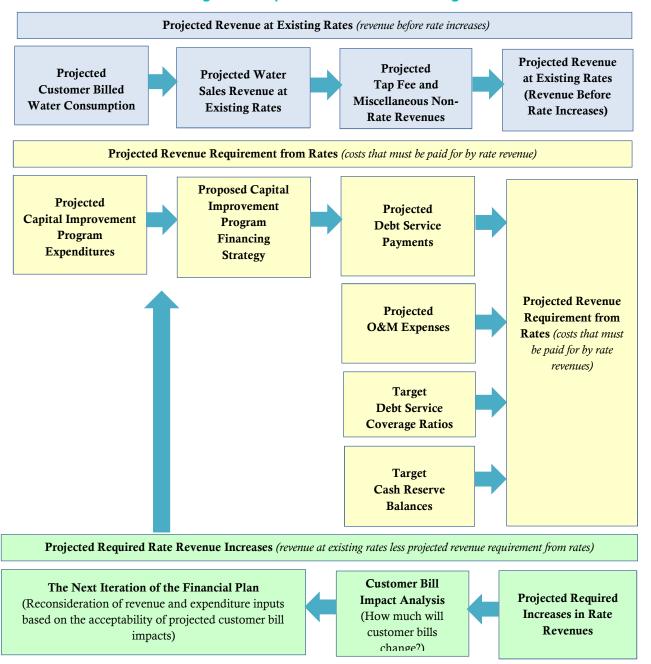


Figure 1: Steps in the Financial Planning Process

KEY ASSUMPTIONS USED IN THE WATER FINANCIAL PLAN

The key assumptions made by Raftelis in the preparation of the District's water utility financial plan is that purchased water costs (i.e., the payments made to Denver Water for treated water) will increase at a rate of 3.0% annually. Similarly, annual construction cost inflation associated with the District's capital improvement program was also assumed to increase at 3.0% annually. Overall operating expenses were projected to increase at a rate of 3.0% annually.

WATER UTILITY FINANCIAL PLAN RESULTS

Table 2 summarizes the District's water utility financial plan prepared by Raftelis and presented to the District Board. Appendix A to this report provides a detail of the water utility financial plan.

Table 2: Water Utility Financial Plan (\$ Thousands)

Metric	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Annual % Rate	3.9%	7.0%	9.0%	9.0%	9.0%	9.0%	9.0%	8.0%	5.0%	5.0%
Revenue Increase	0.570	7.070	3.070	0.070	3.070	3.070	3.070	0.070	0.070	0.070
_										
Revenues					_	_		•		
Rate Revenues	\$4,567.9	\$4,919.2	\$5,362.8	\$5,846.5	\$6,373.7	\$6,948.5	\$7,575.1	\$8,182.4	\$8,593.0	\$9,024.1
Miscellaneous Revenue	<u>104.1</u>	<u>98.3</u>	<u>84.7</u>	<u>73.7</u>	<u>75.8</u>	<u>85.7</u>	<u>93.2</u>	<u>91.1</u>	<u>85.3</u>	<u>84.1</u>
Total Revenues	4,672.0	5,017.5	5,447.5	5,920.2	6,449.5	7,034.2	7,668.3	8,273.5	8,678.3	9,108.2
Operating Expenses										
Purchased Water	3,382.0	3,483.5	3,588.0	3,695.6	3,806.5	3,920.7	4,038.3	4,159.5	4,284.3	4,412.8
Maintenance	357.2	367.9	378.9	390.3	402.0	414.0	426.5	439.3	452.4	466.0
Administrative	630.3	649.2	668.7	688.7	709.4	730.7	752.6	775.2	798.4	822.4
Contingency	<u>59.5</u>	<u>61.3</u>	<u>63.1</u>	<u>65.0</u>	<u>66.9</u>	<u>69.0</u>	<u>71.0</u>	<u>73.2</u>	<u>75.4</u>	<u>77.6</u>
Total	4,429.0	4,561.8	4,698.7	4,839.6	4,984.8	5,134.4	5,288.4	5,447.1	5,610.5	5,778.8
Capital Improvements										
Distribution	210.0	90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transmission	170.0	550.0	1,780.0	640.0	0.0	660.0	1,480.0	650.0	650.0	0.0
Pumps	80.0	20.0	0.0	0.0	90.0	0.0	0.0	0.0	10.0	0.0
Meters	51.0	603.5	773.5	816.0	714.0	0.0	731.0	0.0	0.0	0.0
Administration	<u>122.4</u>	<u>102.0</u>	<u>149.6</u>	<u>0.0</u>	<u>13.6</u>	<u>61.2</u>	<u>13.6</u>	<u>0.0</u>	<u>0.0</u>	<u>61.2</u>
Total	633.4	1,365.5	2,703.1	1,456.0	817.6	721.2	2,224.6	3,560.0	3,660.0	3,151.2
Annual Results										
Total Expenditures	5,062.3	<u>5,927.3</u>	<u>7,401.8</u>	6,295.6	<u>5,802.4</u>	<u>5,855.6</u>	<u>7,513.0</u>	9,007.1	9,270.5	<u>8,930.0</u>
Net Operating Surplus/(Deficit)	(390.3)	(909.8)	(1,954.3)	(375.4)	647.1	1,178.6	155.3	(733.5)	(592.2)	178.2
Cash Reserves										
Beginning Cash	8,090.1	7,699.8	6,790.0	4,835.7	4,460.3	5,107.4	6,286.0	6,441.3	5,707.8	5,115.6
Ending Cash	\$7,699.8	\$6,790.0	\$4,835.7	\$4,460.3	\$5,107.4	\$6,286.0	\$6,441.3	\$5,707.8	\$5,115.6	\$5,293.8

WATER UTILITY REVENUE REQUIREMENT FROM RATES

As noted above, the financial planning process determines the amount of water rate revenues that must be recovered from customers. This amount, referred to as the revenue requirement from rates, is the level of rate revenues necessary to pay for utility operating and capital costs. An alternative presentation of the determination of this amount for 2019 is shown in Table 3.

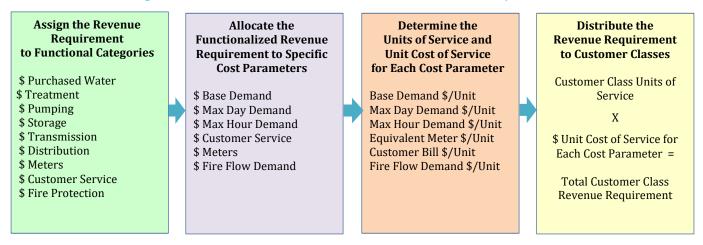
Table 3: 2019 Water Utility Revenue Requirement from Rates

Item	2019
Operating Expenses	
Purchased Water	\$3,382,032
Operations & Maintenance	357,160
Administrative	630,282
Reserve for Replacement Capital	<u>59,483</u>
Total Operating Expense	4,428,956
Capital Improvements	
Distribution System	210,000
Transmission System	170,000
Pumps	80,000
Meters	51,000
Administration	<u>122,38</u> 5
Total Capital Improvements	633,385
Total Expenditures	5,062,341
Add: Net Operating Surplus/(Deficit)	(390,340)
Gross Revenue Requirement from Rates	4,672,001
Less: Non-Rate Revenues	
System Development Charges	2,500
Other	22,660
Interest Income	<u>78,950</u>
Total Non-Rate Revenues	104,110
Net Revenue Requirement from Rates	\$4,567,891

Water Utility Cost of Service Study

After projecting the revenue requirement from rates, a cost of service study (COS study) is conducted to determine the amount of rate revenue that must be recovered from each customer class based on their unique usage characteristics. To accomplish this objective, Raftelis uses a multi-step cost allocation process that included a comprehensive analysis of customer water consumption characteristics. The procedures used by Raftelis in the water utility COS study were based on industry accepted methods as published by the American Water Works Association (AWWA) in the publication, "Manual of Water Supply Practices M1, Principles of Water Rates, Fees, and Charges, Seventh Edition" (AWWA Manual M1). Figure 2 provides a visual overview of key steps in the cost of service study process used to determine the customer class revenue requirements from rates.

Figure 2: Determination of Customer Class Revenue Requirements



THE IMPORTANCE OF CUSTOMER CLASS PEAKING FACTORS

A water utility system cannot be designed, constructed or operated merely to meet the average day demands imposed by customers. Instead, it must be designed, constructed and operated to meet the coincident (i.e., total system) maximum day and maximum hour peak demands imposed by customers. These peak demands occur on a single day or during a single hour each year and are invariably significantly greater than typical average day demands. To illustrate this point, Table 4 compares the maximum day water demands occurring on the District's water utility system for the three-year period 2015-2017. All the maximum day demands shown in the Table 4 occurred during the summer months of July, August or September. This is normative for Colorado front-range utilities who typically experience both maximum day and maximum hour peak demands during the summer irrigation season.

Year	Annual Average Day Purchases from Denver Water (kgal)	Estimated Maximum Day Purchases from Denver Water (kgal)	Estimated Maximum Hour Purchases from Denver Water (kgal)	Estimated District Maximum Day Peaking Factor	Estimated District Maximum Hour Peaking Factor
2015	1,922	4,185	6,728	2.18	3.50
2016	2,158	4,499	7,552	2.09	3.50
2017	2,103	4,478	7,361	2.13	3.50
Average	2.061	4.388	7.214	2.13	3.50

Table 4: Water Utility Total System Coincidental Demands

Due to the peak demands they impose on a water utility system, customer classes that have higher maximum day and maximum hour peaking factors generally make a large proportional contribution to the coincident peak demands experienced by a utility, i.e., place greater summer season demands on the system. As a result, through of the cost of service process, they are allocated a larger proportional share of the water utility revenue requirement.

The approach employed by Raftelis to estimate customer class peaking factors are those described in Appendix A of the AWWA Manual M1. Specifically, we conducted a detailed analysis of the monthly and annual billed water consumption characteristics of each customer class during 2017. This resulted in an estimate, for each individual year, of customer class average day, maximum day, and maximum hour peaking factors. Table 5 shows the estimated maximum day peaking factors for District customers. These peaking factors are normative for Colorado front-range utilities. Specifically, Irrigation-Only customers have the highest estimated maximum day peaking factors due to the significant demands they place on the water utility system during the outdoor irrigation season. In contrast, Multi-Family Residential and Commercial customers have the lowest maximum day peaking factors because the majority of their water consumption is not associated with outdoor watering.

Customer Class	Maximum Month Volume	Average Day in Maximum Month	Annual Volume	Annual Average Day	Ratio of Avg. Day in Maximum Month to Annual Average Day
Residential	80,555	2,599	415,591	1,139	2.28
Multi-Family Residential	5,360	173	37,470	103	1.68
Commercial	27,951	902	165,014	452	1.99
Commercial Irrigation Only	16,016	4	496	1	3.26
MF Residential Irrigation Only	133	517	59,350	163	3.18

Table 5: Calculated Customer Class Peaking Factors

2019 COST OF SERVICE STUDY SUMMARY RESULTS

Table 6 shows the results of the water utility COS study for 2019 which compares the estimated 2019 cost of service for each customer class to the level of revenue projected to be collected in 2019 if existing 2018 rates remain in place without modification. There is misalignment between the level of revenue projected to be collected from each

customer class in 2019 and the estimated cost of providing service to them. This is particularly true as it relates to customers in the Multi-Family Residential customer class that are estimated to be paying approximately 41.4% more than the costs incurred to provide service to them. Similarly, customers with irrigation-only water taps are estimated to be paying approximately 21.51% less than the costs incurred to provide them service. Appendix B to this report provides a detail of the water utility cost of service study.

Table 6: Water Utility Cost-of-Service Study Results

Customer Class	Test Year 2019 Revenue at Existing Rates	Test Year 2019 Cost of Service	\$ Change	% Change	Comment
Residential	\$2,477,952	\$2,895,937	417,985	16.9%	Paying too little
Multi-Family Residential	546,866	320,673	(226,193)	-41.4%	Paying too much
Commercial	983,139	832,358	(150,781)	-15.3%	Paying too much
Irrigation	364,544	441,349	76,805	21.1%	Paying too little
Private Fire	\$51,608	\$77,576	25,968	50.3%	Paying too much
Total	\$4,424,108	\$4,567,891	143,784	3.3%	

Water Utility Rate Design

The rate design process determines how rates should be structured to recover the appropriate amount of revenue from each customer class while achieving specific policy objectives related to issues such as encouraging efficient water use, achieving revenue stability, and maximizing bill affordability for low consumption customers. At the start of the rate study process, Raftelis conducted a pricing objectives workshop with the District's Board to determine what they considered the most critical. Table 7 summarizes the results.

Table 7: District Board Pricing Objectives

Rank	Pricing Objective	Weighted Score
1	Financial Sufficiency	31
2	Cost of Service Equity	27
2	Defensibility	27
4	Ease of Implementation	23
4	Revenue Stability	23
6	Rate Stability	21
6	Ease of Customer Understanding	21
8	Minimization of Customer Impacts	20
9	Water Use Efficiency / Demand Management	15
10	Equitable Contribution from New Customers	13
11	Affordability for Disadvantaged Customers	12
12	Economic Development	10

RATE DESIGN - WATER RATE STRUCTURE MODIFICATIONS

The rate design process determines how rates should be structured to recover the appropriate amount of revenue from each customer class while achieving specific policy objectives related to issues such as encouraging efficient water use, achieving revenue stability, and maximizing bill affordability for low consumption customers. The following water rate structure modifications recommended by Raftelis were adopted by Raftelis and were adopted by the District Board on December 18, 2019 for implementation on February 1, 2019. A detail of the water utility rate design process can be found in Appendix C of this report.

Residential Customers: Elimination of the Monthly Minimum Charge:

The District has traditionally billed Residential customer accounts using a five-TIER volumetric rate structure. TIER 1 in the rate structure provides each customer account with a minimum monthly usage allowance of 5,000 gallons which is billed at a flat rate of \$26.70 per month. Residential customers must pay this amount regardless of their actual monthly billed water consumption. For example, if a customer uses only 3,000 gallons of water in a particular month, they must pay \$26.70. This rate structure discourages efficient water usage and is inequitable to low consumption customers who routinely use less than 5,000 gallons per month. The new Board adopted Residential water rate design eliminates the monthly minimum usage allowance and the associated monthly minimum charge. In its place, it substitutes a rate structure that requires Residential customers to pay a volumetric rate for all usage along with a monthly service charge based on water meter size. Table 8 summarizes the changes to the Residential customer rate design that will be effective in 2019.

Table 8: Summary of Residential Customer Rate Design Changes

Existing 2018		Adopted 2019	
Volumetric Rates for Metered Water Usage		Volumetric Rates for Metered Water Us	age
TIER 1: Minimum Charge (5,000 gallons)	\$0.00	TIER 1: 1-5,000 gallons	\$2.12
TIER 2: 5,001 to 16,000 gallons	5.34	TIER 2: 5,001-16,000 gallons	5.81
TIER 3: 16,001 to 27,000 gallons	5.85	TIER 3: 16,001-27,000 gallons	8.08
TIER 4: 27,001 to 38,000 gallons	6.35	TIER 4: 27,001 to 38,000 gallons	9.85
TIER 5: Over 38,001 gallons	6.86	TIER 5: Over 38,001 gallons	11.26
Monthly Minimum Charge	\$26.70	Monthly Service Charge	
		3/4"	\$19.19
		1"	25.84

Multi-Family Residential Customers: Elimination of the Monthly Minimum Charge, Change to a Single TIER Rate Structure, Change to Billing on a Per Account Basis:

The District has traditionally billed Multi-Family Residential customer accounts using a three-TIER volumetric rate structure. TIER 1 in the rate structure provides each customer account with monthly minimum usage allowance of 5,000 gallons which is billed at a flat rate of \$26.70 per month. Multi-Family Residential customer accounts must pay this amount regardless of their actual monthly billed water consumption.

The new Board adopted Multi-Family Residential water rate design eliminates the monthly minimum usage allowance and the associated monthly minimum charge. It will be replaced by a new single-TIER volumetric rate structure in which customers pay a volumetric rate for all usage. Under this new rate structure, each Multi-Family Residential customer account will also pay a monthly service charge based on their water meter size. This differs from the District's traditional approach of assessing the current monthly minimum charge of \$26.70 based on the number of dwelling units associated with each Multi-Family Residential customer account. This new approach will result in the collection of water rate revenues from Multi-Family Residential customers that better correspond to the costs incurred by the District to provide them service. Table 9 summarizes the changes to the Multi-Family Residential customer rate design that will be effective in 2019.

Table 9: Summary of Multi-Family Residential Customer Rate Design Changes

Existing 2018		Adopted 2019	
Volumetric Rates for Metered Water Usage		Volumetric Rates for Metered Water Usage	
TIER 1: Minimum Charge (5,000 gallons)	\$0.00	All Consumption	\$6.15
TIER 2: 5,001 to 10,000 gallons	5.34		
TIER 3: Over 10,001 gallons	5.85		
Monthly Minimum Charge		Monthly Service Charge	
(Billed on a Per Dwelling Unit Basis)	\$26.70	(Billed on a Per Account Basis)	
		3/4"	\$19.19
		1"	25.84
		1 1/2"	30.28
		2"	79.09
		3"	150.09
		4"	229.96
		6"	451.82
		8"	718.05

Commercial Customers: Elimination of the Monthly Minimum Charge, Change to a Single TIER Rate Structure:

The District has traditionally billed Commercial customer accounts using a complex three-TIER volumetric rate structure. TIER 1 in this rate structure is a monthly minimum usage allowance and associated monthly minimum charge. The monthly minimum usage allowance and associated minimum charge increase by water meter size. For example, Commercial customers with a 1" water meter receive a monthly usage allowance of 10,000 gallons, and even if they use less than this amount, they pay a monthly minimum charge of \$48.93. In contrast, Commercial customers with a 2" water meter receive a usage allowance of 42,000 gallons and must pay a monthly minimum charge of \$191.28 even if they use less than 42,000 gallons.

The new Board adopted Commercial customer water rate design eliminates the monthly minimum charge and the associated minimum usage allowances. It will be replaced by a new single-TIER volumetric rate structure in which customers pay a volumetric rate for all water usage (including usage in TIER 1). Under this new rate structure, Commercial customers will also pay a monthly service charge based on their water meter size. Table 10 summarizes the changes to the Commercial customer rate design that will be effective in 2019.

Table 10: Summary of Commercial Customer Rate Design Changes

Existing 2018		Adopted 2019	
Volumetric Rates for Metered Water Usage		Volumetric Rates for Metered Water Usage	
TIER 1 Minimum Charge (varies by meter size)	\$0.00	All Consumption	\$4.52
TIER 2: (varies by meter size)	5.34		
TIER 3: (varies by meter size)	5.85		
Monthly Minimum Charge		Monthly Service Charge (Billed on a Per Acco	unt Basis)
3/4"	\$26.70	3/4"	\$19.19
1"	48.93	1"	25.84
1 1/2"	106.76	1 1/2"	30.28
2"	191.28	2"	79.09
3"	427.02	3"	150.09
4"	760.62	4"	229.96
6"	1,708.08	6"	451.82
8"		8"	718.05

Creation of New Irrigation-Only Customer Class:

Traditionally, the District has not had a separate customer class for outdoor irrigation-only accounts despite the high peak load demands they impose on the water utility system. Instead, these customers have been billed at Residential, Multi-Family Residential, and Commercial customer rates that do not recover adequate revenues to recover the costs incurred by the District to provide them with water service. To rectify this inequity, the Board has authorized the creation of a new Irrigation-Only customer class. Customers in this class will be billed using a single-TIER volumetric rate structure and a monthly service charge based on meter size. Table 11 shows the 2019 rates for the new Irrigation-Only customer class.

Table 11: Summary of New Irrigation-Only Customer Class Rate Design

Existing 2018	Adopted 2	019
Dependent on the customer class to which the irrigation-only	Volumetric Rates for Metered Water	er Usage
customer was assigned (Residential, Multi-Family	All Consumption	\$7.04
Residential, or Commercial)		
	Monthly Service Charge (Billed on	a Per Account Basis)
	3/4"	\$19.19
	1"	25.84
	1 1/2"	30.28
	2"	79.09
	3"	150.09
	4"	229.96
	6"	451.82
	8"	718.05

PROJECTION OF WATER RATES

Table 12 shows the projection of water rates through the 2028 planning horizon.

Table 12: Projection of Water Utility Rates

			Mor	nthly Serv	ice Charg	je				
Meter Size	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
3/4"	\$19.19	\$20.53	\$22.38	\$24.40	\$26.59	\$28.98	\$31.59	\$34.12	\$35.83	\$37.62
1"	25.84	27.65	30.14	32.85	35.81	39.03	42.54	45.94	48.24	50.65
1.5"	30.28	32.40	35.32	38.49	41.96	45.73	49.85	53.84	56.53	59.36
2"	79.09	84.63	92.24	100.54	109.59	119.46	130.21	140.62	147.66	155.04
3"	150.09	160.60	175.05	190.80	207.98	226.69	247.10	266.87	280.21	294.22
4"	229.96	246.06	268.20	292.34	318.65	347.33	378.59	408.88	429.32	450.79
6"	451.82	483.45	526.96	574.38	626.08	682.43	743.84	803.35	843.52	885.69
8"	718.05	768.31	837.46	912.83	994.99	1,084.54	1,182.15	1,276.72	1,340.55	1,407.58
Fire Line Charges										
4"	28.74	30.75	33.52	36.54	39.82	43.41	47.32	51.10	53.66	56.34
6"	83.49	89.33	97.37	106.14	115.69	126.10	137.45	148.45	155.87	163.66
8"	177.91	190.36	207.50	226.17	246.53	268.71	292.90	316.33	332.15	348.75
			Vol	umetric R	ate (\$/kga	d)				
Customer Class	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Single Family Residential										
1-5,000 gal	\$2.12	\$2.27	\$2.47	\$2.70	\$2.94	\$3.20	\$3.49	\$3.77	\$3.96	\$4.16
5,000-16,000 gal	5.81	6.22	6.78	7.39	8.05	8.78	9.57	10.33	10.85	11.39
17,000-27,000 gal	8.08	8.65	9.42	10.27	11.20	12.20	13.30	14.37	15.08	15.84
28,000 to 38,000 gal	9.85	10.54	11.49	12.52	13.65	14.88	16.22	17.51	18.39	19.31
Over 38,001 gal	11.26	12.05	13.13	14.31	15.60	17.01	18.54	20.02	21.02	22.07
Multi Family Residential										
(All Consumption)	\$6.15	\$6.58	\$7.17	\$7.82	\$8.52	\$9.29	\$10.12	\$10.93	\$11.48	\$12.06
(7 th Concernption)	ψ3.10	Ψ5.00	Ψι.ιι	ψ1.02	Ψ3.02	Ψ0.20	Ψ10.12	ψ.0.00	ψ.1.40	ψ.2.00
Commercial										
(All Consumption)	\$4.52	\$4.84	\$5.27	\$5.75	\$6.26	\$6.83	\$7.44	\$8.04	\$8.44	\$8.86
Irrigation Only	^- • ·	^-		^	^	A		^ =-		
(All Consumption)	\$7.04	\$7.53	\$8.21	\$8.95	\$9.76	\$10.63	\$11.59	\$12.52	\$13.14	\$13.80

RATE DESIGN - RESIDENTIAL CUSTOMER BILL IMPACTS

The District's decision to eliminate the monthly minimum charge will have a beneficial impact on the water bills of low consumption customers who use less 5,000 gallons. Correspondingly, the bills of higher consumption customers will increase. Table 13 summarizes the estimated combined water and wastewater bill impacts for Residential customers at various levels of monthly water consumption.

Table 13: Estimated 2019 Residential Customer Bill Impacts

Monthly Usage	Bills Unde	r 2019 Adopted Board I	Rate Design	Compared to 2019 E in Water Ra	
(kgal)	Water Bill	Wastewater Bill	Total Bill	Dollar Difference	% Difference
0	\$19.19	\$29.38	\$48.57	(\$8.55)	-15.0%
1	21.31	29.38	50.69	(6.43)	-11.3%
2	23.43	29.38	52.81	(4.31)	-7.5%
3	25.55	29.38	54.93	(2.19)	-3.8%
4	27.67	29.38	57.05	(0.07)	-0.1%
5	29.79	29.38	59.17	2.05	3.6%
6	35.60	29.38	64.98	2.31	3.7%
7	41.41	29.38	70.79	2.57	3.8%
8	47.22	29.38	76.60	2.83	3.8%
9	53.03	29.38	82.41	3.10	3.9%
10	58.84	29.38	88.22	3.36	4.0%
11	64.65	29.38	94.03	3.62	4.0%
12	70.46	29.38	99.84	3.88	4.0%
13	76.27	29.38	105.65	4.14	4.1%
14	82.08	29.38	111.46	4.40	4.1%
15	87.89	29.38	117.27	4.67	4.1%
16	93.70	29.38	123.08	4.93	4.2%
17	101.78	29.38	131.16	6.93	5.6%
18	109.86	29.38	139.24	8.93	6.9%
19	117.94	29.38	147.32	10.93	8.0%
20	126.02	29.38	155.40	12.94	9.1%
21	134.10	29.38	163.48	14.94	10.1%
22	142.18	29.38	171.56	16.94	11.0%
23	150.26	29.38	179.64	18.94	11.8%
24	158.34	29.38	187.72	20.94	12.6%
25	166.42	29.38	195.80	22.94	13.3%
26	174.50	29.38	203.88	24.95	13.9%
27	182.58	29.38	211.96	26.95	14.6%
28	192.43	29.38	221.81	30.20	15.8%
29	202.28	29.38	231.66	33.45	16.9%
30	212.13	29.38	241.51	36.71	17.9%
31	221.98	29.38	251.36	39.96	18.9%
32	231.83	29.38	261.21	43.21	19.8%
33	241.68	29.38	271.06	46.46	20.7%
34	251.53	29.38	280.91	49.71	21.5%
35	261.38	29.38	290.76	52.97	22.3%
36	271.23	29.38	300.61	56.22	23.0%
37	281.08	29.38	310.46	59.47	23.7%
38	290.93	29.38	320.31	62.72	24.4%
39	302.19	29.38	331.57	66.86	25.3%
40	313.45	29.38	342.83	70.99	26.1%
41	324.71	29.38	354.09	75.12	26.9%
42	335.97	29.38	365.35	79.25	27.7%
43	347.23	29.38	376.61	83.39	28.4%
44	358.49	29.38	387.87	87.52	29.1%

Water Utility System Development Charges

System development charges (SDCs) are designed to help recover the cost of growth-related infrastructure required to meet the demands of new customers. The District currently charges an SDC of \$2,500 for new 3/4" connections to its water system. The SDC is intended to help recover a portion of the cost of growth rate infrastructure required to serve new customers. Beginning in 2019, the District will increase the SDC for a 3/4" water system connection to \$4,500. Table 14 shows the calculation of the updated 2019 SDC and the assessment schedule for customers with larger water meters that was also adopted by the Board.

Table 14: Water System Development Charges

	Water System Development Charge Calculation									
Original Cost	Accumulated Depreciation	Net Book Value	Replacement Cost New	Adjusted Depreciation	Replacement Cost New Less Depreciation					
\$20,920,227	\$12,499,094	\$8,421,133	\$48,169,910	\$33,703,127	\$14,466,783					
Equivalent 3/4" Connections on System Cost per 3/4" Connection (RCNLD / Equivalent 3/4" Connections) Current 3/4" System Development Charge Difference \$2,50										

	Water System Development Charge Assessment Schedule									
Water Meter Size	Flow Max Consistent	Flow Equivalency	Proposed Water SDC	Current Water SDC	Difference					
3/4"	25	1.00	\$3,312	\$2,500	\$812					
1"	40	1.60	5,300	5,000	300					
1 1/2"	50	2.00	6,625	10,000	(3,375)					
2"	160	6.40	21,199	20,000	1,199					
3"	320	12.80	42,397	45,000	(2,603)					
4"	500	20.00	66,246	90,000	(23,754)					
6"	1000	40.00	132,492	235,000	(102,508)					
8"	1600	64.00	211,987	500,000	(288,013)					

Wastewater Utility Rate Study

Wastewater Utility Profile

The District purchases wholesale wastewater treatment services from the South Platte Water Renewal Partners formerly known as the Englewood-Littleton Wastewater Treatment Plant). These wholesale wastewater treatment costs, and the other costs incurred by the District to provide wastewater service, are then recovered from customers using the exact same rate structure used by the South Platte Water Renewal Partners. This rate structure consists of a monthly fixed charge for Residential customers and those Commercial customers whose metered wastewater discharges fall below a minimum allowance. Commercial customers whose wastewater discharges fall above the minimum allowance are billed using a volumetric rate per thousand gallons. Because the District recovers costs from customers using a rate structure identical to its wholesale wastewater treatment provider, Raftelis did not conduct a wastewater cost of service study or modify the District's existing wholesale rate structure. Table 15 provides a profile of the District's water utility customer billed consumption and revenue based actual 2017 results.

Table 15: Wastewater Service Customer Metrics

Customer Type	Customer Accounts	Billed Consumption (Kgal)	Monthly Charge Revenue	Volumetric Revenue	Total Revenue
Residential	3,986	0	\$1,364,169	\$0	\$1,364,169
Multi-Family Residential (Dwelling Units)	1,204	0	412,057	0	412,057
Commercial Within Minimum	86	0	29,433	0	29,433
Commercial Above Minimum	81	73,926	0	277,223	277,223
Total	5,357	73,926	1,805,658	277,223	2,082,881

Wastewater Utility Financial Plan

KEY ASSUMPTIONS USED IN THE WASTEWATER FINANCIAL PLAN

The key assumptions made by Raftelis in the preparation of the District's wastewater utility financial plan is that wastewater treatment costs (i.e., the South Platte Water Renewal Partners) will increase at a rate of 2.0% annually. Similarly, annual construction cost inflation associated with the District's capital improvement program was also assumed to increase at 3.0% annually. All operating expenses, with the exception of personnel costs, were projected to increase at a rate of 3.0% annually. Personnel costs were projected to increase at a rate of 4.0% annually.

WASTEWATER UTILITY FINANCIAL PLAN RESULTS

Table 16 summarizes the District's water utility financial plan prepared by Raftelis and presented to the District Board. Appendix D to this report provides a detail of the wastewater utility financial plan.

Table 16: Wastewater Utility Financial Plan (\$ Thousands)

Metric	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Annual % Rate	3.90%	3.00%	3.00%	5.00%	6.00%	6.00%	7.00%	7.00%	3.00%	3.00%
Revenue Increase	3.90 /6	3.00 /6	3.00 /6	3.00 /6	0.00 /6	0.00 /6	7.00%	7.0076	3.00 /6	3.00 /6
Revenues										
Rate Revenues	\$2,084.2	\$2,136.7	\$2,211.9	\$2,278.6	\$2,393.0	\$2,537.0	\$2,689.6	\$2,878.4	\$3,080.4	\$3,173.3
Miscellaneous Revenue	<u>\$47.5</u>	<u>\$49.2</u>	<u>\$51.5</u>	<u>\$49.5</u>	<u>\$38.7</u>	<u>\$29.4</u>	<u>\$22.7</u>	<u>\$23.4</u>	<u>\$32.2</u>	<u>\$36.5</u>
Total Revenues	\$2,184.2	\$2,261.2	\$2,330.2	\$2,442.4	\$2,575.6	\$2,719.0	\$2,901.1	\$3,103.8	\$3,205.5	\$3,305.5
Operating Expenses										
Treatment	1,235.6	1,260.3	1,285.5	1,311.2	1,337.4	1,364.2	1,391.5	1,419.3	1,447.7	1,476.6
Maintenance	168.1	173.2	178.4	183.7	189.2	194.9	200.8	206.8	213.0	219.4
Administrative	305.6	314.8	324.2	334.0	344.0	354.3	364.9	375.9	387.1	296.7
Contingency	<u>59.5</u>	<u>61.3</u>	<u>63.1</u>	<u>65.0</u>	<u>66.9</u>	<u>69.0</u>	<u>71.0</u>	<u>73.2</u>	<u>75.4</u>	<u>77.6</u>
Total	1,759.9	1,800.4	1,841.8	1,884.2	1,927.6	1,972.0	2,017.6	2,064.2	2,111.9	2,160.8
Capital Improvements										
Administration	57.6	48.0	70.4	0.0	6.4	28.8	6.4	0.0	0.0	28.8
Lift Stations	210.0	30.0	40.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0
Meters	9.0	106.5	136.5	144.0	126.0	0.0	129.0	0.0	0.0	0.0
Collection	0.0	110.0	0.0	0.0	0.0	480.0	1,840.0	0.0	0.0	1,390.0
Interceptor	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>1,040.0</u>	<u>2,000.0</u>	<u>580.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Total	276.6	294.5	246.9	1214.0	2132.4	1088.8	1975.4	0.0	0.0	1418.8
Annual Results										
Total Expenditures	<u>2,036.5</u>	2,094.9	2,088.7	3,098.2	4,060.0	3,060.8	3,993.0	2,064.2	<u>2,111.9</u>	3,579.6
Net Operating Surplus/(Deficit)	147.7	166.3	241.5	-655.7	-1,484.4	-341.8	-1,091.9	1,039.6	1,093.6	-274.1
Cash Reserves										
Beginning Cash	3,829.9	3,977.6	4,143.8	4,385.3	3,729.6	2,245.2	1,903.4	811.5	1,851.1	2,944.7
Ending Cash	\$3,977.6	\$4,143.8	\$4,385.3	\$3,729.6	\$2,245.2	\$1,903.4	\$811.5	\$1,851.1	\$2,944.7	\$2,670.6

WASTEWATER UTILITY REVENUE REQUIREMENT FROM RATES

As noted above, the financial planning process determines the amount of wastewater rate revenues that must be recovered from customers. This amount, referred to as the revenue requirement from rates, is the level of rate revenues necessary to pay for utility operating and capital costs. An alternative presentation of the determination of this amount for 2019 is shown in Table 17.

Table 17: 2019 Wastewater Utility Revenue Requirement from Rates

ltem	2019
Operating Expenses	
Wastewater Treatment	\$1,235,581
Operations & Maintenance	168,140
Administrative	296,718
Reserve for Replacement Capital	<u>59,483</u>
Total Operating Expense	1,759,922
Capital Improvements	
Administration	57,615
Lift Station	210,000
Meters	9,000
Collection	0
Interceptor	<u>0</u>
Total Capital Improvements	276,615
Total Expenditures	2,036,537
Add: Net Operating Surplus/(Deficit)	147,663
Gross Revenue Requirement from Rates	2,184,201
Less: Non-Rate Revenues	
System Development Charges	600
Other	18,540
Interest Income	<u>28,354</u>
Total Non-Rate Revenues	47,494
Net Revenue Requirement from Rates	\$2,136,707

PROJECTION OF WASTEWATER RATES

Raftelis did not conduct a wastewater cost of service study as the District's wastewater rates are exactly the same as those charged by the South Platte Water Renewal Partners (formerly known as the Littleton/Englewood Wastewater Treatment Plant). Table 18 shows a projection of District's wastewater rates through the 2028 planning horizon based on the required rate revenue increases developed as part of the wastewater utility financial planning process.

Table 18: Projection of Wastewater Rates

Monthly Minimum Charge											
Meter Size	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Residential	\$28.52	\$29.38	\$30.26	\$31.16	\$32.72	\$34.69	\$36.77	\$39.34	\$42.09	\$43.36	\$44.66
MF Residential (per Unit)	28.52	29.38	30.26	31.16	32.72	34.69	36.77	39.34	42.09	43.36	44.66
Commercial	28.52	29.38	30.26	31.16	32.72	34.69	36.77	39.34	42.09	43.36	44.66
			Vol	lume Rate	(\$/kgal)						
Customer Class	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Residential	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MF Residential (per Unit)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial - Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial - Above Min.	3.75	3.86	3.98	4.10	4.30	4.56	4.83	5.17	5.53	5.70	5.87

Wastewater Utility System Development Charges
Table 19 shows the calculation of the updated 2019 SDC and the assessment schedule for customers with larger water meters that was also adopted by the Board.

Table 19: Wastewater System Development Charges

Wastewater System Development Charge Calculation									
Original Cost	Accumulated Depreciation	Net Book Value	Replacement Cost New	Adjusted Depreciation	Replacement Cost New Less Depreciation				
\$17,838,831	\$9,404,758	\$8,434,073	\$38,931,727	\$25,852,592	\$13,079,134				
Equivalent 3/4" Connections on System Less: White Deer Subdivision Equivalent 3/4" Connections on System (Net of White Deer) 4,368 127 Equivalent 3/4" Connections on System (Net of White Deer)									
Cost per 3/4" Connection (RCNLD / Equivalent 3/4" Connections) 3,084									
Current 3/4" System Development Charge Difference \$2									

	Wastewater System Development Charge Assessment Schedule									
Water Meter Size	Flow Max Consistent	Flow Equivalency	Proposed WW SDC	Current WW SDC	Difference					
3/4"	25	1.00	\$3,084	\$600	\$2,484					
1"	40	1.60	4,935	1,200	3,735					
1 1/2"	50	2.00	6,169	2,400	3,769					
2"	160	6.40	19,739	4,800	14,939					
3"	320	12.80	39,479	10,800	28,679					
4"	500	20.00	61,685	21,600	40,085					
6"	1000	40.00	123,371	56,400	66,971					
8"	1600	64.00	197,393	120,000	77,393					

Ken-Caryl Ranch Water & Sanitation District 2018 Rate Study

Appendix A
Water Utility Financial Plan

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Master Control

Proposed Rate Revenue Increases	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Water Annual Rate Increases	0.0%	3.9%	7.0%	9.0%	9.0%	9.0%	9.0%	9.0%	8.0%	5.0%	5.0%
Months Effective	12	10	12	12	12	12	12	12	12	12	12
Actual % Increase	0.0%	3.3%	7.0%	9.0%	9.0%	9.0%	9.0%	9.0%	8.0%	5.0%	5.0%
Cumulative Increases	0.0%	3.9%	11.2%	21.2%	32.1%	44.0%	56.9%	71.1%	84.7%	94.0%	103.7%
Operating Performance											
Rate Revenues	4,423,379	4,567,891	4,919,224	5,362,838	5,846,457	6,373,688	6,948,464	7,575,073	8,182,426	8,592,962	9,024,095
Other Revenues	105,720	104,110	98,289	84,669	73,741	75,843	85,736	93,194	91,114	85,322	84,113
Total Revenues	4,529,098	4,672,001	5,017,513	5,447,507	5,920,198	6,449,530	7,034,200	7,668,267	8,273,540	8,678,284	9,108,209
Operating Expenses	4,299,957	4,428,956	4,561,824	4,698,679	4,839,640	4,984,829	5,134,374	5,288,405	5,447,057	5,610,469	5,778,783
CIP Expenditures	392,782	633,385	1,365,487	2,703,081	1,456,000	817,598	721,192	2,224,598	3,560,000	3,660,000	3,151,192
Debt Service	0	0	0	0	0	0	0	0	0	0	0
Total Expenditures	4,692,739	5,062,341	5,927,312	7,401,761	6,295,640	5,802,427	5,855,566	7,513,003	9,007,057	9,270,469	8,929,975
Operating Surplus / (Deficit)	(163,641)	(390,340)	(909,799)	(1,954,254)	(375,441)	647,103	1,178,634	155,264	(733,516)	(592,185)	178,234
check	0	0	0	0	0	0	0	0	0	0	0
Cash Balances											
Ending Cash Reserves	8,090,138	7,699,798	6,789,999	4,835,745	4,460,304	5,107,407	6,286,041	6,441,305	5,707,789	5,115,604	5,293,838
Target Cash Reserves	1,033,352	1,420,903	2,111,845	1,511,113	1,215,406	1,191,401	1,968,028	2,661,401	2,737,843	2,510,674	2,538,727
Variance from Target	7,056,786	6,278,895	4,678,154	3,324,632	3,244,898	3,916,006	4,318,013	3,779,905	2,969,946	2,604,930	2,755,111
Revenue Bond Inputs											
Amount of Issue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Term	20	20	20	20	20	20	20	20	20	20	20
Interest Rate	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Issue Expense	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
State Revolving Loan Inputs											
Amount of Issue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Term	20	20	20	20	20	20	20	20	20	20	20
Interest Rate	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Issue Expense	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Existing Rates

Volumetric Rates		2018
Single Family Residential - 3/4"	Minimum Charge (5,000 gal)	\$0.00
	5,001 to 16,000 gal	5.34
	16,001 to 27,000 gal	5.85
	27,001 to 38,000 gal	6.35
	Over 38,001 gal	6.86
Single Family Residential - 1"	Minimum Charge (5,000 gal)	\$0.00
	5,001 to 16,000 gal	5.34
	16,001 to 27,000 gal	5.85
	27,001 to 38,000 gal	6.35
	Over 38,001 gal	6.86
Multi-Family Residential	Minimum Charge (5,000 gal)	0.00
	5,001 to 10,000 gal	5.34
	Over 10,001 gal	5.85
Commercial - 3/4"	Minimum Charge (5,000 gal)	0.00
	5,001 to 22,000 gal	5.34
	Over 22,001 gal	5.85
Commercial - 1"	Minimum Charge (10,000 gal)	0.00
	10,001 to 41,000 gal	5.34
	Over 41,001 gal	5.85
Commercial - 1.5"	Minimum Charge (23,000 gal)	0.00
	23,001 to 94,000 gal	5.34
	Over 94,001 gal	5.85
Commercial - 2"	Minimum Charge (42,000 gal)	0.00
	42,001 to 169,000 gal	5.34
	Over 169,001 gal	5.85
Commercial - 3"	Minimum Charge (95,000 gal)	0.00
	95,001 to 382,000 gal	5.34
	Over 382,001 gal	5.85
Commercial - 4"	Minimum Charge (170,000 gal)	0.00
	170,001 to 681,000 gal	5.34
	Over 681,001 gal	5.85
Commercial - 6"	Minimum Charge (383,000 gal)	0.00
	383,001 to 1,534,000 gal	5.34
	Over 1,534,001 gal	5.85
Commercial - 8"	Minimum Charge (682,000 gal)	0.00
	682,001 to 2,729,000 gal	5.34
	Over 2,729,001 gal	5.85

Monthly Minium Charge	2018
Single Family Residential - 3/4"	\$26.70
Single Family Residential - 1"	26.70
Multi-Family Residential	26.70
Commercial - 3/4"	26.70
Commercial - 1"	48.93
Commercial - 1 1/2"	106.76
Commercial - 2"	191.28
Commercial - 3"	427.02
Commercial - 4"	760.62
Commercial - 6"	1,708.08
Commercial - 8"	

Monthly Private Fire Lines	2018
4" or less	\$26.70
6"	47.25
8"	83.30

System Development Charges	2018
Single Family Residential - 3/4"	\$2,500
Single Family - 1"	5,000
Multi-Family Residential (Per Unit)	2,500
Commercial - 3/4"	2,500
Commercial - 1"	5,000
Commercial - 1 1/2"	10,000
Commercial - 2"	20,000
Commercial - 3"	45,000
Commercial - 4"	90,000
Commercial - 6"	235,000
Commercial - 8"	500,000

Projected Average Consumption per Account per Bill (k															
	Actual	Actual	Actual												Test Year
Customer Class	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
	Input for Change	in Average Con	sumpton Per Acc	count per Bill >	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
Single Family Residential (3/4" & 1")	9.46	11.18	10.20	10.20	10.20	10.20	10.20	10.20	10.20	10.20	10.20	10.20	10.20	10.20	10
Multi-Family Residential (per Unit)	2.26	2.68	2.54	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57	3
Commercial - 3/4"	16.76	18.14	14.39	14.39	14.39	14.39	14.39	14.39	14.39	14.39	14.39	14.39	14.39	14.39	14
Commercial - 1"	39.63	44.11	37.77	37.77	37.77	37.77	37.77	37.77	37.77	37.77	37.77	37.77	37.77	37.77	38
Commercial - 1 1/2"	158.21	166.39	87.87	87.87	87.87	87.87	87.87	87.87	87.87	87.87	87.87	87.87	87.87	87.87	88
Commercial - 2"	390.04	390.07	85.93	85.93	85.93	85.93	85.93	85.93	85.93	85.93	85.93	85.93	85.93	85.93	86
Commercial - 3"	350.96	551.50	785.56	785.56	785.56	785.56	785.56	785.56	785.56	785.56	785.56	785.56	785.56	785.56	786
Commercial - 4"				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Commercial - 6"	0.00	108.00	1,513.25	1,513.25	1,513.25	1,513.25	1,513.25	1,513.25	1,513.25	1,513.25	1,513.25	1,513.25	1,513.25	1,513.25	1,513
Commercial - 8"				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Multi-Family - Irrigation	0.00	0.00	20.67	20.67	20.67	20.67	20.67	20.67	20.67	20.67	20.67	20.67	20.67	20.67	21
Commercial - Irrigation - 3/4"			9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	9.52	10
Commercial - Irrigation - 1"			31.13	31.13	31.13	31.13	31.13	31.13	31.13	31.13	31.13	31.13	31.13	31.13	31
Commercial - Irrigation - 1 1/2"			127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127
Commercial - Irrigation - 2"			261.58	261.58	261.58	261.58	261.58	261.58	261.58	261.58	261.58	261.58	261.58	261.58	262
Commercial - Irrigation - 3"															
Commercial - Irrigation - 4"															
Commercial - Irrigation - 6"															
Commercial - Irrigation - 8"															

Projected Aggregate Billed Consumption (Kgal)																
	Actual	Actual	Actual												Test Year	
Customer Class	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019	check
Single Family Residential (3/4" & 1")	371,112	444,599	415,591	415,713	415,836	415,958	416,081	416,203	416,325	416,448	416,570	416,692	416,815	416,937	415,836	0
Multi-Family Residential (per Unit)	33,404	39,592	37,470	37,904	37,904	37,904	37,904	37,904	37,904	37,904	37,904	37,904	37,904	37,904	37,904	0
Commercial - 3/4"	10,458	11,752	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	0
Commercial - 1"	27,107	32,285	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	0
Commercial - 1 1/2"	62,652	65,891	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	0
Commercial - 2"	46,805	60,851	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	0
Commercial - 3"	8,423	19,854	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	0
Commercial - 4"				0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial - 6"	0	1,296	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	0
Commercial - 8"				0	0	0	0	0	0	0	0	0	0	0	0	0
Multi-Family - Irrigation			496	496	496	496	496	496	496	496	496	496	496	496	496	0
Commercial - Irrigation - 3/4"			1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	0
Commercial - Irrigation - 1"			2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	0
Commercial - Irrigation - 1 1/2"			18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	0
Commercial - Irrigation - 2"			37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	0
Commercial - Irrigation - 3"																0
Commercial - Irrigation - 4"																0
Commercial - Irrigation - 6"																0
Commercial - Irrigation - 8"																0
Total	559,961	676,120	677,921	678,478	678,600	678,722	678,845	678,967	679,090	679,212	679,334	679,457	679,579	679,702	678,600	0

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Historical Billed Consumption

																Ratio MM
Residential	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total		Max Month	to AM
2015				15,629	17,689	23,849	42,010	67,628	62,165	59,130	23,131	14,682	325,913	36,213	67,628	1.8
2016	16,395	13,397	15,407	19,439	17,624	48,805	65,115	84,681	62,239	53,960	28,438	19,099	444,599	37,050	84,681	2.2
2017	16,281	13,088	14,590	22,002	25,809	65,020	80,555	63,890	63,024	21,538	14,891	14,903	415,591	34,633	80,555	2.3
Total	32,676	26,485	29,997	57,070	61,122	137,674	187,680	216,199	187,428	134,628	66,460	48,684	1,186,103	98,842	216,199	2.1
Average Use/Month	16,338	13,243	14,999	19,023	20,374	45,891	62,560	72,066	62,476	44,876	22,153	16,228	395,368			
Number of Accounts	3,396	3,396	3,396	3,396	3,396	3,396	3,396	3,396	3,396	3,396	3,396	3,396	3,396			
Use Per Account	4.8	3.9	4.4	5.6	6.0	13.5	18.4	21.2	18.4	13.2	6.5	4.8	116.4			
AWC	5.0															
																D :: 1414
Multi-Family	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Avg Month	Max Month	Ratio MM to AM
2015				346	2,708	1,605	3,797	5,176	4,192	4,540	2,881	1,264	26,509	2,945	5,176	1.7
2016	2,921	1,207	2,767	1,375	2,547	4,500	4,112	7,570	4,328	4,188	2,650	1,427	39,592	3,299	7,570	2.2
2017	2,215	1,854	1,961	2,542	3,037	4,888	5,466	4,936	4,808	2,432	1,966	1,861	37,966	3,164	5,466	1.7
Total	5,136	3,061	4,728	4,263	8,292	10,993	13,375	17,682	13,328	11,160	7,497	4,552	104,067			
Average Use/Month	2,568	1,531	2,364	1,421	2,764	3,664	4,458	5,894	4,443	3,720	2,499	1,517	34,689			
Number of Accounts	1,230	1,230	1,230	1,230	1,230	1,230	1,230	1,230	1,230	1,230	1,230	1,230	1,230			
Use Per Account	2.1	1.2	1.9	1.2	2.2	3.0	3.6	4.8	3.6	3.0	2.0	1.2	28.2			
AWC	1.6															
																Ratio MM
Commercial	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Avg Month	Max Month	to AM
2015				9,533	6	23,118	10	54,161	47	48,986	13	9,859	145,733	16,193	54,161	3.3
2016	4,838	4,838	5,307	5,307	20,344	20,344	35,204	35,204	23,631	23,631	6,643	6,643	191,929	15,994	35,204	2.2
2017	6,322	5,312	6,215	12,778	17,743	35,516	43,967	39,925	33,344	12,188	5,796	5,258	224,364	18,697	43,967	2.3
Total	11,160	10,150	11,522	27,618	38,093	78,978	79,181	129,290	57,022	84,805	12,452	21,760	562,026	,	,	
Avorago Uso/Month	E E90	E 07E	E 761	0.206	12 600	26 226	26 204	42.007	10.007	20 260	A 1E1	7 252	107 2/12			

2017	6,322	5,312	6,215	12,778	17,743	35,516	43,967	39,925	33,344	12,188	5,796	5,258	224,364	18,697	43,967	2.35
Total	11,160	10,150	11,522	27,618	38,093	78,978	79,181	129,290	57,022	84,805	12,452	21,760	562,026			
Average Use/Month	5,580	5,075	5,761	9,206	12,698	26,326	26,394	43,097	19,007	28,268	4,151	7,253	187,342			
Number of Accounts	201	201	201	201	201	201	201	201	201	201	201	201	201			
Use Per Account	27.8	25.2	28.7	45.8	63.2	131.0	131.3	214.4	94.6	140.6	20.6	36.1	932.0			
AWC	27.4															
																Ratio MM
Total System	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Avg Month	Max Month	to AM

																Ratio MM
Total System	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Avg Month	Max Month	to AM
2015	23,067	27,157	19,903	25,508	20,403	48,572	45,817	126,965	66,404	112,656	26,025	25,805	568,282	47,357	126,965	2.68
2016	24,154	19,442	23,481	26,121	40,515	73,649	104,431	127,455	90,198	81,779	37,731	27,169	676,120	56,343	127,455	2.26
2017	24,818	20,254	22,766	37,322	46,589	105,424	129,988	108,751	101,176	36,158	22,653	22,022	677,921	56,493	129,988	2.30
Total	72,039	66,853	66,150	88,951	107,507	227,645	280,236	363,171	257,778	230,593	86,409	74,996	1,922,323			
Average Use/Month	24,013	22,284	22,050	29,650	35,836	75,882	93,412	121,057	85,926	76,864	28,803	24,999	640,774			
Number of Accounts	4 869	1 869	1 869	4 869	1 869	1 869	1 869	1 869	1 860	1 869	4 869	1 869	1 869	Not Units		

4,869 Not Units Number of Accounts 4,869 4,869 4,869 4,869 4,869 4,869 4,869 4,869 4,869 4,869 4,869 4.9 4.5 Use Per Account 4.6 6.1 7.4 15.6 19.2 24.9 17.6 15.8 5.9 5.1 131.6 AWC 5.1

Projected Billed Consumption By TIER (Kgal)															
		Consumption	Actual												Test Year
Customer Class	TIER	by TIER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Single Family Residential (3/4" & 1")	Minimum Charge (5,000 gal)	41.2%	171,223	171,274	171,324	171,375	171,425	171,476	171,526	171,576	171,627	171,677	171,728	171,778	171,32
	5,001 to 16,000 gal	35.1%	145,872	145,915	145,958	146,001	146,044	146,087	146,130	146,173	146,216	146,259	146,302	146,345	145,95
	16,001 to 27,000 gal	13.1%	54,442	54,458	54,474	54,491	54,507	54,523	54,539	54,555	54,571	54,587	54,603	54,619	54,47
	27,001 to 38,000 gal	5.3%	22,026	22,033	22,039	22,046	22,052	22,059	22,065	22,072	22,078	22,085	22,091	22,098	22,03
	Over 38,001 gal	5.3%	22,026	22,033	22,039	22,046	22,052	22,059	22,065	22,072	22,078	22,085	22,091	22,098	22,03
	Total	100.0%	415,591	415,713	415,836	415,958	416,081	416,203	416,325	416,448	416,570	416,692	416,815	416,937	415,83
Multi Family Residential (Units)	Minimum Charge (5,000 gal)	30.1%	11,278	11,409	11,409	11,409	11,409	11,409	11,409	11,409	11,409	11,409	11,409	11,409	11,40
	5,001 to 10,000 gal	11.5%	4,309	4,359	4,359	4,359	4,359	4,359	4,359	4,359	4,359	4,359	4,359	4,359	4,35
	Over 10,001 gal	58.4%	21,882	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,13
	Total	100.0%	37,470	37,904	37,904	37,904	37,904	37,904	37,904	37,904	37,904	37,904	37,904	37,904	37,90
Commercial - 3/4"	Minimum Charge (5,000 gal)	21.2%	1,977	1,977	1,977	1,977	1,977	1,977	1,977	1,977	1,977	1,977	1,977	1,977	1,97
	5,001 to 22,000 gal	32.5%	3,031	3,031	3,031	3,031	3,031	3,031	3,031	3,031	3,031	3,031	3,031	3,031	3,03
	Over 22,001 gal	46.3%	4,318	4,318	4,318	4,318	4,318	4,318	4,318	4,318	4,318	4,318	4,318	4,318	4,31
	Total	100.0%	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,327	9,32
Commercial - 1"	Minimum Charge (10,000 gal)	17.2%	5,301	5,301	5,301	5,301	5,301	5,301	5,301	5,301	5,301	5,301	5,301	5,301	5,30
	10,001 to 41,000 gal	30.7%	9,461	9,461	9,461	9,461	9,461	9,461	9,461	9,461	9,461	9,461	9,461	9,461	9,46
	Over 41,001 gal	52.1%	16,056	16,056	16,056	16,056	16,056	16,056	16,056	16,056	16,056	16,056	16,056	16,056	16,05
	Total	100.0%	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,817	30,81
Commercial - 1.5"	Minimum Charge (23,000 gal)	15.6%	7,731	7,731	7,731	7,731	7,731	7,731	7,731	7,731	7,731	7,731	7,731	7,731	7,73
	23,001 to 94,000 gal	28.1%	13,926	13,926	13,926	13,926	13,926	13,926	13,926	13,926	13,926	13,926	13,926	13,926	13,92
	Over 94,001 gal	56.3%	27,901	27,901	27,901	27,901	27,901	27,901	27,901	27,901	27,901	27,901	27,901	27,901	27,90
	Total	100.0%	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,558	49,55
Commercial - 2"	Minimum Charge (42,000 gal)	22.7%	6,554	6,554	6,554	6,554	6,554	6,554	6,554	6,554	6,554	6,554	6,554	6,554	6,554
	42,001 to 169,000 gal	38.8%	11,203	11,203	11,203	11,203	11,203	11,203	11,203	11,203	11,203	11,203	11,203	11,203	11,20
	Over 169,001 gal	38.5%	11,116	11,116	11,116	11,116	11,116	11,116	11,116	11,116	11,116	11,116	11,116	11,116	11,11
	Total	100.0%	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,873	28,87
Commercial - 3"	Minimum Charge (95,000 gal)	11.8%	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,350	3,35
	95,001 to 382,000 gal	22.7%	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,415	6,41
	Over 382,001 gal	65.5%	18,515	18,515	18,515	18,515	18,515	18,515	18,515	18,515	18,515	18,515	18,515	18,515	18,51
	Total	100.0%	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,280	28,28
Commercial - 4"	Minimum Charge (170,000 gal)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	170,001 to 681,000 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 681,001 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	(
Commercial - 6"	Minimum Charge (383,000 gal)	25.3%	4,596	4,596	4,596	4,596	4,596	4,596	4,596	4,596	4,596	4,596	4,596	4,596	4,59
	383,001 to 1,534,000 gal	50.6%	9,192	9,192	9,192	9,192	9,192	9,192	9,192	9,192	9,192	9,192	9,192	9,192	9,19
	Over 1,534,001 gal	24.1%	4,371	4,371	4,371	4,371	4,371	4,371	4,371	4,371	4,371	4,371	4,371	4,371	4,37
	Total	100.0%	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,159	18,15
Commercial - 8"	Minimum Charge (682,000 gal)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	682,001 to 2,729,000 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 2,729,001 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	-
Multi Family - Irrigation	Minimum Charge (5,000 gal)	10.1%	50	50	50	50	50	50	50	50	50	50	50	50	5
maid rammy linguion	5,001 to 10,000 gal	9.1%	45	45	45	45	45	45	45	45	45	45	45	45	4
	Over 10,001 gal	80.8%	401	401	401	401	401	401	401	401	401	401	401	401	40
	Total	100.0%	496	496	496	496	496	496	496	496	496	496	496	496	40
	Total	100.0%	430	430	450	430	430	430	490	430	430	430	430	430	49

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Projected Billed Consumption

		Consumption	Actual												Test Yea
Customer Class	TIER	by TIER	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
ommercial - Irrigation - 3/4"	Minimum Charge (5,000 gal)	11.8%	135	135	135	135	135	135	135	135	135	135	135	135	
	5,001 to 22,000 gal	32.5%	371	371	371	371	371	371	371	371	371	371	371	371	
	Over 22,001 gal	55.7%	636	636	636	636	636	636	636	636	636	636	636	636	
	Total	100.0%	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,
ommercial - Irrigation - 1"	Minimum Charge (10,000 gal)	15.6%	350	350	350	350	350	350	350	350	350	350	350	350	
	10,001 to 41,000 gal	34.7%	778	778	778	778	778	778	778	778	778	778	778	778	
	Over 41,001 gal	49.7%	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1,114	1
	Total	100.0%	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2,241	2
mmercial - Irrigation - 1.5"	Minimum Charge (23,000 gal)	8.8%	1,610	1,610	1,610	1,610	1,610	1,610	1,610	1,610	1,610	1,610	1,610	1,610	1
	23,001 to 94,000 gal	24.4%	4,465	4,465	4,465	4,465	4,465	4,465	4,465	4,465	4,465	4,465	4,465	4,465	4
	Over 94,001 gal	66.8%	12,224	12,224	12,224	12,224	12,224	12,224	12,224	12,224	12,224	12,224	12,224	12,224	12
	Total	100.0%	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18,300	18
ommercial - Irrigation - 2"	Minimum Charge (42,000 gal)	7.5%	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2,825	2
	42,001 to 169,000 gal	20.2%	7,609	7,609	7,609	7,609	7,609	7,609	7,609	7,609	7,609	7,609	7,609	7,609	7
	Over 169,001 gal	72.3%	27,233	27,233	27,233	27,233	27,233	27,233	27,233	27,233	27,233	27,233	27,233	27,233	27
	Total	100.0%	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37,667	37
ommercial - Irrigation - 3"	Minimum Charge (95,000 gal)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	95,001 to 382,000 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 382,001 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
ommercial - Irrigation - 4"	Minimum Charge (170,000 gal)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	170,001 to 681,000 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 681,001 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
ommercial - Irrigation - 6"	Minimum Charge (383,000 gal)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	383,001 to 1,534,000 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 1,534,001 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
ommercial - Irrigation - 8"	Minimum Charge (682,000 gal)	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	682,001 to 2,729,000 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 2,729,001 gal	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0.0%	0	0	0	0	0	0	0	0	0	0	0	0	
otal Irrigtion			59,846	59,846	59,846	59,846	59,846	59,846	59,846	59,846	59,846	59,846	59,846	59,846	59
otal			677,921	678,478	678,600	678,722	678,845	678,967	679,090	679,212	679,334	679,457	679,579	679,702	678

Projected Minimum Charge Revenue														
	Existing	Actual												Test Year
Customer Class	Rates	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Single Family Residential (3/4" & 1")	\$26.70	1,088,078	1,088,399	1,088,719	1,089,040	1,089,360	1,089,680	1,090,001	1,090,321	1,090,642	1,090,962	1,091,282	1,091,603	1,088,719
Multi-Family Residential (Units)	26.70	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092
Commercial - 3/4"	26.70	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302
Commercial - 1"	48.93	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927
Commercial - 1 1/2"	106.76	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213
Commercial - 2"	191.28	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270
Commercial - 3"	427.02	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373
Commercial - 4"	760.62	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial - 6"	1,708.08	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497
Commercial - 8"	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Multi-Family Irrigation	26.70	641	641	641	641	641	641	641	641	641	641	641	641	641
Commercial - Irrigation - 3/4"	26.70	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204
Commercial - Irrigation - 1"	48.93	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523
Commercial - Irrigation - 1 1/2"	106.76	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373
Commercial - Irrigation - 2"	191.28	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544
Commercial - Irrigation - 3"	427.02	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial - Irrigation - 4"	760.62	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial - Irrigation - 6"	1,708.08	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial - Irrigation - 8"	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Minimum Charge Revenue		1,750,037	1,750,357	1,750,678	1,750,998	1,751,318	1,751,639	1,751,959	1,752,280	1,752,600	1,752,920	1,753,241	1,753,561	1,750,678

Projected Volumetric Revenue by TIER															
		Existing	Actual												Test Year
Customer Class	TIER	Rates	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Single Family Residential (3/4" & 1")	Minimum Charge (5,000 gal)	\$0.00	\$1,088,078	\$1,088,399	\$1,088,719	\$1,089,040	\$1,089,360	\$1,089,680	\$1,090,001	\$1,090,321	\$1,090,642	\$1,090,962	\$1,091,282	\$1,091,603	1,088,719
	5,001 to 16,000 gal	5.34	778,959	779,188	779,418	779,647	779,876	780,106	780,335	780,564	780,794	781,023	781,253	781,482	779,418
	16,001 to 27,000 gal	5.85	318,488	318,582	318,676	318,770	318,863	318,957	319,051	319,145	319,238	319,332	319,426	319,520	318,676
	27,001 to 38,000 gal	6.35	139,867	139,908	139,950	139,991	140,032	140,073	140,114	140,155	140,197	140,238	140,279	140,320	139,950
	Over 38,001 gal	6.86	151,101	151,145	151,190	151,234	151,279	151,323	151,368	151,412	151,457	151,501	151,546	151,590	151,190
	Total		2,476,493	2,477,222	2,477,952	2,478,681	2,479,410	2,480,139	2,480,869	2,481,598	2,482,327	2,483,056	2,483,786	2,484,515	2,477,952
Multi-Family Residential (Units)	Minimum Charge (5,000 gal)	\$0.00	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092	394,092
	5,001 to 10,000 gal	5.34	23,010	23,277	23,277	23,277	23,277	23,277	23,277	23,277	23,277	23,277	23,277	23,277	23,27
	Over 10,001 gal	5.85	128,013	129,496	129,496	129,496	129,496	129,496	129,496	129,496	129,496	129,496	129,496	129,496	129,496
	Total		545,115	546,866	546,866	546,866	546,866	546,866	546,866	546,866	546,866	546,866	546,866	546,866	546,866
Commercial - 3/4"	Minimum Charge (5,000 gal)	\$0.00	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302	17,302
	5,001 to 22,000 gal	5.34	16,187	16,187	16,187	16,187	16,187	16,187	16,187	16,187	16,187	16,187	16,187	16,187	16,187
	Over 22,001 gal	5.85	25,263	25,263	25,263	25,263	25,263	25,263	25,263	25,263	25,263	25,263	25,263	25,263	25,263
	Total		58,751	58,751	58,751	58,751	58,751	58,751	58,751	58,751	58,751	58,751	58,751	58,751	58,751
Commercial - 1"	Minimum Charge (10,000 gal)	\$0.00	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927	39,927
	10,001 to 41,000 gal	5.34	50,521	50,521	50,521	50,521	50,521	50,521	50,521	50,521	50,521	50,521	50,521	50,521	50,523
	Over 41,001 gal	5.85	93,926	93,926	93,926	93,926	93,926	93,926	93,926	93,926	93,926	93,926	93,926	93,926	93,926
	Total		184,373	184,373	184,373	184,373	184,373	184,373	184,373	184,373	184,373	184,373	184,373	184,373	184,373
Commercial - 1.5"	Minimum Charge (23,000 gal)	\$0.00	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213	60,213
	23,001 to 94,000 gal	5.34	74,364	74,364	74,364	74,364	74,364	74,364	74,364	74,364	74,364	74,364	74,364	74,364	74,364
	Over 94,001 gal	5.85	163,222	163,222	163,222	163,222	163,222	163,222	163,222	163,222	163,222	163,222	163,222	163,222	163,222
	Total		297,798	297,798	297,798	297,798	297,798	297,798	297,798	297,798	297,798	297,798	297,798	297,798	297,798
Commercial - 2"	Minimum Charge (42,000 gal)	\$0.00	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270	64,270
	42,001 to 169,000 gal	5.34	59,823	59,823	59,823	59,823	59,823	59,823	59,823	59,823	59,823	59,823	59,823	59,823	59,823
	Over 169,001 gal	5.85	65,029	65,029	65,029	65,029	65,029	65,029	65,029	65,029	65,029	65,029	65,029	65,029	65,029
	Total		189,122	189,122	189,122	189,122	189,122	189,122	189,122	189,122	189,122	189,122	189,122	189,122	189,122
Commercial - 3"	Minimum Charge (95,000 gal)	\$0.00	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373
	95,001 to 382,000 gal	5.34	34,256	34,256	34,256	34,256	34,256	34,256	34,256	34,256	34,256	34,256	34,256	34,256	34,256
	Over 382,001 gal	5.85	108,313	108,313	108,313	108,313	108,313	108,313	108,313	108,313	108,313	108,313	108,313	108,313	108,313
	Total		157,942	157,942	157,942	157,942	157,942	157,942	157,942	157,942	157,942	157,942	157,942	157,942	157,942
Commercial - 4"	Minimum Charge (170,000 gal)	\$0.00	0	0	0	0	0	0	0	0	0	0	0	0	(
	170,001 to 681,000 gal	5.34	0	0	0	0	0	0	0	0	0	0	0	0	(
	Over 681,001 gal	5.85	0	0	0	0	0	0	0	0	0	0	0	0	(
	Total		0	0	0	0	0	0	0	0	0	0	0	0	(

Projected Volumetric Revenue by TIER		Existing	Actual												Test Year
Customer Class	TIER	Rates	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Commercial - 6"	Minimum Charge (383,000 gal)	\$0.00	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,497	20,49
	383,001 to 1,534,000 gal	5.34	49,085	49,085	49,085	49,085	49,085	49,085	49,085	49,085	49,085	49,085	49,085	49,085	49,08
	Over 1,534,001 gal	5.85	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,570	25,57
	Total		95,153	95,153	95,153	95,153	95,153	95,153	95,153	95,153	95,153	95,153	95,153	95,153	95,15
Commercial - 8"	Minimum Charge (682,000 gal)	\$0.00	0	0	0	0	0	0	0	0	0	0	0	0	
	682,001 to 2,729,000 gal	5.34	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 2,729,001 gal Total	5.85	0	0	0	0	0	0	0	0	0	0	0	0	
Multi-Family Irrigation	Minimum Charge (5,000 gal)	\$0.00	641	641	641	641	641	641	641	641	641	641	641	641	64
viditi Farmiy irrigation	5,001 to 10,000 gal	5.34	241	241	241	241	241	241	241	241	241	241	241	241	24
	Over 10,001 gal	5.85	2,344	2,344	2,344	2,344	2,344	2,344	2,344	2,344	2,344	2,344	2,344	2,344	2,34
	Total		3,226	3,226	3,226	3,226	3,226	3,226	3,226	3,226	3,226	3,226	3,226	3,226	3,22
Commercial - Irrigation - 3/4"	Minimum Charge (5,000 gal)	\$0.00	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,204	3,20
-	5,001 to 22,000 gal	5.34	1,982	1,982	1,982	1,982	1,982	1,982	1,982	1,982	1,982	1,982	1,982	1,982	1,98
	Over 22,001 gal	5.85	3,721	3,721	3,721	3,721	3,721	3,721	3,721	3,721	3,721	3,721	3,721	3,721	3,72
	Total		8,907	8,907	8,907	8,907	8,907	8,907	8,907	8,907	8,907	8,907	8,907	8,907	8,90
Commercial - Irrigation - 1"	Minimum Charge (10,000 gal)	\$0.00	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,523	3,52
	10,001 to 41,000 gal	5.34	4,153	4,153	4,153	4,153	4,153	4,153	4,153	4,153	4,153	4,153	4,153	4,153	4,15
	Over 41,001 gal	5.85	6,516	6,516	6,516	6,516	6,516	6,516	6,516	6,516	6,516	6,516	6,516	6,516	6,51
	Total		14,191	14,191	14,191	14,191	14,191	14,191	14,191	14,191	14,191	14,191	14,191	14,191	14,19
Commercial - Irrigation - 1.5"	Minimum Charge (23,000 gal)	\$0.00	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,373	15,37
	23,001 to 94,000 gal	5.34	23,844	23,844	23,844	23,844	23,844	23,844	23,844	23,844	23,844	23,844	23,844	23,844	23,84
	Over 94,001 gal Total	5.85	71,513 110,730	71,51 110,73											
Commercial - Irrigation - 2"	Minimum Charge (42,000 gal)	\$0.00	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,544	27,54
	42,001 to 169,000 gal	5.34 5.85	40,631	40,631	40,631	40,631	40,631	40,631	40,631	40,631	40,631	40,631	40,631	40,631	40,63
	Over 169,001 gal Total	5.85	159,314 227,489	159,31 227,48											
2		40.00													
Commercial - Irrigation - 3"	Minimum Charge (95,000 gal) 95,001 to 382,000 gal	\$0.00 5.34	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 382,001 gal	5.85	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	5.85	0	0	0	0	0	0	0	0	0	0	0	0	
Commercial - Irrigation - 4"	Minimum Charge (170,000 gal)	\$0.00	0	0	0	0	0	0	0	0	0	0	0	0	
	170,001 to 681,000 gal	5.34	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 681,001 gal	5.85	0	0	0	0	0	0	0	0	0	0	0	0	
	Total		0	0	0	0	0	0	0	0	0	0	0	0	
Commercial - Irrigation - 6"	Minimum Charge (383,000 gal)	\$0.00	0	0	0	0	0	0	0	0	0	0	0	0	
	383,001 to 1,534,000 gal	5.34	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 1,534,001 gal	5.85	0	0	0	0	0	0	0	0	0	0	0	0	
	Total		0	0	0	0	0	0	0	0	0	0	0	0	
Commercial - Irrigation - 8"	Minimum Charge (682,000 gal)	\$0.00	0	0	0	0	0	0	0	0	0	0	0	0	
	682,001 to 2,729,000 gal	5.34	0	0	0	0	0	0	0	0	0	0	0	0	
	Over 2,729,001 gal Total	5.85	0	0	0	0	0	0	0	0	0	0	0	0	
	Total		\$4,369,291	\$4,371,771	\$4,372,500	\$4,373,229	\$4,373,959	\$4,374,688	\$4,375,417	\$4,376,146	\$4,376,875	\$4,377,605	\$4,378,334	\$4,379,063	4,372,50

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Miscellaneous Revenue

Existing Fee	Actual	Budget											
Eoo		buuget											Test Year
ree	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
\$2,500			\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	2,500
5,000			0	0	0	0	0	0	0	0	0	0	0
2,500			0	0	0	0	0	0	0	0	0	0	0
2,500			0	0	0	0	0	0	0	0	0	0	0
5,000			0	0	0	0	0	0	0	0	0	0	0
10,000			0	0	0	0	0	0	0	0	0	0	0
20,000			0	0	0	0	0	0	0	0	0	0	0
45,000			0	0	0	0	0	0	0	0	0	0	0
90,000			0	0	0	0	0	0	0	0	0	0	0
235,000			0	0	0	0	0	0	0	0	0	0	0
	33,732	2,000	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
	24,750	22,000	22,660	23,340	24,040	24,761	25,504	26,269	27,057	27,869	28,705	29,566	22,660
	0												0
	24,750	22,000	22,660	23,340	24,040	24,761	25,504	26,269	27,057	27,869	28,705	29,566	22,660
	5,000 2,500 2,500 5,000 10,000 20,000 45,000 90,000	5,000 2,500 2,500 5,000 10,000 20,000 45,000 90,000 235,000 33,732	5,000 2,500 2,500 5,000 10,000 45,000 90,000 235,000 33,732 2,000 24,750 22,000	5,000 0 2,500 0 2,500 0 5,000 0 10,000 0 20,000 0 45,000 0 90,000 0 235,000 0 33,732 2,000 2,500 24,750 22,000 22,660	5,000 0 0 0 2,500 0 0 0 2,500 0 0 0 5,000 0 0 0 10,000 0 0 0 20,000 0 0 0 45,000 0 0 0 90,000 0 0 0 235,000 0 2,500 2,500	5,000 0 0 0 0 2,500 0 0 0 0 2,500 0 0 0 0 5,000 0 0 0 0 10,000 0 0 0 0 20,000 0 0 0 0 90,000 0 0 0 0 235,000 0 0 0 0 33,732 2,000 2,500 2,500 2,500 24,040 0 0 23,340 24,040	5,000 0 <td>5,000 0 0 0 0 0 2,500 0 0 0 0 0 2,500 0 0 0 0 0 5,000 0 0 0 0 0 10,000 0 0 0 0 0 20,000 0 0 0 0 0 45,000 0 0 0 0 0 90,000 0 0 0 0 0 235,000 0 0 0 0 0 33,732 2,000 2,500 2,500 2,500 2,500 24,750 22,000 22,660 23,340 24,040 24,761 25,504</td> <td>5,000 2,500 2,500 0 0</td> <td>5,000 2,500 2,500 0</td> <td>5,000 0<td>5,000 0<td>5,000 2,500 2,500 0</td></td></td>	5,000 0 0 0 0 0 2,500 0 0 0 0 0 2,500 0 0 0 0 0 5,000 0 0 0 0 0 10,000 0 0 0 0 0 20,000 0 0 0 0 0 45,000 0 0 0 0 0 90,000 0 0 0 0 0 235,000 0 0 0 0 0 33,732 2,000 2,500 2,500 2,500 2,500 24,750 22,000 22,660 23,340 24,040 24,761 25,504	5,000 2,500 2,500 0 0	5,000 2,500 2,500 0	5,000 0 <td>5,000 0<td>5,000 2,500 2,500 0</td></td>	5,000 0 <td>5,000 2,500 2,500 0</td>	5,000 2,500 2,500 0

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Operating Expenses

	Actual	Budget											Test Year
Operating Expense Item	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Purchased Water	\$3,187,889	\$3,283,526	\$3,382,032	\$3,483,493	\$3,587,998	\$3,695,637	\$3,806,507	\$3,920,702	\$4,038,323	\$4,159,472	\$4,284,257	\$4,412,784	\$3,382,032
Operations & Maintenance - Water	269,622	346,757	357,160	367,874	378,911	390,278	401,986	414,046	426,467	439,261	452,439	466,012	357,160
General & Administrative - Water	523,824	611,924	630,282	649,190	668,666	688,726	709,388	730,669	752,589	775,167	798,422	822,375	630,282
Water/Sewer Acquisition, Repair and Reserve	53,900	57,750	59,483	61,267	63,105	64,998	66,948	68,957	71,025	73,156	75,351	77,611	59,483
Total Operating Expenses	\$4,035,235	\$4,299,957	\$4,428,956	\$4,561,824	\$4,698,679	\$4,839,640	\$4,984,829	\$5,134,374	\$5,288,405	\$5,447,057	\$5,610,469	\$5,778,783	\$4,428,956
			3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	

Broject	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	Test Year 2019
Project Miscellaneous	2016	2019	2020	2021	2022	2023	2024	2025	2020	2027	2026	Total	2019
Water Rates and Sewer Fee Study	40,795	0	0	0	0	0	0	0	0	0	0	40,795	0
Electronic Work Order Software	13,598	0	0	0	0	0	0	0	0	0	0	13,598	0
Water & Sewer Risk Evaluation Study	13,598	0	61,192	0	0	0	0	0	0	0	0		0
	0	0		0	0	0		ū	ū	0	0	61,192	
Billing Inserter		Ū	0	-	-	-	0	13,598	0	-	-	13,598	0
New District Website	0	0	0	0	0	0	0	0	0	0	0	0	0
Fixed Base Meter Reading System	0	0	0	95,188	0	0	0	0	0	0	0	95,188	0
Water Pump Station													0
Rebuild Sump-Pump	0	0	0	0	0	0	0	0	0	0	0	0	0
New Sump-pump (Replaced in 2017)	0	0	0	0	0	0	0	0	0	10,000	0	10,000	0
Pumps Rebuilt No. 2 No. 4 and No. 5 (2015)	0	0	0	0	0	90,000	0	0	0	0	0	90,000	0
Replace Discharge Valves	20,000	0	0	0	0	0	0	0	0	0	0	20,000	0
Replace Soft Start on Pump No. 5	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Pump Station Improvements	0	0	0	0	0	0	0	0	0	0	0	0	0
Various Controls	30,000	40,000	20,000	0	0	0	0	0	0	0	0	90,000	40,000
Rebuild/New Water Pump Motor	20,000	40,000	0	0	0	0	0	0	0	0	0	60,000	40,000
Sewer Lift Stations													0
Rebuild Impellers (2) at North Ranch LS	0	0	0	0	0	0	0	0	0	0	0	0	0
Spair Pump for Wood Brothers	0	0	0	0	0	0	0	0	0	0	0	0	0
Rebuild Impellers (2) at CG No. 1	0	0	0	0	0	0	0	0	0	0	0	0	0
Rebuild Impellers (2) at CG No. 2	0	0	0	0	0	0	0	0	0	0	0	0	0
New Sewer Pumps (2)	0	0	0	0	0	0	0	0	0	0	0	0	0
Various Controls	0	0	0	0	0	0	0	0	0	0	0	0	0
Meters													0
Replace residential meters over four years	0	0	603,500	637,500	671,500	714,000	0	0	0	0	0	2,626,500	0
Replace commercial meters over two years	0	0	0	136,000	144,500	0	0	0	0	0	0	280,500	0
Upgrade Sensus meter reading equipment	0	25,500	0	0	0	0	0	0	0	0	0	25,500	25,500
Replace MXU's	0	0	0	0	0	0	0	731,000	0	0	0	731,000	0
Replace two 10 inch master meters at Chatfield Pump Station	0	25,500	0	0	0	0	0	751,000	0	0	0	25,500	25,500
Mapping		25,500	Ü	Ü	Ü	Ü	Ü	· ·	Ü	Ü	o o	23,300	25,500
Update District Water & Sewer Maps	0	0	0	0	0	0	0	0	0	0	0	0	0
GIS Mapping - Water & Sewer System	0	6,799	6,799	0	0	0	0	0	0	0	0	13,598	6,799
Purchase two GIS handheld location devices	13,598	13,598	0,733	0	0	0	0	0	0	0	0	27,197	13,598
GIS Mapping Update (ongoing)	,	6,799	0	6,799	0	0	0	0	0	0	0		6,799
	6,799	0,799	U	6,799	U	U	U	U	U	U	U	20,397	0,799
Controls	20,000	20.000	20.000	20.000	0	0	0	0	0	0	0	110 000	_
Upgrade SCADA System - Hardware/Software	30,000	30,000	20,000	30,000	-	0	0	0	-	0	0	110,000	30,000
Replace SCADA Computer at the Office	0	0	0	0	0	0	0	U	0	0	0	0	0
Equipment													0
Replace Existing Backhoe	0	40,795	0	0	0	0	0	0	0	0	0	40,795	40,795
Purchase Valve Exerciser	0	13,598	0	0	0	0	0	0	0	0	0	13,598	13,598
Vehicles													0
Replace 2013 Ford 250 Extracab	0	0	0	0	0	0	33,996	0	0	0	0	33,996	0
Replace 1999 Pickup	27,197	0	0	0	0	0	0	0	0	0	0	27,197	0
Replace 2001 Pickup	0	0	0	27,197	0	0	0	0	0	0	0	27,197	0
Replace 2014 Explorer	0	0	0	0	0	0	27,197	0	0	0	0	27,197	0
Replace 2005 Pickup	0	0	27,197	0	0	0	0	0	0	0	0	27,197	0
Office Building Interior/Exterior													0
Install New Heating/Air Conditioning (Replaced in 2014)	0	0	0	0	0	0	0	0	0	0	27,197	27,197	0
Rubber Roof Replacement (Replaced in 2014)	0	0	0	0	0	0	0	0	0	0	33,996	33,996	0
Paint Interior	6,799	0	6,799	0	0	0	0	0	0	0	0	13,598	C
Paint Exterior	0	6,799	0	0	0	0	0	0	0	0	0	6,799	6,799
Replace Roof (Shingle Area) Replaced in 2014	0	0	0	0	0	0	0	0	0	0	0	0	
Replace Carpet - Replaced in 2010	0	0	0	0	0	13,598	0	0	0	0	0	13,598	C
Replace Tile in Bathrooms	6,799	0	0	0	0	0	0	0	0	0	0	6,799	0
Replace Tiles in Field Office and Kitchen (Completed in 2016)	0,755	0	0	0	0	0	0	0	0	0	0	0,755	0

Project	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	Test Year 2019
Office Grounds													C
Seal-Coat all asphalt and restripe	6,799	6,799	0	0	0	0	0	0	0	0	0	13,598	6,799
Drainage Ditch Improvements	20,397	20,397	0	0	0	0	0	0	0	0	0	40,795	20,397
Office Equipment													C
Replace the billing inserter machine	0	0	0	6,799	0	0	0	0	0	0	0	6,799	C
Replace Main Server	0	6,799	0	0	0	0	0	0	0	0	0	6,799	6,799
Replace Web Server	0	0	0	0	0	0	0	0	0	0	0	0	0
Replace Copier	0	0	0	6,799	0	0	0	0	0	0	0	6,799	0
New Postage Machine-Replaced in 2012	0	0	0	0	0	0	0	0	0	0	0	0	C
Upgrade Office Phone System	0	0	0	6,799	0	0	0	0	0	0	0	6,799	C
Replace Computers (1)	0	0	0	0	0	0	0	0	0	0	0	0	o c
Replace Billing Printer	0	0	0	0	0	0	0	0	0	0	0	0	0
Replace Color Printer	0	0	0	0	0	0	0	0	0	0	0	0	0
Nater Distribution System													C
Replace aging Valves	40,000	100,000	110,000	0	0	0	0	0	0	0	0	250,000	100,000
Clean 3 Reservoirs	0	20,000	0	0	0	0	0	0	0	0	0	20,000	20,000
Cast iron tapping saddle replacements	0	0	80,000	0	0	0	0	0	0	0	0	80,000	0
Test 25 of the oldest residential meters (2018)	10,000	0	10,000	0	0	0	0	0	0	0	0	20,000	C
Water storage tank #2 Mixing System	0	0	0	0	0	0	0	0	0	0	0	0	0
Install yard hydrant at te WHQ L Station	0	0	0	0	0	0	0	0	0	0	0	0	0
Install (4) 16-inch valves - Continental Rd Comp. 2011	0	0	0	0	0	0	0	0	0	0	0	0	0
Replace Fire Hydrants	100,000	210,000	0	0	0	0	0	0	0	0	0	310,000	210,000
Replace 4-inch water lines North Ranch Competed (2015)	0	0	0	0	0	0	0	0	0	0	0	0	0
7,000 LF of 12-inch (Master Plan of Works)	0	0	0	1,530,000	0	0	0	0	0	0	0	1,530,000	0
Replace Various Water Lines (B)	0	0	420,000	0	0	0	0	0	0	0	0	420,000	0
Replace Various Water Lines	0	0	0	220,000	640,000	0	0	0	0	0	0	860,000	0
Replace Various Water Lines (D)	0	0	0	0	0	0	0	0	0	650,000	0	650,000	0
Replace Various Water Lines	0	0	0	0	0	0	660,000	0	650,000	0	0	1,310,000	0
Replace Various Water Lines	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Storage Tank #2	0	0	0	0	0	0	0	0	2,910,000	0	3,090,000	6,000,000	0
Water Storage Tank #3	0	0	0	0	0	0	0	0	0	3,000,000	0	3,000,000	0
Water Leak Survey	0	20,000	0	0	0	0	0	0	0	0	0	20,000	20,000
Replace the 16-inch in Continental Divide Rd.	0	0	0	0	0	0	0	1,480,000	0	0	0	1,480,000	20,000
Sewer Collection System	Ū	ŭ	ŭ	ŭ	ŭ	ŭ	· ·	1, 100,000	ŭ	ŭ	· ·	2, 100,000	0
Replace 700 Feet of Sewer Line	0	0	0	0	0	0	0	0	0	0	0	0	0
Install Covers Over Generators	0	0	0	0	0	0	0	0	0	0	0	0	0
New emergency generator - Wood Brothers (Completed 2016)	0	0	0	0	0	0	0	0	0	0	0	0	0
Massey Draw Rehab Completed (2015)	0	0	0	0	0	0	0	0	0	0	0	0	0
Platte Canyon Rehab D-Line completed in 2012	0	0	0	0	0	0	0	0	0	0	0	0	0
Platte Canyon Rehab A-Line completed in 2014	0	0	0	0	0	0	0	0	0	0	0	0	0
Manhole Rehabilitation - Infiltration	0	0	0	0	0	0	0	0	0	0	0	0	0
Massey Draw Contract "A"	0	0	0	0	0	0	0	0	0	0	0	0	0
Massey Draw Contract "B"	0	0	0	0	0	0	0	0	0	0	0	0	0
Massey Draw Contract "C"	0	0	0	0	0	0	0	0	0	0	0	0	0
Various North Ranch Sewer Lines	0	0	0	0	0	0	0	0	0	0	0	0	0
Various Sewer Lines - Plains	0	0	0	0	0	0	0	0	0	0	0	0	0
Various Sewer Lines - Frams Various Sewer Lines - Contract #2	0	0	0	0	0	0	0	0	0	0	0	0	0
Various Sewer Lines - Contract #2 Various Sewer Lines - Contract #4	0	0	0	0	0	0	0	0	0	0	0	0	(
Replace 400 Linear Ft of Sewer Line in Continental Divide	0	0	0	0	0	0	0	0	0	0	0	0	(
Various Sewer Lines - Contract #13	0	0	0	0	0	0	0	0	0	0	0	0	0
		633,385	1,365,487	2,703,081	1,456,000	817,598	721,192	2,224,598	3,560,000	3,660,000	3,151,192	20,685,317	633,385

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water CIP (from Master CIP Worksheet)

Total

													Test Year
Project	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	2019
													Test Year
Annual Functionalized Water CIP	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	2019
Treatment	0	0	0	0	0	0	0	0	0	0	0	0	0
Distribution	110,000	210,000	90,000	0	0	0	0	0	0	0	0	410,000	210,000
Transmission	70,000	170,000	550,000	1,780,000	640,000	0	660,000	1,480,000	650,000	650,000	0	6,650,000	170,000
Treated Water Storage	0	0	0	0	0	0	0	0	2,910,000	3,000,000	3,090,000	9,000,000	0
Pumps	70,000	80,000	20,000	0	0	90,000	0	0	0	10,000	0	270,000	80,000
Meters	0	51,000	603,500	773,500	816,000	714,000	0	731,000	0	0	0	3,689,000	51,000
Customer Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration	142,782	122,385	101,987	149,581	0	13,598	61,192	13,598	0	0	61,192	666,317	122,385
Total	392,782	633,385	1,365,487	2,703,081	1,456,000	817,598	721,192	2,224,598	3,560,000	3,660,000	3,151,192	20,685,317	633,385
													Test Year
Cumulative Functionalized Water CIP	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	2019
Treatment	0	0	0	0	0	0	0	0	0	0	0	0	0
Distribution	110,000	320,000	410,000	410,000	410,000	410,000	410,000	410,000	410,000	410,000	410,000	410,000	320,000
Transmission	70,000	240,000	790,000	2,570,000	3,210,000	3,210,000	3,870,000	5,350,000	6,000,000	6,650,000	6,650,000	6,650,000	240,000
Treated Water Storage	0	0	0	0	0	0	0	0	2,910,000	5,910,000	9,000,000	9,000,000	0
Pumps	70,000	150,000	170,000	170,000	170,000	260,000	260,000	260,000	260,000	270,000	270,000	270,000	150,000
Meters	0	51,000	654,500	1,428,000	2,244,000	2,958,000	2,958,000	3,689,000	3,689,000	3,689,000	3,689,000	3,689,000	51,000
Customer Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Administration	142,782	265,167	367,154	516,736	516,736	530,334	591,527	605,125	605,125	605,125	666,317	666,317	265,167
Total	392,782	1,026,167	2,391,654	5,094,736	6,550,736	7,368,334	8,089,527	10,314,125	13,874,125	17,534,125	20,685,317	20,685,317	1,026,167
													Test Year
Annual Functionalized Water CIP	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	2019
Distribution	\$110,000	\$110,000	\$50,000	\$0	\$0	\$0	\$60,000	\$0	\$0	\$0	\$0	\$330,000	\$110,000
Transmission	70,000	340,000	1,560,000	320,000	510,000	350,000	460,000	470,000	380,000	390,000	510,000	5,360,000	340,000
Treated Water Storage	0	0	0	0	0	0	0	240,000	0	0	0	240,000	0
Pumps	70,000	70,000	130,000	100,000	60,000	110,000	0	90,000	0	0	220,000	850,000	70,000
Meters	0	59,500	603,500	773,500	816,000	714,000	34,000	731,000	0	0	0	3,731,500	59,500
Administration	142,782	33,996	54,393	183,577	27,197	6,799	81,590	27,197	6,799	6,799	81,590	652,719	33,996

\$392,782

\$613,496

\$2,397,893

\$1,377,077

\$1,413,197

\$1,180,799

\$635,590

\$1,558,197

\$386,799

\$396,799

\$811,590 \$11,164,219

\$613,496

Type of Issue / Debt Service	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	Test Year 2019
Revenue Bonds													
Amount of Issue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		0
Term	20	20	20	20	20	20	20	20	20	20	20		
Interest Rate	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%		
Issue Expense	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	•	
Annual Debt Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Issuance Cost	0	0	0	0	0	0		0	0	0	0	0	0
Debt Service Reserve	0	0	0	0	0	0	0	0		0	0	0	0
Net Proceeds for CIP	0	0	0	0	0	0	0	0	0	0	0	U	0
Cumulative Net Proceeds for CIP	0	0	0	0	0	0	0	0	0	0	0		0
Cumulative Debt Service Reserve	0	0	0	0	0	0	0	0	0	0	0		0
Debt Service													
Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Proposed													
2018	0	0	0	0	0	0	0	0	0	0	0	0	0
2019		0	0	0	0	0	0	0	0	0	0	0	0
2020			0	0	0	0	0	0	0	0	0	0	0
2021				0	0	0	0	0	0	0	0	0	0
2022					0	0	0	0	0	0	0	0	0
2023						0	0	0	0	0	0	0	0
2024							0	0	0	0	0	0	0
2025								0	0	0	0	0	0
2026									0	0	0	0	0
2027										0	0	0	0
2028											0	0	0
Total Debt Service	0	0	0	0	0	0	0	0	0	0	0	0	0
State Revolving Loan													
Amount of Issue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		0
Term	20	20	20	20	20	20	20	20	20	20	20		
Interest Rate	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%		
Issue Expense	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%		
Annual Debt Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Issuance Cost	0	0	0	0	0	0	0	0	0	0	0	0	0
Debt Service Reserve	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Proceeds for CIP	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Net Proceeds for CIP	0	0	0	0	0	0	0	0	0	0	0		0
Cumulative Debt Service Reserve	0	0	0	0	0	0	0	0	0	0	0		0
Debt Service													
Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Proposed		_	_		_	_			_	_			
2018	0	0	0	0	0	0	0	0	0	0	0	0	0
2019		0	0	0	0	0	0	0	0	0	0	0	0
2020			0	0	0	0	0	0	0	0	0	0	0
2021				0	0	0	0	0	0	0	0	0	0
2022					0	0	0	0	0	0	0	0	0
2023						0	0	0	0	0	0	0	0
2024							0	0	0	0	0	0	0
2025								0	0	0	0	0	C
2026									0	0	0	0	0
2027										0	0	0	0
2028											0	0	0
Total Proposed	0	0	0	0	0	0	0	0	0	0	0	0	0

	%	Month												Test Year
Item	Increase	Effective	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Rate Revenue at Existing Rates			\$4,423,379	\$4,424,108	\$4,424,837	\$4,425,566	\$4,426,296	\$4,427,025	\$4,427,754	\$4,428,483	\$4,429,213	\$4,429,942	\$4,430,671	4,424,108
Revenues from Rate Increases														
2018	0.00%	12	0	0	0	0	0	0	0	0	0	0	0	0
2019	3.90%	10		143,784	172,569	172,597	172,626	172,654	172,682	172,711	172,739	172,768	172,796	143,784
2020	7.00%	12			321,818	321,871	321,924	321,978	322,031	322,084	322,137	322,190	322,243	. 0
2021	9.00%	12				442,803	442,876	442,949	443,022	443,095	443,168	443,241	443,314	0
2022	9.00%	12				,	482,735	482,814	482,894	482,974	483,053	483,133	483,212	0
2023	9.00%	12					,	526,268	526,354	526,441	526,528	526,615	526,701	0
2024	9.00%	12						,	573,726	573,821	573,915	574,010	574,104	0
2025	9.00%	12							373,720	625,465	625,568	625,671	625,774	0
2026	8.00%	12								023, 103	606,106	606,205	606,305	0
2027	5.00%	12									000,100	409,189	409,256	0
2028	5.00%	12										405,105	429,719	0
2020	3.00%	12											423,713	0
Total Water Rate Revenues			4,423,379	4,567,891	4,919,224	5,362,838	5,846,457	6,373,688	6,948,464	7,575,073	8,182,426	8,592,962	9,024,095	4,567,891
Total Water Nate Nevenues			4,423,373	4,507,051	4,313,224	3,302,030	3,040,437	0,575,000	0,540,404	1,515,015	0,102,420	0,332,302	3,024,033	4,507,051
Miscellaneous Non-Rate Revenues														
System Development Charges			2,000	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Water Miscellaneous			22,000	22,660	23,340	24,040	24,761	25,504	26,269	27,057	27,869	28,705	29,566	22,660
Water Other			0	0	25,540	0	24,701	25,504	0	0	0	0	25,500	0.000
Interest Income			81,720	78,950	72,449	58,129	46,480	47,839	56,967	63,637	60,745	54,117	52,047	78,950
merest mone			01,720	70,550	72,443	30,123	40,400	47,033	30,307	03,037	00,743	54,117	32,047	70,550
Total Miscellaneous Non-Rate Revenues			105,720	104,110	98,289	84,669	73,741	75,843	85,736	93,194	91,114	85,322	84,113	104,110
Total Revenues			4,529,098	4,672,001	5,017,513	5,447,507	5,920,198	6,449,530	7,034,200	7,668,267	8,273,540	8,678,284	9,108,209	4,672,001
Total Revenues			4,323,036	4,072,001	3,017,313	3,447,307	3,520,158	0,449,330	7,034,200	7,008,207	8,273,340	8,078,284	9,108,209	4,072,001
Operating Expenses														
Purchased Water			3,283,526	3,382,032	3,483,493	3,587,998	3,695,637	3,806,507	3,920,702	4,038,323	4,159,472	4,284,257	4,412,784	3,382,032
Operations & Maintenance - Water			346,757	357,160	367,874	378,911	390,278	401,986	414,046	426,467	439,261	452,439	466,012	357,160
General & Administrative - Water			611,924	630,282	649,190	668,666	688,726	709,388	730,669	752,589	775,167	798,422	822,375	630,282
Water/Sewer Acquisition, Repair and Reserve			57,750	59,483	61,267	63,105	64,998	66,948	68,957	71,025	73,156	75,351	77,611	59,483
,,.,.,.,.,.,.,.,.,.,.,.,.,.,.,.,.,			,	,	,	,	,,,,,,	,-	,	,-	-,	.,	,-	
Total Operating Expenses			4,299,957	4,428,956	4,561,824	4,698,679	4,839,640	4,984,829	5,134,374	5,288,405	5,447,057	5,610,469	5,778,783	4,428,956
Capital Improvements														
Treatment			0	0	0	0	0	0	0	0	0	0	0	0
Distribution			110,000	210,000	90.000	0	0	0	0	0	0	0	0	210,000
Transmission			70,000	170,000	550,000	1,780,000	640,000	0	660,000	1,480,000	650,000	650,000	0	170,000
Treated Water Storage			70,000	170,000	330,000	1,780,000	040,000	0	000,000	1,480,000	2,910,000	3,000,000	3,090,000	170,000
Pumps			70,000	80,000	20,000	0	0	90,000	0	0	2,910,000	10,000	3,090,000	80,000
Meters			70,000	51,000	603,500	773,500	816,000	714,000	0	731,000	0	10,000	0	51,000
Customer Service			0	0 31,000	005,300	773,300	810,000	714,000	0	731,000	0	0	0	31,000
Administration			142,782	122,385	101,987	149,581	0	13,598	61,192	13,598	0	0	61,192	122,385
Auministration			142,/82	122,385	101,987	149,581	U	15,598	01,192	13,398	U	U	01,192	122,385
Total Water CIP			392,782	633,385	1,365,487	2,703,081	1,456,000	817,598	721,192	2,224,598	3,560,000	3,660,000	3,151,192	633,385

Debt Service Revenue Bonds Existing	Effective	2018	2019	2020	2021	2022							
Revenue Bonds Existing					2021	2022	2023	2024	2025	2026	2027	2028	2019
S .													
Davis and Davis and		0	0	0	0	0	0	0	0	0	0	0	0
Revenue Bonds Proposed		0	0	0	0	0	0	0	0	0	0	0	0
State Revolving Loan Existing		0	0	0	0	0	0	0	0	0	0	0	0
StateRevolving Loan Proposed		0	0	0	0	0	0	0	0	0	0	0	0
Total Debt Service		0	0	0	0	0	0	0	0	0	0	0	0
Total Expenditures		4,692,739	5,062,341	5,927,312	7,401,761	6,295,640	5,802,427	5,855,566	7,513,003	9,007,057	9,270,469	8,929,975	5,062,341
Net Operating Surplus / (Deficit)		(163,641)	(390,340)	(909,799)	(1,954,254)	(375,441)	647,103	1,178,634	155,264	(733,516)	(592,185)	178,234	(390,340)
Beginning Cash Reserves		8,253,779	8,090,138	7,699,798	6,789,999	4,835,745	4,460,304	5,107,407	6,286,041	6,441,305	5,707,789	5,115,604	8,090,138
Add: Net Operating Surplus / Deficit		(163,641)	(390,340)	(909,799)	(1,954,254)	(375,441)	647,103	1,178,634	155,264	(733,516)	(592,185)	178,234	(390,340)
Add: Bond Proceeds													
Revenue Bonds		0	0	0	0	0	0	0	0	0	0	0	0
State Revolving Loans		0	0	0	0	0	0	0	0	0	0	0	0
Ending Cash Reserves		\$8,090,138	\$7,699,798	\$6,789,999	\$4,835,745	\$4,460,304	\$5,107,407	\$6,286,041	\$6,441,305	\$5,707,789	\$5,115,604	\$5,293,838	\$7,699,798
Target Cash Reserves													
Operating Reserves		716,660	738,159	760,304	783,113	806,607	830,805	855,729	881,401	907,843	935,078	963,130	738,159
CIP Reserves		316,692	682,744	1,351,541	728,000	408,799	360,596	1,112,299	1,780,000	1,830,000	1,575,596	1,575,596	682,744
Total Target Cash Reserves		1,033,352	1,420,903	2,111,845	1,511,113	1,215,406	1,191,401	1,968,028	2,661,401	2,737,843	2,510,674	2,538,727	1,420,903
Variance from Target Cash Reserves		7,056,786	6,278,895	4,678,154	3,324,632	3,244,898	3,916,006	4,318,013	3,779,905	2,969,946	2,604,930	2,755,111	6,278,895
Debt Service Coverage													
Net Revenues Available for Debt Service		123,422	138,936	357,400	664,159	1,006,817	1,388,859	1,814,090	2,286,668	2,735,369	2,982,493	3,245,313	138,936
Debt Service		0	0	0	0	0	0	0	0	0	0	0	0
Debt Service Coverage (Target = 1.50)		N/A											

												Test Year
Revenue Requirement Component	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Opeating Expenses												
Purchased Water	\$3,283,526	\$3,382,032	\$3,483,493	\$3,587,998	\$3,695,637	\$3,806,507	\$3,920,702	\$4,038,323	\$4,159,472	\$4,284,257	\$4,412,784	3,382,032
Operations & Maintenance - Water	346,757	357,160	367,874	378,911	390,278	401,986	414,046	426,467	439,261	452,439	466,012	357,160
General & Administrative - Water	611,924	630,282	649,190	668,666	688,726	709,388	730,669	752,589	775,167	798,422	822,375	630,282
Water/Sewer Acquisition, Repair and Reserve	57,750	59,483	61,267	63,105	64,998	66,948	68,957	71,025	73,156	75,351	77,611	59,483
Total Operating Expenses	4,299,957	4,428,956	4,561,824	4,698,679	4,839,640	4,984,829	5,134,374	5,288,405	5,447,057	5,610,469	5,778,783	4,428,956
Capital Improvement Program												
Treatment	0	0	0	0	0	0	0	0	0	0	0	0
Distribution	110,000	210,000	90,000	0	0	0	0	0	0	0	0	210,000
Transmission	70,000	170,000	550,000	1,780,000	640,000	0	660,000	1,480,000	650,000	650,000	0	170,000
Treated Water Storage	0	0	0	0	0	0	0	0	2,910,000	3,000,000	3,090,000	0
Pumps	70,000	80,000	20,000	0	0	90.000	0	0	0	10,000	0	80,000
Meters	0	51,000	603,500	773,500	816,000	714,000	0	731,000	0	0	0	51,000
Customer Service	0	0	0	0	0	0	0	0	0	0	0	0
Administration	142,782	122,385	101,987	149,581	0	13,598	61,192	13,598	0	0	61,192	122,385
	2,, 32	,	_32,557	5,551	J	_0,000	32,232	_0,000	J	Ü	52,252	,
Total CIP	392,782	633,385	1,365,487	2,703,081	1,456,000	817,598	721,192	2,224,598	3,560,000	3,660,000	3,151,192	633,385
		,	,,	,,	,,	,	, -	, ,	-,,	-,,	-, - , -	,
Debt Service												
Revenue Bonds Existing	0	0	0	0	0	0	0	0	0	0	0	0
Revenue Bonds Proposed	0	0	0	0	0	0	0	0	0	0	0	0
State Revolving Loan Existing	0	0	0	0	0	0	0	0	0	0	0	0
StateRevolving Loan Proposed	0	0	0	0	0	0	0	0	0	0	0	0
		_	-	_	-	-	_	-	_			
Total Debt Service	0	0	0	0	0	0	0	0	0	0	0	0
Total Expenditures	4,692,739	5,062,341	5,927,312	7,401,761	6,295,640	5,802,427	5,855,566	7,513,003	9,007,057	9,270,469	8,929,975	5,062,341
Add: Net Operating Surplus / (Deficit)	(163,641)	(390,340)	(909,799)	(1,954,254)	(375,441)	647,103	1,178,634	155,264	(733,516)	(592,185)	178,234	(390,340)
Gross Revenue Requirement from Rates	4,529,098	4,672,001	5,017,513	5,447,507	5,920,198	6,449,530	7,034,200	7,668,267	8,273,540	8,678,284	9,108,209	4,672,001
Less: Misc. Non-Rate Revenues												
System Development Charges	2,000	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
Water Miscellaneous	22,000	22,660	23,340	24,040	24,761	25,504	26,269	27,057	27,869	28,705	29,566	22,660
Water Other	0	0	0	0	0	0	0	0	0	0	0	0
Interest Income	81,720	78,950	72,449	58,129	46,480	47,839	56,967	63,637	60,745	54,117	52,047	78,950
Total Miscellaneous Non-Rate Revenues	105,720	104,110	98,289	84,669	73,741	75,843	85,736	93,194	91,114	85,322	84,113	104,110
Net Revenue Requirement from Rates	4,423,379	4,567,891	4,919,224	5,362,838	5,846,457	6,373,688	6,948,464	7,575,073	8,182,426	8,592,962	9,024,095	4,567,891
check	0	0	0	0	0	0	0	0	0	0	0	0
Capital Cost Poyanua Paguiroment	220 141	242 045	4EE 690	740 020	1 000 550	1 464 702	1 000 027	2 270 962	2 026 404	2 067 915	2 220 426	243,045
Capital Cost Revenue Requirement	229,141	243,045	455,689	748,828	1,080,559	1,464,702	1,899,827	2,379,862	2,826,484	3,067,815	3,329,426	
Operating Revenue Requirement	4,299,957	4,428,956	4,561,824	4,698,679	4,839,640	4,984,829	5,134,374	5,288,405	5,447,057	5,610,469	5,778,783	4,428,956
Total Gross Revenue Requirement	4,529,098	4,672,001	5,017,513	5,447,507	5,920,198	6,449,530	7,034,200	7,668,267	8,273,540	8,678,284	9,108,209	4,672,001
Less: Misc. Non-Rate Revenues	105,720	104,110	98,289	84,669	73,741	75,843	85,736	93,194	91,114	85,322	84,113	104,110
Net Revenue Requirement from Rates	4,423,379	4,567,891	4,919,224	5,362,838	5,846,457	6,373,688	6,948,464	7,575,073	8,182,426	8,592,962	9,024,095	4,567,891
check	0	0	0	0	0	0	0	0	0	0	0	0

Ken-Caryl Ranch Water & Sanitation District 2018 Rate Study

Appendix B
Water Utility Cost of Service Study

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water System Purchased Water Metrics

Pu	rchased from Denver Wat	er (Kgal)	Retail Billed Consumpton	Estimated Water Loss	Estimated
Year	Annual	Annual Average Day	Annual	(Kgal)	Water Loss %
2015	701,657	1,922	649,071	52,586	7.49%
2016	787,590	2,158	765,582	22,008	2.79%
2017	767,617	2,103	775,797	(8,180)	-1.07%
Average	752,288	2,061	730,150	22,138	2.94%

	System Coincident Max Month Purchases from Denver Water (Kgal)														
	Actual Month Actual Average Day														
Year	of Occurrence	Max Month Purchases	in Max Month												
2015	September	129,728	4,185												
2016	August	139,484	4,499												
2017	July	138,826	4,478												
Average		136,013	4,388												

	System Coincident Max Day Purchases (Kgal)													
	Actual Day Estimated Avg. Ratio of Max Day Purchases													
Year	of Occurrence	Day in Max Month	to Annual Avg. Day											
2015	September X	4,185	2.18											
2016	August X	4,499	2.09											
2017	July X	4,478	2.13											
Average		4,388	2.13											

	Estimated System Coincident Max Hour Purchases (Kgal)														
		3.50													
	Actual Date and Time	Estimated	Ratio of Max Hour Purchases												
Year	of Max Hour	Max Hour Purchases	to Annual Avg. Day												
2015	Unknown	6,728	3.50												
2016	Unknown	7,552	3.50												
2017	Unknown	7,361	3.50												
Average		7,214	3.50												

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water System Demand Ratios

Calculated Base / Max Day Allocations	5	Check on Base / Max Day Allo	cations
System Max Day / Average Day Ratio	2.13	System Average Day	2,061
Base Allocation %	47.0%	System Max Day	4,388
Max Day Allocation %	53.0%	Base Allocation %	47.0%
Total Allocation %	100.0%	Max Day Allocation %	53.0%
		Total Allocation %	100.0%
Base / Max Hour Allocations		Check on Base / Max Hour Allo	ocations
System Max Hour to Average Day Ratio	3.50	System Average Day	2,061
Base Allocation %	28.6%	System Max Hour	7,214
Max Hour Allocation %	71.4%	Base Allocation %	28.6%
Total Allocation %	100.0%	Max Hour Allocation %	71.4%
		Total Allocation %	100.0%
Base / Max Day / Max Hour Allocation	1	Check on Base / Max Day / Max Ho	ur Allocation
System Max Hour X System Max Day	7.45	System Average Day	2,061
Base Allocation %	28.6%	System Max Day Less Average Day	2,326
Max Day Allocation %	32.3%	System Max Hour Less Max Day	2,826
Max Hour Allocation %	39.2%	Base Allocation %	28.6%
Total Allocation %	100.0%	Max Day Allocation %	32.3%
		Max Hour Allocation %	39.2%
		Total Allocation %	100.0%

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Peaking Factor Analysis

Peaking Factor Summary

		Max	Day															
Class	2015	2016	2017	Use This														
Single Family Residential (3/4" & 1")	'	'	2.28	2.28														
Multi-Family (Units)			1.68	1.68														
Commercial			1.99	1.99														
Multi-Family Irrigation			3.26	3.26														
Commercial - Irrigation			3.18	3.18														
Irrigation - Total			3.17	3.17														
	3.9%	3.1%	3.5%	5.3%	6.2%	15.6%	19.4%	15.4%	15.2%	5.2%	3.6%	3.6%						
2017/2018 - Monthly Billing																		
Days in Month	31	28	31	30	31	30	31	31	30	31	30	31			2017 1	∕letrics		
																		Ratio of Avg. Day in Max
															Avg. Day in	-		Month to
Cl	l== 10	F-1- 10	NA 10	A 17	NA 17	l 17	11.47	A 17	C 17	0-+ 17	N 17	D 17	Max	Max	Max	Total	Annual	Annual Avg.
Class Single Family Residential (3/4" & 1")	Jan-18 16,281	Feb-18 13,088	Mar-18 14,590	Apr-17 22,002	May-17 25,809	Jun-17 65,020	Jul-17 80,555	Aug-17 63,890	Sep-17 63,024	Oct-17 21,538	Nov-17 14,891	Dec-17 14,903	Month 80,555	Month 31	Month 2,599	Usage 415,591	Avg. Day 1,139	Day 2.28
Multi-Family (Units)	2,215	1,854	1,961	2,539	2,976	4,755	5,360	4,861	4,690	21,556	1,966	1,861	5,360	31	173	37,470	1,139	
Wulti-Failing (Offics)	2,213	1,034	1,901	2,339	2,970	4,755	3,300	4,001	4,090	2,432	1,900	1,001	3,300	31	1/3	37,470	103	1.00
Commercial																		
Commercial - 3/4"	404	322	306	491	722	1,341	1,561	1,694	1,233	661	305	287	1,694	31	55	9,327	26	2.14
Commercial - 1"	1,021	766	885	1,766	2,489	4,611	5,785	5,708	4,614	1,720	709	743	5,785	31	187	30,817	84	2.21
Commercial - 1.5"	2,317	2,107	2,333	3,659	4,287	5,856	7,706	7,468	6,410	3,394	2,104	1,917	7,706	31	249	49,558	136	1.83
Commercial - 2"	1,339	1,104	1,236	1,918	2,688	3,235	4,794	4,594	3,688	2,195	1,004	1,078	4,794	31	155	28,873	79	1.95
Commercial - 3"	670	549	854	1,696	1,364	4,611	5,461	4,759	4,603	2,221	771	721	5,461	31	176	28,280	77	2.27
Commercial - 6"	571	464	600	1,675	2,335	2,369	2,644	2,406	1,993	1,687	903	512	2,644	31	85	18,159	50	
Total Commercial	6,322	5,312	6,214	11,205	13,885	22,023	27,951	26,629	22,541	11,878	5,796	5,258	27,951	31	902	165,014	452	1.99
Multi-Family - Irrigation	0	0	0	3	61	133	106	75	118	0	0	0	133	30	4	496	1	3.26
Commercial - Irrigation																		
Commercial - Irrigation - 3/4"	0	0	0	3	146	271	275	239	206	2	0	0	275	31	9	1,142	3	2.84
Commercial - Irrigation - 1"	0	0	0	246	112	431	468	436	515	33	0	0	515	30	17	2,241	6	2.80
Commercial - Irrigation - 1.5"	0	0	0	629	1,214	3,917	5,021	4,029	3,276	214	0	0	5,021	31	162	18,300	50	3.23
Commercial - Irrigation - 2"	0	0	1	695	2,386	8,874	10,252	8,592	6,806	61	0	0	10,252	31	331	37,667	103	3.20
Commercial - Irrigation - 3"																		
Commercial - Irrigation - 6"																		
Total Commercial - Irrigation	0	0	1	1,573	3,858	13,493	16,016	13,296	10,803	310	0	0	16,016	31	517	59,350	163	3.18
Total Irrigation	0	0	1	1,576	3,919	13,626	16,122	13,371	10,921	310	0	0	16,122	31	520	59,846	164	3.17
Total System	24,818	20,254	22,766	37,322	46,589	105,424	129,988	108,751	101,176	36,158	22,653	22,022	129,988					

Residential				2018						2017						
Meter Size	Bills	Accounts	January	February	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total	
3/4"	40,429	3,369	16,144	12,983	14,459	21,615	24,895	63,727	78,899	62,383	61,665	21,025	14,697	14,716	407,208	
1"	328	27	137	105	131	387	914	1,293	1,656	1,507	1,359	513	194	187	8,383	
1 1/2"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	40,757	3,396	16,281	13,088	14,590	22,002	25,809	65,020	80,555	63,890	63,024	21,538	14,891	14,903	415,591	
	,	-,	,		,	,		55,525	00,000	,	,	,	,	,	,	
			3.9%	3.1%	3.5%	5.3%	6.2%	15.6%	19.4%	15.4%	15.2%	5.2%	3.6%	3.6%		
Jsage																
Single Family - 3/4"			January	February	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total	
ncluded In Min	5,000		13,217	11,610	12,302	14,144	14,585	16,460	16,545	16,514	16,504	14,059	12,530	12,600	171,070	41
ier 1	16,000		2,802	1,342	2,058	6,891	8,718	27,852	31,327	27,294	27,247	6,160	2,101	2,097	145,889	35
ier 2	27,000		178	88	119	629	1,390	11,952	16,700	11,433	10,993	804	142	101	54,529	13
ier 3	38,000		49	19	34	158	463	4,559	7,645	4,355	4,276	236	55	42	21,891	5
ll Over Tier 3	38,001		35	29	77	180	653	4,197	8,338	4,294	4,004	279	63	63	22,212	5
otal	33,001		16,281	13,088	14,590	22,002	25,809	65,020	80,555	63,890	63,024	21,538	14,891	14,903	415,591	100
			10,201	10,000	1.,550	22,002	23,003	05,020	00,555	00,050	00,02	22,550	1,,051	1.,500	.13,331	100
Percent Usage																
ingle Family - 3/4"															Total	
ncluded In Min	5,000		81.2%	88.7%	84.3%	64.3%	56.5%	25.3%	20.5%	25.8%	26.2%	65.3%	84.1%	84.5%	41.2%	
ier 1	16,000		17.2%	10.3%	14.1%	31.3%	33.8%	42.8%	38.9%	42.7%	43.2%	28.6%	14.1%	14.1%	35.1%	
ier 2	27,000		1.1%	0.7%	0.8%	2.9%	5.4%	18.4%	20.7%	17.9%	17.4%	3.7%	1.0%	0.7%	13.1%	
ier 3	38,000		0.3%	0.1%	0.2%	0.7%	1.8%	7.0%	9.5%	6.8%	6.8%	1.1%	0.4%	0.7%	5.3%	
All Over Tier 3	38,001		0.2%	0.1%	0.5%	0.7%	2.5%	6.5%	10.4%	6.7%	6.4%	1.3%	0.4%	0.4%	5.3%	
Total	38,001		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%	
1000			100.070	100.070	100.070	100.070	100.070	100.070	100.070	100.070	100.070	100.070	100.070	100.070	100.070	
Multi-Family - Non- Irrigation				2018						2017						
Meter Size	Bills	Accounts	January	February	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total	
3/4"	'		49	38	40	41	50	47	46	46	44	62	49	43	555	
			22	17	23	26	23	20	23	28	24	27	20	20	273	
l 1/2"			1,647	1,384	1,493	2,034	2,412	4,227	4,851	4,195	4,033	1,719	1,439	1,395	30,829	
2"			401	338	320	352	408	371	356	419	403	406	368	322	4,464	
3"			96	77	85	86	83	90	84	173	186	218	90	81	1,349	
)"			0	0	0	0	0	0	0	0	0	0	0	0	0	
「otal			2,215	1,854	1,961	2,539	2,976	4,755	5,360	4,861	4,690	2,432	1,966	1,861	37,470	
Aulti-Family - Irrigation				2018						2017						
Meter Size	Bills	Accounts	January	February	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total	
/4"			0	0	0	3	61	133	106	75	118	0	0	0	496	
															0	
1/2"															0	
															0	
"															0	
;II															0	
otal			0	0	0	3	61	133	106	75	118	0	0	0	496	
Commercial - Non Irrigation	F.''			2018						2017		0 :			-	
Meter Size	Bills	Accounts	January	February	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total	
3/4"			404	322	306	491	722	1,341	1,561	1,694	1,233	661	305	287	9,327	
L"			1,021	766	885	1,766	2,489	4,611	5,785	5,708	4,614	1,720	709	743	30,817	
4 11			,													
1 1/2" 2"			2,317 1,339	2,107 1,104	2,333 1,236	3,659 1,918	4,287 2,688	5,856 3,235	7,706 4,794	7,468 4,594	6,410 3,688	3,394 2,195	2,104 1,004	1,917 1,078	49,558 28,873	

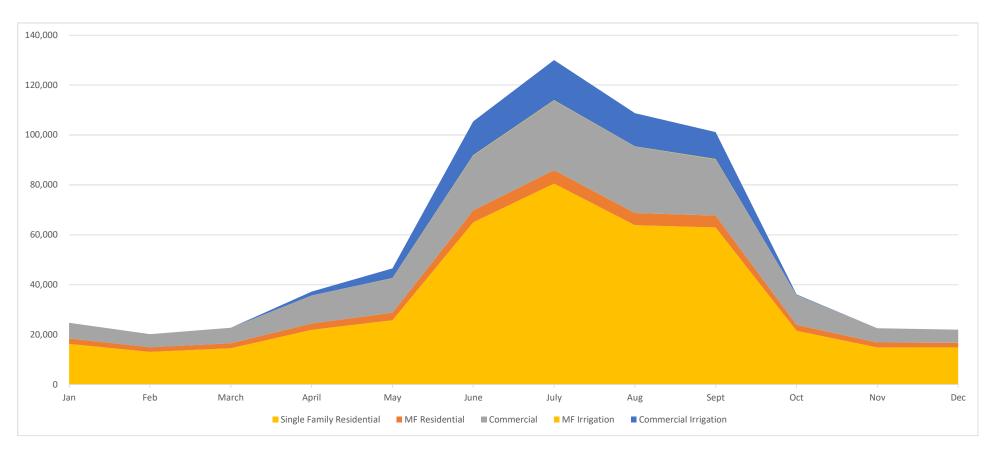
Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Peaking Factor Analysis

3"	670	549	854	1,696	1,364	4,611	5,461	4,759	4,603	2,221	771	721	28,280
6"	571	464	600	1,675	2,335	2,369	2,644	2,406	1,993	1,687	903	512	18,159
Total	6,322	5,312	6,214	11,205	13,885	22,023	27,951	26,629	22,541	11,878	5,796	5,258	165,014

Commercial - Irrigation				2018						2017					
Meter Size	Bills	Accounts	January	February	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
3/4"			0	0	0	3	146	271	275	239	206	2	0	0	1,142
1"			0	0	0	246	112	431	468	436	515	33	0	0	2,241
1 1/2"			0	0	0	629	1,214	3,917	5,021	4,029	3,276	214	0	0	18,300
2"			0	0	1	695	2,386	8,874	10,252	8,592	6,806	61	0	0	37,667
3"															0
6"															0
Total			0	0	1	1,573	3,858	13,493	16,016	13,296	10,803	310	0	0	59,350

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Peaking Factor Analysis

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Single Family Residential	16,281	13,088	14,590	22,002	25,809	65,020	80,555	63,890	63,024	21,538	14,891	14,903
MF Residential	2,215	1,854	1,961	2,539	2,976	4,755	5,360	4,861	4,690	2,432	1,966	1,861
Commercial	6,322	5,312	6,214	11,205	13,885	22,023	27,951	26,629	22,541	11,878	5,796	5,258
MF Irrigation	0	0	0	3	61	133	106	75	118	0	0	0
Commercial Irrigation	0	0	1	1,573	3,858	13,493	16,016	13,296	10,803	310	0	0



Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Asset Functionalization

		Water As	set Functionalizaton			
					Additions through	RCNLD Through
	Original Cost	Net Book Value	RCN	RCNLD	Test Year	Test Year
Asset Function	at 12/31/2017	as of 12/31/2017	at 12/31/2017	at 12/31/2017	2019	2019
Water Treatment	\$0	\$0	\$0	\$0	\$0	\$0
Distribution	8,349,650	3,080,311	19,807,047	5,809,874	320,000	6,129,874
Transmission	6,740,428	2,486,645	15,989,650	4,690,141	240,000	4,930,141
Treated Water Storage	2,270,659	464,235	7,289,691	718,941	0	718,941
Pumps	2,027,851	1,492,440	2,850,414	2,036,275	150,000	2,186,275
Meters	483,598	409,315	598,745	472,217	51,000	523,217
Customer Service	0	0	0	0	0	0
Administration	1,048,041	488,188	1,634,362	739,336	265,167	1,004,503
Total	\$20,920,227	\$8,421,133	\$48,169,910	\$14,466,783	\$1,026,167	\$15,492,950
check	\$0	\$0	\$0	\$0		

		Water Asset Fur	nctionalization Percer	ntages		
				RCN Less	Additions through	RCNLD Through
	Original Cost	Net Book Value	RCN	Depreciation	Test Year	Test Year
Asset Function	at 12/31/2017	as of 12/31/2017	at 12/31/2017	at 12/31/2017	2019	2019
Water Treatment	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Distribution	39.9%	36.6%	41.1%	40.2%	31.2%	39.6%
Transmission	32.2%	29.5%	33.2%	32.4%	23.4%	31.8%
Treated Water Storage	10.9%	5.5%	15.1%	5.0%	0.0%	4.6%
Pumps	9.7%	17.7%	5.9%	14.1%	14.6%	14.1%
Meters	2.3%	4.9%	1.2%	3.3%	5.0%	3.4%
Customer Service	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Administration	5.0%	5.8%	3.4%	5.1%	25.8%	6.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Water Allocation of Capital Cost Revenue Requirement to Demand Parameters

	Functionalized			Volumetric		Custome	r Service	Private Fire	e	
	Revenue					Equivalent		Equivalent		
Asset Function	Requirement	Total	Base	Max Day	Max Hour	Meters	Bills	Connections	Bills	Public Fire
Water Treatment	\$0	100.0%	47.0%	53.0%						
Distribution	96,162	100.0%	28.6%	32.3%	39.2%					
Transmission	77,341	100.0%	47.0%	53.0%						
Treated Water Storage	11,278	100.0%	28.6%		71.4%					
Pumps	34,297	100.0%	28.6%	32.3%	39.2%					
Meters	8,208	100.0%				100.0%				
Customer Service	0	100.0%					100.0%			
Administration	15,758	100.0%	33.8%	36.6%	26.0%	3.6%	0.0%	0.0%	0.0%	0.0%
Total	\$243,045	100.0%	33.8%	36.6%	26.0%	3.6%	0.0%	0.0%	0.0%	0.0%

	Functionalized			Volumetric		Custome	r Service	Private Fire	;	
	Revenue					Equivalent		Equivalent		
Asset Function	Requirement	Total	Base	Max Day	Max Hour	Meters	Bills	Connections	Bills	Public Fire
Water Treatment	0.0%	\$0	\$0	\$0	\$0	\$0	\$0			
Distribution	39.6%	96,162	27,475	31,013	37,675	0	0			
Transmission	31.8%	77,341	36,332	41,010	0	0	0			
Treated Water Storage	4.6%	11,278	3,222	0	8,056	0	0			
Pumps	14.1%	34,297	9,799	11,061	13,437	0	0			
Meters	3.4%	8,208	0	0	0	8,208	0			
Customer Service	0.0%	0	0	0	0	0	0			
Administration	6.5%	15,758	5,327	5,760	4,102	569	0			
Total	100.0%	\$243,045	\$82,155	\$88,843	\$63,270	\$8,777	\$0	\$0	\$0	\$1

Water Allocation of Operating Expense Revenue Requirement to Functions

	Revenue	Total				Treated			Customer	
Operating Expense Cost Center	Requirement	% Allocation	Treatment	Distribution	Transmission	Water Storage	Pumps	Meters	Service	Administration
Purchased Water	\$3,382,032	100.0%	100.0%							
Operations & Maintenance - Water	357,160	100.0%		39.6%	31.8%	4.6%	14.1%	3.4%	0.0%	6.5%
General & Administrative - Water	630,282	100.0%							50.0%	50.0%
Water Acquisition, Repair and Reserve	59,483	100.0%		100.0%						
	\$4,428,956	100.0%	76.4%	4.5%	2.6%	0.4%	1.1%	0.3%	7.1%	7.6%

\$0

	% of	Revenue				Treated			Customer	
Operating Cost Cost Center	Total	Requirement	Treatment	Distribution	Transmission	Water Storage	Pumps	Meters	Service	Administration
Purchased Water	76.4%	\$3,382,032	\$3,382,032	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Operations & Maintenance - Water	8.1%	357,160	0	141,312	113,655	16,574	50,400	12,062	0	23,157
General & Administrative - Water	14.2%	630,282	0	0	0	0	0	0	315,141	315,141
Water Acquisition, Repair and Reserve	1.3%	59,483	0	59,483	0	0	0	0	0	0
	100.0%	\$4,428,956	\$3,382,032	\$200,795	\$113,655	\$16,574	\$50,400	\$12,062	\$315,141	\$338,298

Water Allocation of Capital Cost Revenue Requirement to Demand Parameters

	Functionalized		Volumetric			Customer	Service	Privat		
	Revenue	Total				Equivalent		Equivalent		
Asset Function	Requirement	%	Base	Max Day	Max Hour	Meters	Bills	Connections	Bills	Public Fire
Water Treatment	\$3,382,032	100.0%	47.0%	53.0%	0.0%					
Distribution	\$200,795	100.0%	28.6%	32.3%	39.2%					
Transmission	\$113,655	100.0%	47.0%	53.0%	0.0%					
Treated Water Storage	\$16,574	100.0%	28.6%	0.0%	71.4%					
Pumps	\$50,400	100.0%	28.6%	32.3%	39.2%					
Meters	\$12,062	100.0%	0.0%	0.0%	0.0%	100.0%				
Customer Service	\$315,141	100.0%	0.0%	0.0%	0.0%		100.0%			
Administration	\$338,298	100.0%				50.0%	50.0%			
Total	\$4,428,956	100.0%	38.8%	43.7%	2.5%	4.1%	10.9%	0.0%	0.0%	0.0%

	Revenue			Volumetric		Custome	r Service	Privat		
	Requirement	Revenue				Equivalent		Equivalent		
Asset Function	Percentage	Requirement	Base	Max Day	Max Hour	Meters	Bills	Connections	Bills	Public Fire
Water Treatment	76.4%	\$3,382,032	\$1,588,734	\$1,793,297	\$0	\$0	\$0	\$0	\$0	\$0
Distribution	4.5%	\$200,795	57,370	64,757	78,668	0	0	0	0	0
Transmission	2.6%	\$113,655	53,390	60,265	0	0	0	0	0	0
Treated Water Storage	0.4%	\$16,574	4,735	0	11,838	0	0	0	0	0
Pumps	1.1%	\$50,400	14,400	16,254	19,746	0	0	0	0	0
Meters	0.3%	\$12,062	0	0	0	12,062	0	0	0	0
Customer Service	7.1%	\$315,141	0	0	0	0	315,141	0	0	0
Administration	7.6%	\$338,298	0	0	0	169,149	169,149	0	0	0
Total O&M Revenue Requirement	100.0%	\$4,428,956	\$1,718,630	\$1,934,573	\$110,252	\$181,211	\$484,290	\$0	\$0	\$0

Water Allocation of Miscellaneous Non-Rate Revenues to Functions

	Revenue	Total				Treated			Customer	
Non-Rate Revenue Cost Centers	Requirement	% Allocation	Treatment	Distribution	Transmission	Water Storage	Pumps	Meters	Service	Administration
System Development Charges	\$2,500	100.0%	76.4%	4.5%	2.6%	0.4%	1.1%	0.3%	7.1%	7.6%
Water Miscellaneous	22,660	100.0%	76.4%	4.5%	2.6%	0.4%	1.1%	0.3%	7.1%	7.6%
Water Other	0	100.0%	0.0%	39.6%	31.8%	4.6%	14.1%	3.4%	0.0%	6.5%
Interest Income	78,950	100.0%	76.4%	4.5%	2.6%	0.4%	1.1%	0.3%	7.1%	7.6%
	\$104,110	100.0%	76.4%	4.5%	2.6%	0.4%	1.1%	0.3%	7.1%	7.6%

	% of	Revenue				Treated			Customer	
Non-Rate Revenue Cost Centers	Total	Requirement	Treatment	Distribution	Transmission	Water Storage	Pumps	Meters	Service	Administration
Water Misc.	2.4%	\$2,500	\$1,909	\$113	\$64	\$9	\$28	\$7	\$178	\$191
Water Other	21.8%	22,660	17,304	1,027	581	85	258	62	1,612	1,731
Water Tap Fees	0.0%	0	0	0	0	0	0	0	0	0
Interest Income	75.8%	78,950	60,287	3,579	2,026	295	898	215	5,618	6,030
	100.0%	\$104,110	\$79,500	\$4,720	\$2,672	\$390	\$1,185	\$284	\$7,408	\$7,952

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Allocation of Miscellaneous Non-Rate Revenues to Demand Parameters

	Functionalized		,	/olumetric		Custome	r Service	Private	e Fire	
	Revenue	Total				Equivalent		Equivalent		
Functional Category	Requirement	%	Base	Max Day	Max Hour	Meters	Bills	Connections	Bills	Public Fire
Treatment	\$79,500	100.0%	47.0%	53.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Distribution	4,720	100.0%	28.6%	32.3%	39.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Transmission	2,672	100.0%	47.0%	53.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Treated Water Storage	390	100.0%	28.6%	0.0%	71.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Pumps	1,185	100.0%	28.6%	32.3%	39.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Meters	284	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Customer Service	7,408	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
Administration	7,952	100.0%	0.0%	0.0%	0.0%	50.0%	50.0%	0.0%	0.0%	0.0%
Total O&M Revenue Requirement	\$104,110	100.0%	38.8%	43.7%	2.5%	4.1%	10.9%	0.0%	0.0%	0.0%

	Revenue		1	/olumetric		Custome	r Service	Privat	e Fire	
	Requirement	Revenue				Equivalent		Equivalent		
Functional Category	Percentage	Requirement	Base	Max Day	Max Hour	Meters	Bills	Connections	Bills	Public Fire
Treatment	76.4%	\$79,500	\$37,346	\$42,154	\$0	\$0	\$0	\$0	\$0	\$0
Distribution	4.5%	4,720	1,349	1,522	1,849	0	0	0	0	0
Transmission	2.6%	2,672	1,255	1,417	0	0	0	0	0	0
Treated Water Storage	0.4%	390	111	0	278	0	0	0	0	0
Pumps	1.1%	1,185	338	382	464	0	0	0	0	0
Meters	0.3%	284	0	0	0	284	0	0	0	0
Customer Service	7.1%	7,408	0	0	0	0	7,408	0	0	0
Administration	7.6%	7,952	0	0	0	3,976	3,976	0	0	0
Total O&M Revenue Requirement	100.0%	\$104,110	\$40,399	\$45,475	\$2,592	\$4,260	\$11,384	\$0	\$0	\$0

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Test Year Units of Service

	Forecast			Base		Max Day			Max Hour		Custom	er	Private Fi	ire	Public	Allocation of Public Fire
	2019	Estimated	Base	Avg. Day	Peaking	Total	Extra	Max Hour	Total	Extra	Equivalent		Equivalent		Fire	Hydrants Based on
Customer Class	Billed	Lost Water	Demand	Demand	Factor	Capacity	Capacity	Peak	Capacity	Capacity	Meters	Bills	Connections	Bills	Hydrants	Equivalent Meters
Single Family Residential (3/4" & 1")	415,836	12,237	428,073	1,173	2.28	2,677	1,504	2.28	2,677	0	3,371	40,752				507
Multi-Family Residential (Units)	37,904	1,115	39,020	107	1.68	180	73	1.68	180	0	429	14,760				64
Commercial - 3/4"	9,327	274	9,601	26	1.99	52	26	1.99	52	0	54	648				8
Commercial - 1"	30,817	907	31,724	87	1.99	173	86	1.99	173	0	99	816				15
Commercial - 1 1/2"	49,558	1,458	51,016	140	1.99	279	139	1.99	279	0	70	564				11
Commercial - 2"	28,873	850	29,723	81	1.99	162	81	1.99	162	0	102	336				15
Commercial - 3"	28,280	832	29,112	80	1.99	159	79	1.99	159	0	38	36				6
Commercial - 4"	0	0	0	0	1.99	0	0	1.99	0	0	0	0				0
Commercial - 6"	18,159	534	18,693	51	1.99	102	51	1.99	102	0	40	12				6
Commercial - 8"	0	0	0	0	1.99	0	0	1.99	0	0	0	0				0
Irrigation	59,846	1,761	61,607	169	3.17	535	367	3.17	535	0	122	504				
Private Fire						0	0		0	0			75	895		
Public Fire Protection				0		300	300		3,600	3,300					632	
Total	678,600	19,970	698,570	1,914		4,620	2,706		7,920	3,300	4,326	58,428	75	895	632	632

Pi	Public Fire Flows						
	Fire #1	Fire #2	Fire #3	Total			
Estimate of Max Day Fire Flows	Gallons	Gallons	Gallons	Gallons			
Fire Flow per Minute	2,500	0	0				
Duration of Fire in Hours	2.00	0.00	0.00				
Duration of Fire in Minutes	120	0	0				
Total Max Day Fire Flow	300,000	0	0	300,000			
	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			

Private Fire Flows - Not Used for Cost of Service						
	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	0.00	0	0			
Duration of Fire in Minutes	0	0	0			
Total Max Day Fire Flow	0	0	0	0		
	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	0	0	0			
Total Max Hour Fire Flow	0	0	0	0		

Monthly Private Fire Lii	2018	Accounts	Revenue
4" or less	\$26.70	65	\$20,826.00
6"	47.25	49	\$27,783.00
8"	83.30	3	\$2,998.80
Total		117	\$51,607.80

Private Fire Connections Inside District							
Connections	Count	Flow	Flow Equiv.	Equiv.			
3/4"		25	0.03	0			
1"		40	0.04	0			
1 1/2"		50	0.05	0			
2"		160	0.16	0			
4"	65	320	0.32	21			
6"	49	1000	1.00	49			
8"	3	1600	1.60	5			
10"		2300	2.30	0			
Total	117			75			

Meter Flow Equivalencies - AWWA Manual M6 (2012 Edition)							
	Flow Max						
Meter Type	Meter	Consistent	Flow Equivalency				
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				

Private Fire Connections Outside District										
Connection	Count	Flow	Flow Equiv.	Equiv.						
3/4"		25	0.03	0						
1"		40	0.04	0						
1 1/2"		50	0.05	0						
2"		160	0.16	0						
4"		320	0.32	0						
6"		500	0.50	0						
8"		1000	1.00	0						
10"		1600	1.60	0						
Total	0			0						

	Private Fire Line Equivalencies								
C	nnection S	Flow	Equiv						
	3/4"	25	0.025						
	1"	40	0.040						
	1 1/2"	50	0.050						
	2"	160	0.160						
	3"	320	0.320						
	4"	500	0.500						
	6"	1000	1.000						
	8"	1600	1.600						
	10"	2300	2.300						

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Water Test Year Units of Service - Private Fire Flow

Private Fire Flows - For Rate Design						
	Fire #1	Fire #2	Fire #3	Total		
Estimate of Max Day Fire Flow Volumes	Gallons	Gallons	Gallons	Gallons		
Fire Flow per Minute	1,000	0	0			
Duration of Fire in Hours	1.00	0	0			
Duration of Fire in Minutes	60	0	0			
Total Max Day Fire Flow	60,000	0	0	60,000		
	Fire #1	Fire #2	Fire #3	Total		
Estimate of Max Hour Fire Flows	Gallons	Gallons	Gallons	Gallons		
Fire Flow per Minute	1,000	0	0			
Duration of Fire Expressed on a 24-Hour Basis	1,440	0	0			
Total Max Hour Fire Flow	1,440,000	0	0	1,440,000		

	Max Dav	Max Day Extra Capacity	Max Hour	Max Hour Extra Capacity
	IVIAX Day	Capacity	IVIAX I IUUI	Capacity
Units of Service	60	0	1,440	1,380

	Max Day Extra Capacity	Max Hour Extra Capacity	Bills	Total
Unit Cost	\$730.86	\$51.80	\$8.09	
Units of Service	0	1,380	1,404	
Total Cost	\$0	\$71,480	\$11,364	\$82,844

77,576

			Volumetric	Fixed		Volumetric		Customer	Service	Private Fir	e	
		Revenue	Revenue	Revenue		Max Day	Max Hour	Equivalent		Equivalent		
Customer Class		Requirement	Requirement	Requirement	Base	Extra Capacity	Extra Capacity	Meters	Bills	Connections	Bills	Public Fire
Inits of Service			•						'			•
Single Family Residential (3/4" & 1")					428,073	1,504	0	3,371	40,752	0	0	50
Multi-Family Residential (Units)					39,020	73	0	429	14,760	0	0	6
Commercial - 3/4"					9,601	26	0	54	648	0	0	
Commercial - 1"					31,724	86	0	99	816	0	0	1
Commercial - 1 1/2"					51,016	139	0	70	564	0	0	1
Commercial - 2"					29,723	81	0	102	336	0	0	1
Commercial - 3"					29,112	79	0	38	36	0	0	
Commercial - 4"					0	0	0	0	0	0	0	
Commercial - 6"					18,693	51	0	40	12	0	0	
Commercial - 8"					0	0	0	0	0	0	0	
Irrigation					61,607	367	0	122	504	0	0	
Subtotal					698,570	2,406	0	4,326	58,428	0	0	63
**					,	,	_	,	,	_	-	
Private Fire					0	0	0	0	0	75	895	
Public Hydrants					0	300	3,300	0	0	0	0	
Total					698,570	2,706	3,300	4,326	58,428	75	895	63
					,.	,	-,	,-	,			
Unit Cost of Service												
Capital Cost Revenue Requirement		\$243,045	\$234,268	\$8,777	\$82,155	\$88,843	\$63,270	\$8,777	\$0	\$0	\$0	\$
Unit Cost of Service		, ,,,	, . ,	1-7	\$0.12	\$32.83	\$19.17	\$2.03	\$0.00	\$0.00	\$0.00	\$0.0
					7	70-00	7-2	7=-00	70.00	*****	,	7
O&M Revenue Requirement		4,428,956	3,763,455	665,500	1,718,630	1,934,573	110,252	181,211	484,290	0	0	
Unit Cost of Service		., .20,550	0,700,100	005,500	2.46	714.84	33.41	41.88	8.29	0.00	0.00	0.0
Non-Rate Revenue Offset		104,110	88,466	15,644	40,399	45,475	2,592	4,260	11,384	0	0	
Unit Cost of Service			55,155		0.06	16.80	0.79	0.98	0.19	0.00	0.00	0.0
ome cost of service					0.00	20.00	3.73	0.50	0.23	0.00	0.00	0.0
Net Rev. Req. From Rates		4,567,891	3,909,258	658,634	1,760,386	1,977,941	170,931	185,728	472,906	0	0	
net net neq o nates	check	0	3,303,230	030,03	\$2.52	\$730.86	\$51.80	\$42.93	\$8.09	\$0.00	\$0.00	\$0.0
	CITCUR	Ŭ			72.32	ψ730.00	\$31.00	Ų-12.33	Ç0.05	φ0.00	φ0.00	φ0.0
Customer Class Revenue Requirements												
Single Family Residential (3/4" & 1")		2,652,357	2,177,804	474,553	1,078,737	1,099,067	0	144,714	329,839	0	0	
Multi-Family Residential (Units)		289,674	151,793	137,881	98,329	53,464	0	18,417	119,465	0	0	
Commercial - 3/4"		50,876	43,313	7,563	24,196	19,118	0	2,318	5,245	0	0	
Commercial - 1"		153,973	143,109	10,863	79,944	63,166	0	4,259	6,605	0	0	
Commercial - 1 1/2"		237,710	230,140	7,570	128,561	101,579	0	3,005	4,565	0	0	
Commercial - 2"		141,197	134,082	7,376 7,115	74,901	59,181	0	4,396	2,720	0	0	
Commercial - 2"		133,268	131,328	1,940	74,901	57,966	0	4,396 1,648	2,720	0	0	
Commercial - 4"		133,208	131,328	1,940	73,302	37,900	0	1,048	0	0	0	
Commercial - 4"		86,142	84,328	1,814	47,107	37,221	0	1,717	97	0	0	
Commercial - 8"		00,142	04,328	1,814	47,107	37,221	0	1,717	0	0	0	
Irrigation		432,505	423,171	9,334	155,249	267,922	0	5,255	4,079	0	0	
111600011		732,303	725,171	5,554	133,243	201,322	O .	3,233	7,073	U	U	
Private Fire		0	0	0	0	0	0	0	0	0	0	
Public Hydrants		390,190	390,190	0	0	219,259	170,931	0	0	0	0	
Total		\$4,567,891	\$3,909,258	\$658,634	1,760,386	1,977,941	\$170,931	\$185,728	\$472,906	\$0	\$0	
1000	check	94,307,831 0	73,303,236	7030,034	1,700,380	1,377,341	7170,931	7105,720	7472,300	ÇÜ	Ų	¥
	CHECK	U										

				Revenue Re	equirement by Custo	mer Class Befor	e Reallocation of I	Public Fire Protectio	n Costs					
				Volumetri	c				Custo	omer Service			Priva	te Fire
	Total Revenue		Max Day Extra	Max Hour Extra	Total Before RTS	RTS Adj. to	Total After RTS			Total Before		Total After RTS	Equiv.	
Customer Class	Requirement	Base	Capacity	Capacity	Adj.	Base	Adj.	Equiv. Mtrs.	Bills	RTS Adj.	RTS Adj.	Adj.	Conneections	Bills
Single Family Residential (3/4" & 1")	\$2,652,357	\$1,078,737	\$1,099,067	\$0	\$2,177,804	\$0	\$2,177,804	\$144,714	\$329,839	\$474,553	\$0	\$474,553	\$0	\$0
Multi-Family Residential (Units)	289,674	98,329	53,464	0	151,793	0	151,793	18,417	119,465	137,881	0	137,881	0	0
Commercial - 3/4"	50,876	24,196	19,118	0	43,313	0	43,313	2,318	5,245	7,563	0	7,563	0	0
Commercial - 1"	153,973	79,944	63,166	0	143,109	0	143,109	4,259	6,605	10,863	0	10,863	0	0
Commercial - 1 1/2"	237,710	128,561	101,579	0	230,140	0	230,140	3,005	4,565	7,570	0	7,570	0	0
Commercial - 2"	141,197	74,901	59,181	0	134,082	0	134,082	4,396	2,720	7,115	0	7,115	0	0
Commercial - 3"	133,268	73,362	57,966	0	131,328	0	131,328	1,648	291	1,940	0	1,940	0	0
Commercial - 4"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Commercial - 6"	86,142	47,107	37,221	0	84,328	0	84,328	1,717	97	1,814	0	1,814	0	0
Commercial - 8"	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Irrigation	432,505	155,249	267,922	0	423,171	0	423,171	5,255	4,079	9,334	0	9,334	0	0
Private Fire	0	0	0	0	0		0	0	0	0	0	0	0	0
Public Hydrants	390,190	0	219,259	170,931	390,190		390,190	0	0	0	0	0	0	0
Total	\$4,567,891	\$1,760,386	\$1,977,941	\$170,931	\$3,909,258	\$0	\$3,909,258	\$185,728	\$472,906	\$658,634	\$0	\$658,634	\$0	\$0
Check	\$0													

			Revenue Requireme	ent by Customer Clas	s After Reallocation	of Public Fire Pr	otection Costs					
			Volum	etric			Customer Service	ce		Private Fire		
						Equiv. Mtrs.						
	Total Revenue		Max Day Extra	Max Hour Extra		After RTS Adj.		Total Customer	Equiv.		Total Private	
Customer Class	Requirement	Base After RTS Adj.	Capcity	Capacity	Total Volumetric	& Public Fire	Bills	Service	Connections	Bills	Fire	Public Fire
Single Family Residential (3/4" & 1")	\$2,956,381	\$1,078,737	\$1,099,067	\$0	\$2,177,804	\$448,738	\$329,839	\$778,577	\$0	\$0	\$0	\$0
Multi-Family Residential (Units)	328,365	98,329	53,464	0	151,793	57,107	119,465	176,572	0	0	0	0
Commercial - 3/4"	55,746	24,196	19,118	0	43,313	7,188	5,245	12,433	0	0	0	0
Commercial - 1"	162,919	79,944	63,166	0	143,109	13,205	6,605	19,810	0	0	0	0
Commercial - 1 1/2"	244,023	128,561	101,579	0	230,140	9,318	4,565	13,883	0	0	0	0
Commercial - 2"	150,433	74,901	59,181	0	134,082	13,631	2,720	16,351	0	0	0	0
Commercial - 3"	136,731	73,362	57,966	0	131,328	5,112	291	5,403	0	0	0	0
Commercial - 4"	0	0	0	0	0	0	0	0	0	0	0	0
Commercial - 6"	89,749	47,107	37,221	0	84,328	5,325	97	5,422	0	0	0	0
Commercial - 8"	0	0	0	0	0	0	0	0	0	0	0	0
Irrigation	443,544	155,249	267,922	0	423,171	16,294	4,079	20,373	0	0	0	0
Private Fire	0	0	0	0	0	0	0	0	0	0	0	0
Total	\$4,567,891	\$1,760,386	\$1,758,682	\$0	\$3,519,068	\$575,918	\$472,906	\$1,048,824	\$0	\$0	\$0	\$0

Equiv. Mtrs. For
Allocation of Public
Fire
77.9%
9.9%
1.2%
2.3%
1.6%
2.4%
0.9%
0.0%
0.9%
0.0%
2.8%
100.0%

Compa	rison of Test Year Rever	nue at Existing Rates vs.	cos	
	Test Year 2019	Test Year 2019		
	Revenue at	Cost of Service		
Customer Class	Existing Rates	Service	\$ Change	% Change
Single Family Residential (3/4" & 1")	\$2,477,952	\$2,956,381	478,430	19.3%
Multi-Family Residential (Units)	546,866	328,365	(218,501)	-40.0%
Commercial - 3/4"	58,751	55,746	(3,005)	-5.1%
Commercial - 1"	184,373	162,919	(21,454)	-11.6%
Commercial - 1 1/2"	297,798	244,023	(53,775)	-18.1%
Commercial - 2"	189,122	150,433	(38,689)	-20.5%
Commercial - 3"	157,942	136,731	(21,210)	-13.4%
Commercial - 4"	0	0	0	
Commercial - 6"	95,153	89,749	(5,403)	-5.7%
Commercial - 8"	0	0	0	
Irrigation	364,544	443,544	78,999	21.7%
Private Fire	0	0	0	
Total	\$4,372,500	\$4,567,891	\$195,391	4.5%
	Check	\$0		

	Comparison	of Test Year Revenue at	Existing Rates vs. C	OS		
	Test Year 2019	Test Year 2019	Test Year 2019	Test Year 2019		
	Revenue at	Cost of Service	Private Fire	Cost of		
Customer Class	Existing Rates	Before Private Fire	Adjustment	Service	\$ Change	% Change
Single Family Residential (3/4" & 1")	\$2,477,952	\$2,956,381	\$60,445	\$2,895,937	417,985	16.9%
Multi-Family Residential (Units)	546,866	328,365	7,692	320,673	(226,193)	-41.4%
Commercial	983,139	839,602	7,244	832,358	(150,781)	-15.3%
Irrigation	364,544	443,544	2,195	441,349	76,805	21.1%
Private Fire	\$51,608			\$77,576	25,968	50.3%
Total	\$4,424,108	\$4,567,891		\$4,567,891	143,784	3.3%

Ken-Caryl Ranch Water & Sanitation District 2018 Rate Study

Appendix C
Water Utility Rate Design

RTS Adjustment to Class COS 0.0%

				Service (Charge Rate Design	1							
				Annual			Monthly	Monthly	Monthly	Calculated	Existing		
	Revenue			Unit Cost	Meter	Flow Rate	Capacity	Billing	RTS	Monthly	Fixed		%
COS Component	Requirement	Un	its of Service	of Service	Size	Equivalencies	Charge	Component	Component	Charge	Charge	Difference	Difference
Meters	\$575,918	4,326	Equivalent Meters	\$133.12	3/4"	1.00	\$11.09	\$8.09	\$0.00	\$19.19	\$26.70	(\$7.51)	39%
Billing and Collection	472,906	58,428	Bills	8.09	1"	1.60	17.75	8.09	0.00	25.84	48.93	(23.09)	89%
Readiness to Serve Adjustment	0	4,326	Equivalent Meters	0.00	1 1/2"	2.00	22.19	8.09	0.00	30.28	106.76	(76.48)	253%
					2"	6.40	71.00	8.09	0.00	79.09	191.28	(112.19)	142%
Total COS	\$1,048,824				3"	12.80	141.99	8.09	0.00	150.09	427.02	(276.93)	185%
Check	\$0				4"	20.00	221.86	8.09	0.00	229.96	760.62	(530.66)	231%
					6"	40.00	443.72	8.09	0.00	451.82	1,708.08	(1,256.26)	278%
					8"	64.00	709.96	8.09	0.00	718.05	0.00	718.05	-100%

		Single Family Residentia	ı								
		Calculated	Forecast Fixed Revenue	Forecast Total	Net Volumetric						
Meter Size	Accounts	Monthly Charge	Recovery	Revenue Req.	Revenue Req.						
3/4"	3,371	\$19.19	\$776,274								
1"	27	25.84	8,372								
1-1/2"		30.28	0								
2"		79.09	0								
3"		150.09	0								
4"		229.96	0								
6"		451.82	0								
Total	3,398		\$784,646	\$2,895,937	\$2,111,290						
			Distribution	Paste Steepness	Calculated	Forecast	Revenue	Calculated	Existing	Change	Change
Block	Proposed Blocks	Billed Usage	of Usage	from Below	Rates	Revenue	Distribution	Rates	Rates	\$	%
Block 1	1-10,000 gal	171,324	41.2%	1.00	\$2.12	\$363,208	17.2%	\$2.12	\$0.00	\$2.12	0.0%
Block 2	10,000-16,000 gal	145,958	35.1%	2.74	5.81	848,018	40.1%	5.81	5.34	0.47	8.8%
Block 3	17,000-27,000 gal	54,474	13.1%	3.81	8.08	440,154	20.8%	8.08	5.85	2.23	38.1%
Block 4	28,000 to 38,000 gal	22,039	5.3%	4.65	9.85	217,087	10.3%	9.85	6.35	3.50	55.1%
Block 5	Over 38,001 gal	22,039	5.3%	5.31	11.26	248,162	11.7%	11.26	6.86	4.40	64.1%
		415,836	100.0%	Average	\$5.09	\$2,116,629	100.0%				
					check	\$5,338					

Volumetric Revenue Requirement									
Cost Component	Block 1	Block 2	Block 3	Block 4	Block 5	Total	Total Costs	Percent of Total	Billed Consum.
Base	23%	53%	25%	0%	0%	100%	\$1,614,988	76.3%	317,283
Maximum Day	0%	0%	5%	50%	45%	100%	389,460	18.4%	76,514
Maximum Hour	0%	0%	15%	20%	65%	100%	112,181	5.3%	22,039
Total Cost	\$363,372	\$847,869	\$440,047	\$217,166	\$248,175	\$2,116,629	\$2,116,629		415,836
Total Borcontago	17 179/	40.069/	20.70%	10.26%	11 729/	00 200/			

Tier	Consumption	Calculated Rate	Steepness
Tier 1	171,324	\$2.12	1.00
Tier 2	145,958	\$5.81	2.74
Tier 3	54,474	\$8.08	3.81
Tier 4	22,039	\$9.85	4.65
Tier 5	22,039	\$11.26	5.31
Total	415.836		

	M	ulti-Family Residential (Per A	ccount)								
		Calculated	Forecast Fixed Revenue	Forecast Total	Net Volumetric						
Meter Size	Accounts	Monthly Charge	Recovery	Revenue Req.	Revenue Req.						
3/4"	233	\$19.19	\$53,655								
1"	45	25.84	13,954								
1-1/2"	30	30.28	10,901								
2"	8	79.09	7,593								
3"	1	150.09	1,801								
4"	0	229.96	0								
6"	0	451.82	0								
Total	317		\$87,903	\$320,673	\$232,769		\$8.46				
Consumption			Distribution	Proposed	Calculated	Forecast	Revenue	Calculated	Existing	Change	Change
Block	Proposed Blocks	Billed Usage	of Usage	Steepness	Rates	Revenue	Distribution	Rates	Rates	\$	%
Block 1	All	37,904	100.0%	1.00	\$6.15	\$233,112	100.0%	\$6.15	\$0.00	\$6.15	0.0%
Block 2											
Block 3											
Block 4											
Block 5											
		37,904	100.0%		\$6.15	\$233,112	100.0%				
					Check	\$343					

		Commercial (All Meter Siz	zes)								
		Calculated	Forecast Fixed Revenue	Forecast Total	Net Volumetric						
Meter Size	Accounts	Monthly Charge	Recovery	Revenue Req.	Revenue Req.						
3/4"	54	\$19.19	\$12,435								
1"	68	25.84	21,085								
1-1/2"	47	30.28	17,078								
2"	28	79.09	26,574								
3"	3	150.09	5,403								
4"	0	229.96	0								
6"	1	451.82	5,422								
Total	201		\$87,998	\$832,358	\$744,360		\$5.04				
Consumption			Distribution	Proposed	Calculated	Forecast	Revenue	Calculated	Existing	Change	Change
Block	Proposed Blocks	Billed Usage	of Usage	Steepness	Rates	Revenue	Distribution	Rates	Rates	\$	%
Block 1	All Usage	165,014	100.0%	1.00	\$4.52	\$745,863	100.2%	\$4.52	\$0.00	\$4.52	0.0%
Block 2									\$5.34		
Block 3									\$5.85		
Block 4											
Block 5											
		165,014	100.0%		\$4.51	\$744,360	100.2%			•	
					Check	\$0					

		Irrigation									
		Calculated	Forecast Fixed Revenue	Forecast Total	Net Volumetric						
Meter Size	Accounts	Monthly Charge	Recovery	Revenue Req.	Revenue Req.						
3/4"	12	\$19.19	\$2,763								
1"	6	25.84	1,860								
1-1/2"	12	30.28	4,360								
2"	12	79.09	11,389								
3"	0	150.09	0								
4"	0	229.96	0								
6"	0	451.82	0								
Total	42		\$20,373	\$441,349	\$420,976		\$7.37				
Consumption			Distribution	Proposed	Calculated	Forecast	Revenue	Calculated	Existing	Change	Change
Block	Proposed Blocks	Billed Usage	of Usage	Steepness	Rates	Revenue	Distribution	Rates	Rates	\$	%
Block 1	All Usage	59,846	100.0%	1.00	\$7.04	\$421,316	56.6%	\$7.04	\$5.34	\$1.70	31.8%
Block 2									\$5.85		
Block 3									\$0.00		
Block 4											
Block 5											
		59,846	100.0%		\$7.03	\$420,976	56.6%				
					Check	\$0					

	Private Fire Lines									
		Fire Line Flow Rate		Calculated	Forecast Total	Existing	Change	Change		
Fire Line Size	Accounts	Equivalencies	Equivalents	Monthly Charge	Revenue Req.	Monthly Charge	\$	%		
0.75	0	0.47	0	\$0.36	\$0	\$26.70	(\$26.34)	-98.7%		
1.00	0	1.00	0	0.75	0	26.70	(25.95)	-97.2%		
1.50	0	2.90	0	2.18	0	26.70	(24.52)	-91.8%		
2.00	0	6.19	0	4.65	0	26.70	(22.05)	-82.6%		
3.00	0	17.98	0	13.49	0	26.70	(13.21)	-49.5%		
4.00	65	38.32	2,491	28.74	22,417	26.70	2.04	7.6%		
6.00	49	111.31	5,454	83.49	49,092	47.25	36.24	76.7%		
8.00	3	237.21	712	177.91	6,405	83.30	94.61	113.6%		
10.00	0	426.58	0	319.94	0		319.94	0.0%		
Total	117		8,657		\$77,576					

Monthly Fixed Charge										
Meter Size	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
3/4"	\$19.19	\$20.53	\$22.38	\$24.40	\$26.59	\$28.98	\$31.59	\$34.12	\$35.83	\$37.62
1"	25.84	27.65	30.14	32.85	35.81	39.03	42.54	45.94	48.24	50.65
1.5"	30.28	32.40	35.32	38.49	41.96	45.73	49.85	53.84	56.53	59.36
2"	79.09	84.63	92.24	100.54	109.59	119.46	130.21	140.62	147.66	155.04
3"	150.09	160.60	175.05	190.80	207.98	226.69	247.10	266.87	280.21	294.22
4"	229.96	246.06	268.20	292.34	318.65	347.33	378.59	408.88	429.32	450.79
6"	451.82	483.45	526.96	574.38	626.08	682.43	743.84	803.35	843.52	885.69
8"	718.05	768.31	837.46	912.83	994.99	1,084.54	1,182.15	1,276.72	1,340.55	1,407.58
Fire Line Charges										
4"	28.74	30.75	33.52	36.54	39.82	43.41	47.32	51.10	53.66	56.34
6"	83.49	89.33	97.37	106.14	115.69	126.10	137.45	148.45	155.87	163.66
8"	177.91	190.36	207.50	226.17	246.53	268.71	292.90	316.33	332.15	348.75

Volume Rate (\$/kgal)										
Customer Class	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Single Family Residential										
1-5,000 gal	\$2.12	\$2.27	\$2.47	\$2.70	\$2.94	\$3.20	\$3.49	\$3.77	\$3.96	\$4.16
5,000-16,000 gal	5.81	6.22	6.78	7.39	8.05	8.78	9.57	10.33	10.85	11.39
17,000-27,000 gal	8.08	8.65	9.42	10.27	11.20	12.20	13.30	14.37	15.08	15.84
28,000 to 38,000 gal	9.85	10.54	11.49	12.52	13.65	14.88	16.22	17.51	18.39	19.31
Over 38,001 gal	11.26	12.05	13.13	14.31	15.60	17.01	18.54	20.02	21.02	22.07
	\$6.15	\$6.58	\$7.17	\$7.82	\$8.52	\$9.29	\$10.12	\$10.93	\$11.48	\$12.06
Multi Family Residential	6.15	6.58	7.17	7.82	8.52	9.29	10.12	10.93	11.48	12.06
	6.15	6.58	7.17	7.82	8.52	9.29	10.12	10.93	11.48	12.06
	\$4.52	\$4.84	\$5.27	\$5.75	\$6.26	\$6.83	\$7.44	\$8.04	\$8.44	\$8.86
Commercial	4.52	4.84	5.27	5.75	6.26	6.83	7.44	8.04	8.44	8.86
	4.52	4.84	5.27	5.75	6.26	6.83	7.44	8.04	8.44	8.86
Irrigation Only	\$7.04	\$7.53	\$8.21	\$8.95	\$9.76	\$10.63	\$11.59	\$12.52	\$13.14	\$13.80

Projected Service Charge Revenue											
											Test Year
Customer Class	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Single Family Residential (3/4" & 1")	\$782,491	\$837,512	\$913,157	\$995,634	\$1,085,560	\$1,183,608	\$1,290,512	\$1,394,162	\$1,464,300	\$1,537,967	\$782,4
Multi-Family Residential (Units)	87,903	94,057	102,522	111,749	121,806	132,769	144,718	156,295	164,110	172,315	87,90
Commercial - 3/4"	12,435	13,306	14,503	15,808	17,231	18,782	20,472	22,110	23,216	24,376	12,43
Commercial - 1"	21,085	22,561	24,592	26,805	29,218	31,847	34,714	37,491	39,365	41,333	21,08
Commercial - 1 1/2"	17,078	18,273	19,918	21,711	23,665	25,794	28,116	30,365	31,883	33,478	17,07
Commercial - 2"	26,574	28,434	30,994	33,783	36,823	40,138	43,750	47,250	49,612	52,093	26,57
Commercial - 3"	5,403	5,781	6,302	6,869	7,487	8,161	8,896	9,607	10,088	10,592	5,40
Commercial - 4"	0	0	0	0	0	0	0	0	0	0	
Commercial - 6"	5,422	5,801	6,323	6,893	7,513	8,189	8,926	9,640	10,122	10,628	5,42
Commercial - 8"	0	0	0	0	0	0	0	0	0	0	
Commercial - Irrigation - 3/4"	2,303	2,464	2,686	2,927	3,191	3,478	3,791	4,094	4,299	4,514	2,30
Commercial - Irrigation - 1"	1,860	1,991	2,170	2,365	2,578	2,810	3,063	3,308	3,473	3,647	1,86
Commercial - Irrigation - 1 1/2"	4,360	4,666	5,085	5,543	6,042	6,586	7,179	7,753	8,140	8,547	4,36
Commercial - Irrigation - 2"	11,389	12,186	13,283	14,478	15,781	17,202	18,750	20,250	21,262	22,326	11,38
Commercial - Irrigation - 3"	0	0	0	0	0	0	0	0	0	0	
Commercial - Irrigation - 4"	0	0	0	0	0	0	0	0	0	0	
Commercial - Irrigation - 6"	0	0	0	0	0	0	0	0	0	0	
Commercial - Irrigation - 8"	0	0	0	0	0	0	0	0	0	0	
Multi-Family - Irrigation - 3/4"	461	493	537	585	638	696	758	819	860	903	46
Multi-Family - Irrigation - 1"	0	0	0	0	0	0	0	0	0	0	
Multi-Family - Irrigation - 1 1/2"	0	0	0	0	0	0	0	0	0	0	
Multi-Family - Irrigation - 2"	0	0	0	0	0	0	0	0	0	0	
Multi-Family - Irrigation - 3"	0	0	0	0	0	0	0	0	0	0	
Multi-Family - Irrigation - 4"	0	0	0	0	0	0	0	0	0	0	
Multi-Family - Irrigation - 6"	0	0	0	0	0	0	0	0	0	0	
Multi-Family - Irrigation - 8"	0	0	0	0	0	0	0	0	0	0	
Fire Line - 4"	22,417	23,986	26,145	28,498	31,063	33,859	36,906	39,859	41,851	43,944	22,41
Fire Line - 6"	49,092	52,529	57,256	62,409	68,026	74,148	80,822	87,287	91,652	96,234	49,09
Fire Line - 8"	6,405	6,853	7,470	8,142	8,875	9,674	10,544	11,388	11,957	12,555	6,40
otal Minimum Charge Revenue	\$1,056,680	\$1,130,894	\$1,232,943	\$1,344,200	\$1,465,498	\$1,597,740	\$1,741,916	\$1,881,679	\$1,976,192	\$2,075,453	\$1,056,6
		7.02%	9.02%	9.02%	9.02%	9.02%	9.02%	8.02%	5.02%	5.02%	

												Test Year
Customer Class	TIER	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
gle Family Residential (3/4" & 1")	0 to 5,000 gal	\$363,208	\$388,746	\$423,858	\$462,141	\$503,882	\$549,393	\$599,015	\$647,126	\$679,682	\$713,875	363.2
	5,001 to 16,000 gal	848,018	907,646	989,626	1,079,009	1,176,466	1,282,725	1,398,581	1,510,911	1,586,922	1,666,758	848,0
	16,001 to 27,000 gal	440,154	471,103	513,654	560,047	610,631	665,783	725,917	784,221	823,673	865,111	440,1
	27,001 to 38,000 gal	217,087	232,352	253,338	276,219	301,168	328,369	358,027	386,783	406,242	426,679	217,0
	Over 38,001 gal	248,162	265,612	289,602	315,759	344,279	375,374	409,278	442,150	464,394	487,757	248,1
	Total	2,116,629	2,265,459	2,470,077	2,693,176	2,936,425	3,201,644	3,490,818	3,771,191	3,960,913	4,160,180	2,116,6
Ilti Family Residential (Units)	0 to 5,000 gal	82,055	87,799	95,701	104,314	113,703	123,936	135,090	145,897	153,192	160,852	82,0
	5,001 to 10,000 gal	151,056	161,630	176,177	192,033	209,316	228,155	248,688	268,584	282,013	296,113	151,0
	Over 10,001 gal	0	0	0	0	0	0	0	0	0	0	
	Total	233,112	249,430	271,878	296,347	323,019	352,090	383,778	414,481	435,205	456,965	233,1
mmercial - 3/4"	0 to 5,000 gal	3.120	3,338	3.639	3,966	4,323	4.712	5.136	5.547	5.824	6,115	3,1
	5.001 to 22.000 gal	39,038	41,771	45,530	49,628	54,095	58,963	64,270	69,411	72,882	76,526	39,0
	Over 22,001 gal	0	0	0	0	0	0	0	0	0	0	,-
	Total	42,158	45,109	49,169	53,594	58,418	63,675	69,406	74,958	78,706	82,642	42,1
mmercial - 1"	0 to 10,000 gal	10,308	11,029	12,022	13,104	14,283	15,569	16,970	18,327	19.244	20,206	10.3
	10,001 to 41,000 gal	128,985	138,014	150,435	163,975	178,732	194,818	212,352	229,340	240,807	252,847	128,9
	Over 41,001 gal	0	130,014	150,455	0 0	0	0	0	0	0	0	120,5
	Total	139,293	149,043	162,457	177,078	193,015	210,387	229,322	247,667	260,051	273,053	139,2
mmercial - 1.5"	0 to 23,000 gal	16,576	17,736	19,333	21,073	22,969	25,037	27,290	29,473	30,947	32,494	16,5
mmercial * 1.3	23,001 to 94,000 gal	207,426	221,946	241,921	263,694	287,426	313,295	341,491	368,810	387,251	406,614	207,4
	Over 94,001 gal	207,426	221,946	241,921	203,094	287,426	313,295	341,491	308,810	387,251	400,014	207,2
	Total	224,002	239,682	261,254	284,767	310,396	338,331	368,781	398,283	418,198	439,107	224,0
mmercial - 2"	04-42 0001	0.657	40.222	44.262	42.277	42.202	44.507	45.000	47.474	40.000	40.024	
mmerciai - 2"	0 to 42,000 gal	9,657	10,333 129,308	11,263 140,946	12,277 153,631	13,382 167,458	14,587 182,529	15,899 198,956	17,171	18,030 225,616	18,931 236,897	9,6
	42,001 to 169,000 gal Over 169,001 gal	120,849 0	129,308	140,946	153,631	167,458	182,529	198,956	214,873 0	225,616	236,897	120,8
	Total	130,506	139,641	152,209	165,908	180,840	197,115	214,856	232,044	243,646	255,829	130,5
mmercial - 3"												
mmerciai - 3"	0 to 95,000 gal	9,459 118,367	10,121 126,652	11,032 138,051	12,025 150,475	13,107 164,018	14,287 178,780	15,573 194,870	16,819 210,460	17,660 220,983	18,542 232,032	9,4
	95,001 to 382,000 gal		126,652									118,3
	Over 382,001 gal Total	127,826	136,773	149,083	162,500	0 177,126	193,067	210,443	227,278	238,642	0 250,574	127,8
mmercial - 4"	0 to 170,000 gal 170,001 to 681,000 gal	0	0	0	0	0	0	0	0	0	0	
	Over 681,001 gal	0	0	0	0	0	0	0	0	0	0	
	Total	0	0	0	0	0	0	0	0	0	0	
mmercial - 6"												
ommercial - 6"	0 to 383,000 gal	6,074	6,499	7,084	7,721	8,416	9,174	10,000	10,799	11,339	11,906	6,0
	383,001 to 1,534,000 gal	76,005	81,325	88,644	96,622	105,318	114,797	125,129	135,139	141,896	148,991	76,0
	Over 1,534,001 gal Total	82,079	0 87,824	95,728	104,344	113,735	0 123,971	135,128	145,939	0 153,236	0 160,897	82,0
												,-
mmercial - 8"	0 to 682,000 gal 682,001 to 2,729,000 gal	0	0	0	0	0	0	0	0	0	0	
		0	0						0			
	Over 2,729,001 gal	0	0	0	0	0	0	0	0	0	0	
	1000											
tal Commercial		745,863	798,074	869,900	948,191	1,033,529	1,126,546	1,227,935	1,326,170	1,392,479	1,462,103	745,8
igation Only		421,316	450,808	491,381	535,605	583,809	636,352	693,624	749,114	786,570	825,898	421,3
	Total Volume Charge Revenue	\$3,516,920	\$3,763,771	\$4,103,237	\$4,473,320	\$4,876,782	\$5,316,633	\$5,796,155	\$6,260,955	\$6,575,166	\$6,905,146	\$3,516,9
	Total Revenue	\$4,573,600	\$4,894,665	\$5,336,179	\$5,817,520	\$6,342,279	\$6,914,373	\$7,538,071	\$8,142,634	\$8,551,359	\$8,980,599	\$4,573,6
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	Revenue Req.	\$4,567,891	\$4,919,224	\$5,362,838	\$5,846,457	\$6,373,688	\$6,948,464	\$7,575,073	\$8,182,426	\$8,592,962	\$9,024,095	
	Difference	\$5,708	(\$24,560)	(\$26,659)	(\$28,936)	(\$31,408)	(\$34,091)	(\$37,002)	(\$39,792)	(\$41,603)	(\$43,496)	
		0.1%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	
	Total System		7.7%	9.0%	9.0%	9.0%	9.0%	9.0%	8.0%	5.0%	5.0%	
	Tier 1 Revenue - All Classes	\$500,457	\$535,603	\$583,932	\$636,622	\$694,066	\$756,693	\$824,972	\$891,160	\$935,917	\$982,922	
	Service Charge Revenue	1,056,680	1,130,894	1,232,943	1,344,200	1,465,498	1,597,740	1,741,916	1,881,679	1,976,192	2,075,453	
	Total	1,557,137	1,666,497	1,816,875	1,980,822	2,159,564	2,354,434	2,566,888	2,772,838	2,912,109	3,058,376	
	Percent of Total Revenue	34.0%	34.0%	34.0%	34.0%	34.1%	34.1%	34.1%	34.1%	34.1%	34.1%	
	Cinala Family Desidential											
	Single Family Residential Tier 1 Revenue - Single Family	\$363.208	\$388.746	\$423.858	\$462.141	\$503.882	\$549.393	\$599.015	\$647.126	\$679.682	\$713.875	
	Tier 1 Revenue - Single Family	\$363,208 1,056,680	\$388,746 1,130,894	\$423,858 1,232,943	\$462,141 1,344,200	\$503,882 1,465,498	\$549,393 1,597,740	\$599,015 1,741,916	\$647,126 1,881,679	\$679,682 1,976,192	\$713,875 2,075,453	
		\$363,208 1,056,680 1,419,887	\$388,746 1,130,894 1,519,640	\$423,858 1,232,943 1,656,801	\$462,141 1,344,200 1,806,342	\$503,882 1,465,498 1,969,380	\$549,393 1,597,740 2,147,133	\$599,015 1,741,916 2,340,930	\$647,126 1,881,679 2,528,804	\$679,682 1,976,192 2,655,874	\$713,875 2,075,453 2,789,329	

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Existing and Proposed Sewer Rates

Commercial - 8"

2018		2019	
Monthly Minium Charge		Monthly Meter Charge (All Customers)	
Single Family Residential	\$28.52	Single Family Residential	\$29.38
Multi-Family Residential (per unit)	28.52	Multi-Family Residential (per unit)	29.38
Commercial	28.52	Commercial	29.38
Volumetric Rates (Per 1,000 gallons per n	nonth)	Volumetric Rates (Per 1,000 gallons per	month)
Commercial (Above AWC)	\$3.75	Commercial (Above AWC)	\$3.86
System Development Charges		System Development Charges	
Single Family Residential	\$600	3/4"	\$3,084
Multi-Family Residential (Per Unit)	600	1"	4,935
Commercial - 3/4"	600	1 1/2"	6,169
Commercial - 1"	1,200	2"	19,739
Commercial - 1 1/2"	2,400	3"	39,479
Commercial - 2"	4,800	4"	61,685
Commercial - 3"	10,800	6"	123,371
Commercial - 4"	21,600	8"	197,393
Commercial - 6"	56,400	Multi-Family Residential (Per Unit)	3,084

120,000

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Existing and Proposed Water Rates

2018		2019	
Monthly Minium Charge		Monthly Meter Charge (All Customers)	
Single Family Residential - 3/4"	\$26.70	3/4"	\$19.19
Single Family Residential - 1"	26.70	1"	25.84
Multi-Family Residential	26.70	1 1/2"	30.28
Commercial - 3/4"	26.70	2"	79.09
Commercial - 1"	48.93	3"	150.09
Commercial - 1 1/2"	106.76	4"	229.96
Commercial - 2"	191.28	6"	451.82
Commercial - 3"	427.02	8"	718.05
Commercial - 4"	760.62		
Commercial - 6"	1,708.08		
Commercial - 8"			
Volumetric Rates (Per 1,000 gallons per	month)	Volumetric Rates (Per 1,000 gallons per m	onth)
Single Family Residential - 3/4"		Single Family Residential (All Meter Sizes)	
Minimum Charge (5,000 gal)	\$0.00	1-5,000 gal	\$2.12
5,001 to 16,000 gal	5.34	5,001-16,000 gal	5.81
16,001 to 27,000 gal	5.85	16,001-27,000 gal	8.08
27,001 to 38,000 gal	6.35	27,001 to 38,000 gal	9.85
Over 38,001 gal	6.86	Over 38,001 gal	11.26
Single Family Residential - 1"			
Minimum Charge (5,000 gal)	\$0.00		
5,001 to 16,000 gal	5.34		
16,001 to 27,000 gal	5.85		
27,001 to 38,000 gal	6.35		
Over 38,001 gal	6.86		
Multi-Family Residential		Multi-Family Residential	
Minimum Charge (5,000 gal)	\$0.00	All Consumpton	\$6.15
5,001 to 10,000 gal	5.34		
Over 10,001 gal	5.85		

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Existing and Proposed Water Rates

2018	
Commercial - 3/4"	
Minimum Charge (5,000 gal)	\$0.00
5,001 to 22,000 gal	5.34
Over 22,001 gal	5.85
Commercial - 1"	
Minimum Charge (10,000 gal)	\$0.00
10,001 to 41,000 gal	5.34
Over 41,001 gal	5.85
Commercial - 1.5"	
Minimum Charge (23,000 gal)	\$0.00
23,001 to 94,000 gal	5.34
Over 94,001 gal	5.85
Commercial - 2"	
Minimum Charge (42,000 gal)	\$0.00
42,001 to 169,000 gal	5.34
Over 169,001 gal	5.85
Commercial - 3"	
Minimum Charge (95,000 gal)	\$0.00
95,001 to 382,000 gal	5.34
Over 382,001 gal	5.85
Commercial - 4"	
Minimum Charge (170,000 gal)	\$0.00
170,001 to 681,000 gal	5.34
Over 681,001 gal	5.85
Commercial - 6"	
Minimum Charge (383,000 gal)	\$0.00
383,001 to 1,534,000 gal	5.34
Over 1,534,001 gal	5.85
Commercial - 8"	
Minimum Charge (682,000 gal)	\$0.00
682,001 to 2,729,000 gal	5.34
Over 2,729,001 gal	5.85

2019

Commercial (All Meter Sizes)
All Consumpton \$4.52

Irrigation (All Meter Sizes)
All Consumption

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Existing and Proposed Water Rates

2018		2019	
Monthly Private Fire Lines		Monthly Private Fire Lines	
4" or less	\$26.70	4" or less	\$28.74
6"	47.25	6"	83.49
8"	83.30	8"	177.91
System Development Charges		System Development Charges	
Single Family Residential - 3/4"	\$2,500	3/4"	\$3,312
Single Family - 1"	5,000	1"	5,300
Multi-Family Residential (Per Unit)	2,500	1 1/2"	6,625
Commercial - 3/4"	2,500	2"	21,199
Commercial - 1"	5,000	3"	42,397
Commercial - 1 1/2"	10,000	4"	66,246
Commercial - 2"	20,000	6"	132,492
Commercial - 3"	45,000	8"	211,987
Commercial - 4"	90,000	Multi-Family Residential (Per Unit)	3,312
Commercial - 6"	235,000		
Commercial - 8"	500,000		

Ken-Caryl Ranch Water & Sanitation District 2018 Rate Study

Appendix D
Sewer Utility Financial Plan

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Sewer Master Control

Proposed Sewer Revenue Increases	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Sewer Annual Rate Increases	0.0%	3.0%	3.0%	3.0%	5.0%	6.0%	6.0%	7.0%	7.0%	3.0%	3.0%
Months Effective	12	10	12	12	12	12	12	12	12	12	12
Actual % Increase	0.0%	2.5%	3.0%	3.0%	5.0%	6.0%	6.0%	7.0%	7.0%	3.0%	3.0%
Cumulative Increases	0.0%	3.0%	6.1%	9.3%	14.7%	21.6%	28.9%	37.9%	47.6%	52.0%	56.6%
Operating Performance											
Rate Revenues	2,084,250	2,136,707	2,211,907	2,278,638	2,392,962	2,536,956	2,689,615	2,878,360	3,080,350	3,173,281	3,269,016
Other Revenues	47,156	47,494	49,244	51,522	49,469	38,656	29,388	22,738	23,402	32,198	36,522
Total Revenues	2,131,406	2,184,201	2,261,150	2,330,159	2,442,431	2,575,612	2,719,003	2,901,098	3,103,752	3,205,480	3,305,537
Operating Expenses	1,709,923	1,759,922	1,800,364	1,841,772	1,884,170	1,927,583	1,972,036	2,017,556	2,064,168	2,111,900	2,160,780
CIP Expenditures	477,218	276,615	294,513	246,919	1,214,000	2,132,402	1,088,808	1,975,402	0	0	1,418,808
Debt Service	0	0	0	0	0	0	0	0	0	0	0
Total Expenditures	2,187,141	2,036,537	2,094,877	2,088,691	3,098,170	4,059,985	3,060,844	3,992,957	2,064,168	2,111,900	3,579,587
Operating Surplus / (Deficit)	(55,735)	147,663	166,274	241,469	(655,739)	(1,484,372)	(341,841)	(1,091,859)	1,039,585	1,093,580	(274,050)
check Cash Balances	0	0	0	0	0	0	0	0	0	0	0
Calculated Ending Balance	3,829,903	3,977,566	4,143,840	4,385,309	3,729,570	2,245,197	1,903,356	811,497	1,851,081	2,944,661	2,670,611
Total Reserve Requirement	318,808	314,006	335,209	310,000	313,201	334,404	333,201	340,000	340,000	364,404	374,404
Variance From Reserve Target	3,511,095	3,663,560	3,808,631	4,075,309	3,416,369	1,910,794	1,570,155	471,497	1,511,081	2,580,257	2,296,207
variance from neserve ranger	3,311,033	3,003,300	3,000,031	4,075,505	3,410,303	1,310,734	1,570,133	471,437	1,511,001	2,300,237	2,230,207
Revenue Bonds											
Amount of Issue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Term	20	20	20	20	20	20	20	20	20	20	20
Interest Rate	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Issue Expense	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
State Revolving Fund Loan											
Amount of Issue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Term	20	20	20	20	20	20	20	20	20	20	20
Interest Rate	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Issuance Cost	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Sewer Existing Rates

Monthly Minium Charge	2018
Single Family Residential	\$28.52
Multi-Family Residential (per unit)	28.52
Commercial	28.52

Volumetric Rates	2018
Commercial - AWC	\$3.75

System Development Charges	2018
Single Family Residential	\$600
Multi-Family Residential (Per Unit)	600
Commercial - 3/4"	600
Commercial - 1"	1,200
Commercial - 1 1/2"	2,400
Commercial - 2"	4,800
Commercial - 3"	10,800
Commercial - 4"	21,600
Commercial - 6"	56,400
Commercial - 8"	120,000

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Sewer Projected Customer Accounts and Equivalent Meters

Customer Accounts															
	Actual	Actual	Actual												Test Year
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Inputs for Customer Growth															
Single Family Residential		0	3,986	1	1	1	1	1	1	1	1	1	1	1	1
Multi-Family Residential (Units)		0	1,204	0	0	0	0	0	0	0	0	0	0	0	0
Commercial - Min		0	86	3	0	0	0	0	0	0	0	0	0	0	0
Commercial - Above Min		0	81	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
															0
Total New Accounts		-	5,357	4	1	1	1	1	1	1	1	1	1	1	1
Projected Customer Accounts / MF Units															
Single Family Residential			3,986	3,987	3,988	3,989	3,990	3,991	3,992	3,993	3,994	3,995	3,996	3,997	3,988
Multi-Family Residential (Units)			1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204
Commercial - Min			86	89	89	89	89	89	89	89	89	89	89	89	89
Commercial - Above Min			81	81	81	81	81	81	81	81	81	81	81	81	81
				0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
				0	0	0	0	0	0	0	0	0	0	0	0
Total Customer Accounts / MF Units	0	0	5,357	5,361	5,362	5,363	5,364	5,365	5,366	5,367	5,368	5,369	5,370	5,371	5,362

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Sewer Billed Consumption

Historical Total Volume - kgal												
Customer Class	2015 Actual	2016 Actual	2017 Actual	Avg. 2015-17	Used							
	2013 Actual	2010 Actual	2017 Actual	2013-17	O3EU 1							
Single Family Residential	1	1	1	1	1							
Multi-Family Residential (Units)	1	1	1	1	1							
Commercial - Min	1	1	1	1	1							
Commercial - Above Min			73,926	73,926	73,926							
Total	3	3	73,929	24,645	73,929							

Historical kgal/Account												
	2045 4	2046 4		Avg.								
Customer Class	2015 Actual	2016 Actual	2017 Actual	2015-17	Used							
Single Family Residential			0.0	0.0	0.0							
Multi-Family Residential (Units)			0.0	0.0								
Commercial - Min			0.0	0.0	0.0							
Commercial - Above Min			912.7	912.7	912.7							
Total Residential Use/Monthly Bill			0.0	0.0								
Total Commercial Use/Monthly Bill			456.3	456.3								

Projected kgal/Account													
Customer Class	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Change in Annual Water Consumption	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Single Family Residential	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Multi-Family Residential (Units)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Commercial - Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Commercial - Above Min	912.7	912.7	912.7	912.7	912.7	912.7	912.7	912.7	912.7	912.7	912.7	912.7	

Projected Total Volume - kgal													
Customer Class	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Single Family Residential	1	1	1	1	1	1	1	1	1	1	1	1	
Multi-Family Residential (Units)	1	1	1	1	1	1	1	1	1	1	1	1	
Commercial - Min	1	1	1	1	1	1	1	1	1	1	1	1	
Commercial - Above Min	73,926	73,926	73,926	73,926	73,926	73,926	73,926	73,926	73,926	73,926	73,926	73,926	
Total	73,929	73,929	73,929	73,929	73,929	73,929	73,929	73,929	73,929	73,929	73,929	73,929	

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Sewer Revenue at Existing Rates

Minimum Charge Revenue - Annual												
Customer Class	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Single Family Residential	\$1,364,169	\$1,364,511	\$1,364,853	\$1,365,195	\$1,365,538	\$1,365,880	\$1,366,222	\$1,366,564	\$1,366,907	\$1,367,249	\$1,367,591	\$1,367,933
Multi-Family Residential (Units)	412,057	412,057	412,057	412,057	412,057	412,057	412,057	412,057	412,057	412,057	412,057	412,057
Commercial - Min	29,433	30,459	30,459	30,459	30,459	30,459	30,459	30,459	30,459	30,459	30,459	30,459
Commercial - Above Min												
Total	\$1,805,658	\$1,807,027	\$1,807,369	\$1,807,712	\$1,808,054	\$1,808,396	\$1,808,738	\$1,809,081	\$1,809,423	\$1,809,765	\$1,810,107	\$1,810,450
Projected Annual Volume Charge Revenue L												
Customer Class	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Single Family Residential												
Multi-Family Residential (Units)												
Commercial - Min												
Commercial - Above Min	277,223	277,223	277,223	277,223	277,223	277,223	277,223	277,223	277,223	277,223	277,223	277,223
Total	\$277,223	\$277,223	\$277,223	\$277,223	\$277,223	\$277,223	\$277,223	\$277,223	\$277,223	\$277,223	\$277,223	\$277,223
Total Annual Sewer Revenue Under Existing Customer Class	Rates 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Single Family Residential	\$1,364,169	\$1,364,511	\$1,364,853	\$1,365,195	\$1,365,538	\$1,365,880	\$1,366,222	\$1,366,564	\$1,366,907	\$1,367,249	\$1,367,591	\$1,367,933
Multi-Family Residential (Units)	412,057	412,057	412,057	412,057	412,057	412,057	412,057	412,057	412,057	412,057	412,057	412,057
Commercial - Min	29,433	30,459	30,459	30,459	30,459	30,459	30,459	30,459	30,459	30,459	30,459	30,459
Commercial - Milli Commercial - Above Min	277,223	277,223	277,223	277,223	277,223	277,223	277,223	277,223	277,223	277,223	277,223	277,223
Commercial Above Will	,						·		,	·	,	
Total	\$2,082,881	\$2,084,250	\$2,084,592	\$2,084,934	\$2,085,276	\$2,085,619	\$2,085,961	\$2,086,303	\$2,086,645	\$2,086,988	\$2,087,330	\$2,087,672
From Cashflow 2018												
	\$2,168,610 (\$85,729) -4.0%											
Minimum Charge Analysis	(\$85,729)											
Minimum Charge Analysis Revenue From Minimum Charge Users	(\$85,729)	\$1,807,027	\$1,807,369	\$1,807,712	\$1,808,054	\$1,808,396	\$1,808,738	\$1,809,081	\$1,809,423	\$1,809,765	\$1,810,107	\$1,810,450

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Sewer Miscellaneous Revenue

Projected Miscellaneous Revenue														
	Existing	Actual	Budget											Test Year
	Fee	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
System Development Charges														
Single Family Residential - 3/4"	\$600			\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600
Multi-Family Residential (Per Unit)	600			0	0	0	0	0	0	0	0	0	0	0
Commercial - 3/4"	600			0	0	0	0	0	0	0	0	0	0	0
Commercial - 1"	1,200			0	0	0	0	0	0	0	0	0	0	0
Commercial - 1 1/2"	2,400			0	0	0	0	0	0	0	0	0	0	0
Commercial - 2"	4,800			0	0	0	0	0	0	0	0	0	0	0
Commercial - 3"	10,800			0	0	0	0	0	0	0	0	0	0	0
Commercial - 4"	21,600			0	0	0	0	0	0	0	0	0	0	0
Commercial - 6"	56,400			0	0	0	0	0	0	0	0	0	0	0
Commercial - 8"	120,000			0	0	0	0	0	0	0	0	0	0	0
														0
Total System Development Charges		4,800	1,000	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600
Other Operating Revenue														
Sewer Miscellaneous		20,250	18,000	18,540	19,096	19,669	20,259	20,867	21,493	22,138	22,802	23,486	24,190	18,540
Sewer Other		0	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Operating Revenue	·	20,250	18,000	18,540	19,096	19,669	20,259	20,867	21,493	22,138	22,802	23,486	24,190	18,540

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Sewer Operating Expenses

	Actual	Budget											Test Year
Operating Expense Item	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Sewage Treatment	\$1,211,354	\$1,211,354	\$1,235,581	\$1,260,293	\$1,285,499	\$1,311,209	\$1,337,433	\$1,364,181	\$1,391,465	\$1,419,294	\$1,447,680	\$1,476,634	\$1,235,581
Operations & Maintenance - Sewer	115,552	163,243	168,140	173,185	178,380	183,731	189,243	194,921	200,768	206,791	212,995	219,385	168,140
General & Administrative - Sewer	224,496	288,076	296,718	305,620	314,788	324,232	333,959	343,978	354,297	364,926	375,874	387,150	296,718
Water/Sewer Acquisition, Repair and Reserve	44,100	47,250	59,483	61,267	63,105	64,998	66,948	68,957	71,025	73,156	75,351	77,611	59,483
Total Operating Expenses	\$1,595,502	\$1,709,923	\$1,759,922	\$1,800,364	\$1,841,772	\$1,884,170	\$1,927,583	\$1,972,036	\$2,017,556	\$2,064,168	\$2,111,900	\$2,160,780	\$1,759,922

Project	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	Test Yea 2019
Miscellaneous													
Water Rates and Sewer Fee Study	19,205	0	0	0	0	0	0	0	0	(0	19,205	
Electronic Work Order Software	6,402	0	0	0	0	0	0	0	0	(0	6,402	
Water & Sewer Risk Evaluation Study	0	0	28,808	0	0	0	0	0	0	(0	28,808	
Billing Inserter	0	0	0	0	0	0	0	6,402	0	(0	6,402	
New District Website	0	0	0	0	0	0	0	0	0	(0	0	
Fixed Base Meter Reading System	0	0	0	44,812	0	0	0	0	0	(0	44,812	
Vater Pump Station													
Rebuild Sump-Pump	0	0	0	0	0	0	0	0	0	(0	0	
New Sump-pump (Replaced in 2017)	0	0	0	0	0	0	0	0	0	(0	0	
Pumps Rebuilt No. 2 No. 4 and No. 5 (2015)	0	0	0	0	0	0	0	0	0	(0	0	
Replace Discharge Valves	0	0	0	0	0	0	0	0	0	(0	0	
Replace Soft Start on Pump No. 5	0	0	0	0	0	0	0	0	0) 0	0	
Water Pump Station Improvements	0	0	0	0	0	0	0	0	0			0	
Various Controls	0	0	0	0	0	0	0	0	0			0	
Rebuild/New Water Pump Motor	0	0	0	0	0	0	0	0	0	(0	
ewer Lift Stations	·	· ·	·	· ·	0	o o	· ·	0	•	,	,	0	
	20,000	30,000	0	0	0	0	0	0	0	(0	50,000	
Rebuild Impellers (2) at North Ranch LS Spair Pump for Wood Brothers	20,000	50,000	0	0	0	0	0	0	0	(-	50,000	3
		20,000	0	0	0	0	0	0	0	(20,000	
Rebuild Impellers (2) at CG No. 1	0		0	0	0	0	0	0	0	(-	20,000	
Rebuild Impellers (2) at CG No. 2		20,000				-	-			-	-		
New Sewer Pumps (2)	60,000	40,000	0	0	0	0	0	0	0	(-	100,000	4
Various Controls	30,000	30,000	30,000	40,000	30,000	0	0	0	0	(0	160,000	
Meters													
Replace residential meters over four years	0	0	106,500	112,500	118,500	126,000	0	0	0	(-	463,500	
Replace commercial meters over two years	0	0	0	24,000	25,500	0	0	0	0	(49,500	
Upgrade Sensus meter reading equipment	0	4,500	0	0	0	0	0	0	0	(4,500	
Replace MXU's	0	0	0	0	0	0	0	129,000	0	(0	129,000	
Replace two 10 inch master meters at Chatfield Pump Station	0	4,500	0	0	0	0	0	0	0	(0	4,500	
Mapping													
Update District Water & Sewer Maps	0	0	0	0	0	0	0	0	0	(0	0	
GIS Mapping - Water & Sewer System	0	3,201	3,201	0	0	0	0	0	0	(0	6,402	
Purchase two GIS handheld location devices	6,402	6,402	0	0	0	0	0	0	0	(0	12,803	
GIS Mapping Update (ongoing)	3,201	3,201	0	3,201	0	0	0	0	0	(0	9,603	
Controls	,												
Upgrade SCADA system - Hardware/Software	0	0	0	0	0	0	0	0	0	(0	0	
Replace SCADA Computer at the Office	0	0	0	0	0	0	0	0	0	(0	0	
quipment	-	-	-	-	-	_	-	-	-	•	-	_	
Replace Existing Backhoe	0	19,205	0	0	0	0	0	0	0	(0	19,205	
Purchase Valve Exerciser	0	6,402	0	0	0	0	0	0	0	(6,402	
/ehicles	·	0,402	·	· ·	0	o o	· ·	0	•	,	,	0,402	
Replace 2013 Ford 250 Extracab	0	0	0	0	0	0	16,004	0	0	(0	16,004	
Replace 1999 Pickup	12,803	0	0	0	0	0	10,004	0	0	(-	12,803	
	12,803	0	0	12,803	0	0	0	0	0	(12,803	
Replace 2001 Pickup	_	-			-	-	ŭ	-	0	,			
Replace 2014 Explorer	0	0	0	0	0	0	12,803	0		(12,803	
Replace 2005 Pickup	0	0	12,803	0	0	0	0	0	0	(0	12,803	
Office Building Interior/Exterior						_							
Install New Heating/Air Conditioning (Replaced in 2014)	0	0	0	0	0	0	0	0	0	(12,803	
Rubber Roof Replacement (Replaced in 2014)	0	0	0	0	0	0	0	0	0	(,	16,004	
Paint Interior	3,201	0	3,201	0	0	0	0	0	0	(6,402	
Paint Exterior	0	3,201	0	0	0	0	0	0	0	(0	3,201	
Replace Roof (Shingle Area) Replaced in 2014	0	0	0	0	0	0	0	0	0	(0	0	
Replace Carpet - Replaced in 2010	0	0	0	0	0	6,402	0	0	0	(0	6,402	
Replace Tile in Bathrooms	3,201	0	0	0	0	0	0	0	0	(0	3,201	
Replace Tiles in Field Office and Kitchen (Completed in 2016)	0	0	0	0	0	0	0	0	0	(0	0	
Office Grounds													
Seal-Coat all asphalt and restripe	3,201	3,201	0	0	0	0	0	0	0	(0	6,402	
Drainage Ditch Improvements	9,603	9,603	0	0	0	0	0	0	0	(0	19,205	
Office Equipment	1	-,										-,	
Replace the billing inserter machine	0	0	0	3,201	0	0	0	0	0	(0	3,201	
Replace Main Server	0	3,201	0	0	0	0	0	0	0	(-	3,201	
Replace Web Server	0	3,201	0	0	0	0	0	0	0	(-	3,201	
	0	0		3,201	0	0	0	0	0	(-	3,201	
Replace Copier			0										
New Postage Machine-Replaced in 2012	0	0	0	0	0	0	0	0	0	(0	
Upgrade Office Phone System	0	0	0	3,201	0	0	0	0	0	(-	3,201	
Replace Computers (1)	0	0	0	0	0	0	0	0	0	(0	
Replace Billing Printer	0	0	0	0	0	0	0	0	0	(-	0	
Replace Color Printer	0	0	0	0	0	0	0	0	0	(0	0	1

													Test Year
Project Water Distribution System	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	2019
Replace aging Valves	0	0	0	0	0	0	0	0	0	0	0	0	0
Clean 3 Reservoirs	0	0	0	0	0	0	0	0	0	0	0	0	0
Cast iron tapping saddle replacements	0	0	0	0	0	0	0	0	0	0	0	0	0
Test 25 of the oldest residential meters (2018)	0	0	0	0	0	0	0	0	0	0	0	0	0
Water storage tank #2 Mixing System	0	0	0	0	0	0	0	0	0	0	0	0	0
Install yard hydrant at te WHQ L Station	0	0	0	0	0	0	0	0	0	0	0	0	0
Install (4) 16-inch valves - Continental Rd Comp. 2011	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0		0	0	0	0	0	0	0
Replace Fire Hydrants	0	0	0	0	0	0	0	0	0	0	0	0	0
Replace 4-inch water lines North Ranch Competed (2015)	0	0	0	0	0	0	0	0	0	0	0	0	0
7,000 LF of 12-inch (Master Plan of Works)	0	0	0	0	0	0	0	0	0	0	0	0	0
Replace Various Water Lines (B) Replace Various Water Lines		0	0	0	-	0	-	0	-	0	ŭ	- 1	-
	0	0	0	0	0		0		0	0	0	0	0
Replace Various Water Lines (D)	0	-	-	-	0	0	0	0	0	-	0	0	0
Replace Various Water Lines	0	0	0	0	0	0	0	0	0	0	0	0	0
Replace Various Water Lines		0	0	0	0	0	0	0	0	0	0	0	0
Water Storage Tank #2	0	-	0	0	0	0	0	0	0	0	0	0	0
Water Storage Tank #3	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Leak Survey	0	0	0	0	0		0	0	0	0	0		0
Replace the 16-inch in Continental Divide Rd.	U	0	0	0	0	0	0	0	0	0	0	0	0
Sewer Collection System	200.000	_	_	_	_	_	_	_		_	_	200.000	0
Replace 700 Feet of Sewer Line	200,000	0	0	0	0	0	0	0	0	0	0	200,000	0
Install Covers Over Generators	0	20,000	0	0	0	0	0	0	0	0	0	20,000	20,000
New emergency generator - Wood Brothers (Completed 2016)	0	0	0	0	0	0	0	0	0	0	0	0	0
Massey Draw Rehab Completed (2015)	0	0	0	0	0	0	0	0	0	0	0	0	0
Platte Canyon Rehab D-Line completed in 2012	0	0	0	0	0	0	0	0	0	0	0	0	0
Platte Canyon Rehab A-Line completed in 2014	0	0	0	0	0	0	0	0	0	0	0	0	0
Manhole Rehabilitation - Infiltration	100,000	0	110,000	0	0	0	0	0	0	0	0	210,000	0
Massey Draw Contract "A"	0	0	0	0	0	0	0	0	0	0	540,000	540,000	0
Massey Draw Contract "B"	0	0	0	0	0	0	0	0	0	0	850,000	850,000	0
Massey Draw Contract "C"	0	0	0	0	0	0	0	1,840,000	0	0	0	1,840,000	0
Various North Ranch Sewer Lines	0	0	0	0	0	0	480,000	0	0	0	0	480,000	0
Various Sewer Lines - Plains	0	0	0	0	0	1,100,000	0	0	0	0	0	1,100,000	0
Various Sewer Lines - Contract #2	0	0	0	0	1,040,000	0	0	0	0	0	0	1,040,000	0
Various Sewer Lines - Contract #4	0	0	0	0	0	900,000	0	0	0	0	0	900,000	0
Replace 400 Linear Ft of Sewer Line in Continental Divide	0	0	0	0	0	0	0	0	0	0	0	0	0
Various Sewer Lines - Contract #13	0	0	0	0	0	0	580,000	0	0	0	0	580,000	0
Total	477,218	276,615	294,513	246,919	1,214,000	2,132,402	1,088,808	1,975,402	0	0	1,418,808	9,124,683	276,615
Annual Frankland Course CID	2040	2010	2020	2024	2022	2022	2024	2025	2026	2027	2020	Total	Test Year
Annual Functionalized Sewer CIP	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	2019
Administration	67,218	57,615	48,013	70,419	0	6,402	28,808	6,402	0	0	28,808	313,683	2019 57,615
Administration Pumps	67,218 0	57,615 0	48,013 0	70,419 0	0	6,402 0	28,808 0	6,402 0	0	0	28,808 0	313,683 0	2019 57,615 0
Administration Pumps Lift Station	67,218 0 110,000	57,615 0 210,000	48,013 0 30,000	70,419 0 40,000	0 0 30,000	6,402 0 0	28,808 0 0	6,402 0 0	0 0 0	0 0 0	28,808 0 0	313,683 0 420,000	2019 57,615 0 210,000
Administration Pumps Liff Station Meters	67,218 0 110,000 0	57,615 0 210,000 9,000	48,013 0 30,000 106,500	70,419 0 40,000 136,500	0 0 30,000 144,000	6,402 0 0 126,000	28,808 0 0	6,402 0 0 129,000	0 0 0	0 0 0 0	28,808 0 0	313,683 0 420,000 651,000	2019 57,615 0 210,000 9,000
Administration Pumps Lift Station Meters Transmission	67,218 0 110,000 0	57,615 0 210,000 9,000 0	48,013 0 30,000 106,500 0	70,419 0 40,000 136,500 0	0 0 30,000 144,000	6,402 0 0 126,000	28,808 0 0 0 0	6,402 0 0 129,000 0	0 0 0 0	0 0 0 0	28,808 0 0 0	313,683 0 420,000 651,000	2019 57,615 0 210,000 9,000 0
Administration Pumps Lift Station Meters Transmission Distribution	67,218 0 110,000 0 0	57,615 0 210,000 9,000 0	48,013 0 30,000 106,500 0	70,419 0 40,000 136,500 0	0 0 30,000 144,000 0	6,402 0 0 126,000 0	28,808 0 0 0 0	6,402 0 0 129,000 0	0 0 0 0 0	0 0 0 0	28,808 0 0 0 0	313,683 0 420,000 651,000 0	2019 57,615 0 210,000 9,000 0
Administration Pumps Liff Station Meters Transmission Distribution Treated Water Storage	67,218 0 110,000 0 0 0	57,615 0 210,000 9,000 0 0	48,013 0 30,000 106,500 0 0	70,419 0 40,000 136,500 0 0	0 0 30,000 144,000 0 0	6,402 0 0 126,000 0 0	28,808 0 0 0 0 0	6,402 0 0 129,000 0 0	0 0 0 0 0 0	0 0 0 0 0 0	28,808 0 0 0 0 0	313,683 0 420,000 651,000 0 0	2019 57,615 0 210,000 9,000 0 0
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection	67,218 0 110,000 0 0 0 0 300,000	57,615 0 210,000 9,000 0 0 0	48,013 0 30,000 106,500 0 0 0	70,419 0 40,000 136,500 0 0	0 0 30,000 144,000 0 0 0	6,402 0 0 126,000 0 0 0	28,808 0 0 0 0 0 0 0 480,000	6,402 0 0 129,000 0 0 0 1,840,000	0 0 0 0 0 0	0 0 0 0 0 0 0	28,808 0 0 0 0 0 0 0 0 1,390,000	313,683 0 420,000 651,000 0 0 4,120,000	2019 57,615 0 210,000 9,000 0 0 0
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor	67,218 0 110,000 0 0 0 0 300,000	57,615 0 210,000 9,000 0 0 0	48,013 0 30,000 106,500 0 0 110,000	70,419 0 40,000 136,500 0 0 0	0 0 30,000 144,000 0 0 0 0	6,402 0 0 126,000 0 0 0 0 2,000,000	28,808 0 0 0 0 0 0 0 480,000 580,000	6,402 0 0 129,000 0 0 0 1,840,000	0 0 0 0 0 0	0 0 0 0 0 0 0	28,808 0 0 0 0 0 0 0 0 1,390,000	313,683 0 420,000 651,000 0 0 4,120,000 3,620,000	2019 57,615 0 210,000 9,000 0 0 0 0
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection	67,218 0 110,000 0 0 0 0 300,000	57,615 0 210,000 9,000 0 0 0	48,013 0 30,000 106,500 0 0 0	70,419 0 40,000 136,500 0 0	0 0 30,000 144,000 0 0 0	6,402 0 0 126,000 0 0 0	28,808 0 0 0 0 0 0 0 480,000	6,402 0 0 129,000 0 0 0 1,840,000	0 0 0 0 0 0	0 0 0 0 0 0 0	28,808 0 0 0 0 0 0 0 0 1,390,000	313,683 0 420,000 651,000 0 0 4,120,000	2019 57,615 0 210,000 9,000 0 0 0
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total	67,218 0 110,000 0 0 0 300,000 0 477,218	57,615 0 210,000 9,000 0 0 0 0 0 276,615	48,013 0 30,000 106,500 0 0 110,000 0 294,513	70,419 0 40,000 136,500 0 0 0 0 246,919	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000	6,402 0 126,000 0 0 0 0 2,000,000 2,132,402	28,808 0 0 0 0 0 0 480,000 580,000	6,402 0 0 129,000 0 0 0 1,840,000 0 1,975,402	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	28,808 0 0 0 0 0 0 0 1,390,000 0 1,418,808	313,683 0 420,000 651,000 0 0 4,120,000 3,620,000 9,124,683	2019 57,615 0 210,000 9,000 0 0 0 0 276,615
Administration Pumps Liff Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP	67,218 0 110,000 0 0 0 300,000 477,218	57,615 0 210,000 9,000 0 0 0 0 276,615	48,013 0 30,000 106,500 0 0 110,000 0 294,513	70,419 0 40,000 136,500 0 0 0 0 246,919	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000	6,402 0 0 126,000 0 0 0 0 2,000,000 2,132,402	28,808 0 0 0 0 0 0 480,000 580,000 1,088,808	6,402 0 0 129,000 0 0 1,840,000 0 1,975,402	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28,808 0 0 0 0 0 0 1,390,000 0 1,418,808	313,683 0 420,000 651,000 0 0 4,120,000 3,620,000 9,124,683	2019 57,615 0 210,000 9,000 0 0 0 276,615 Test Year 2019
Administration Pumps Liff Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration	67,218 0 110,000 0 0 0 300,000 0 477,218 2018 67,218	57,615 0 210,000 9,000 0 0 0 276,615	48,013 0 30,000 106,500 0 0 110,000 0 294,513	70,419 0 40,000 136,500 0 0 0 246,919	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000	6,402 0 0 126,000 0 0 0 2,000,000 2,132,402	28,808 0 0 0 0 0 0 480,000 580,000 1,088,808	6,402 0 129,000 0 0 0 1,840,000 0 1,975,402	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	28,808 0 0 0 0 0 0 1,390,000 0 1,418,808	313,683 0 420,000 651,000 0 0 4,120,000 3,620,000 9,124,683	2019 57,615 0 210,000 9,000 0 0 0 276,615 Test Year 2019 124,833
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps	67,218 0 110,000 0 0 0 300,000 0 477,218 2018 67,218	57,615 0 210,000 9,000 0 0 0 0 276,615	48,013 0 30,000 106,500 0 0 110,000 294,513	70,419 0 40,000 136,500 0 0 0 246,919	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000	6,402 0 126,000 0 0 0 0 2,000,000 2,132,402	28,808 0 0 0 0 0 480,000 580,000 1,088,808	6,402 0 0 129,000 0 0 1,840,000 0 1,975,402	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28,808 0 0 0 0 0 1,390,000 0 1,418,808	313,683 0 420,000 651,000 0 0 4,120,000 3,620,000 9,124,683	2019 57,615 0 210,000 9,000 0 0 0 276,615 Test Year 2019 124,833 0
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Lift Station	67,218 0 110,000 0 0 0 300,000 0 477,218 2018 67,218	57,615 0 210,000 9,000 0 0 0 276,615	48,013 0 30,000 106,500 0 0 110,000 0 294,513	70,419 0 40,000 136,500 0 0 0 246,919	0 0 0 30,000 144,000 0 0 0 1,040,000 1,214,000	6,402 0 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 0	28,808 0 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000	6,402 0 129,000 0 0 1,840,000 1,975,402 2025 284,875 0 420,000	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28,808 0 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 0	313,683 0 420,000 651,000 0 0 4,120,000 9,124,683 Total 313,683 0 420,000	2019 57,615 0 210,000 9,000 0 0 0 0 27,615 Test Year 2019 124,833 0 320,000
Administration Pumps Liff Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Liff Station Meters	67,218 0 110,000 0 0 0 300,000 477,218 2018 67,218 0 110,000 0	57,615 0 210,000 9,000 0 0 0 276,615 2019 124,833 0 320,000 9,000	48,013 0 30,000 106,500 0 0 110,000 294,513 2020 172,846 0 350,000 115,500	70,419 0 40,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 252,000	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000 2022 243,264 0 420,000 336,000	6,402 0 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000	28,808 0 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000	6,402 0 129,000 0 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	28,808 0 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000	313,683 0 420,000 651,000 0 0 4,120,000 9,124,683 Total 313,683 0 420,000 651,000	2019 57,615 0 210,000 9,000 0 0 0 0 276,615 Test Year 2019 124,833 0 320,000 9,000
Administration Pumps Liff Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Liff Station Meters Transmission	67,218 0 110,000 0 0 300,000 0 477,218 2018 67,218 0 110,000 0	57,615 0 210,000 9,000 0 0 0 276,615 2019 124,833 0 320,000 9,000	48,013 0 30,000 106,500 0 0 110,000 294,513 2020 172,846 0 350,000 115,500	70,419 0,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 0	0 0 30,000 144,000 0 0 1,040,000 1,214,000 2022 243,264 0 420,000 396,000	6,402 0 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000	28,808 0 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0	6,402 0 129,000 0 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28,808 0 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000	313,683 0 420,000 651,000 0 0 4,120,000 9,124,683 Total 313,683 0 420,000 651,000	2019 57,615 0 210,000 9,000 0 0 0 276,615 Test Year 2019 124,833 0 320,000 9,000 0 0
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Lift Station Meters Transmission Distribution	67,218 0 110,000 0 0 0 300,000 0 477,218 2018 67,218 0 110,000 0 0	57,615 0 210,000 9,000 0 0 0 276,615 2019 124,833 0 320,000 9,000 0	48,013 0 30,000 106,500 0 0 110,000 0 294,513 2020 172,846 0 350,000 115,500 0	70,419 0 40,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 252,000 0	0 0 0 30,000 144,000 0 0 0 1,040,000 1,214,000 2022 243,264 0 420,000 396,000 0	6,402 0 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000 0	28,808 0 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0	6,402 0 129,000 0 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0	313,683 0 420,000 651,000 0 0 4,120,000 3,620,000 9,124,683 Total 313,683 0 420,000 651,000 0	2019 57,615 0 210,000 9,000 0 0 0 0 27,615 Test Year 2019 124,833 0 320,000 9,000 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage	67,218 0 110,000 0 0 0 300,000 0 477,218 2018 67,218 0 110,000 0 0	57,615 0 210,000 9,000 0 0 0 276,615 2019 124,833 0 320,000 0 0	48,013 0 30,000 106,500 0 0 110,000 0 294,513 2020 172,846 0 350,000 0 0 0	70,419 0 40,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 0 0 0	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000 2022 243,264 0 420,000 396,000 0 0	6,402 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000	28,808 0 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0 0	6,402 0 129,000 0 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2027 284,875 0 420,000 0 0	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0 0	313,683 0 420,000 651,000 0 0 4,120,000 9,124,683 Total 313,683 0 420,000 651,000 651,000	2019 57,615 0 210,000 9,000 0 0 0 0 276,615 Test Year 2019 124,833 0 320,000 9,000 0 0 0 0 0 0 0 0
Administration Pumps Liff Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Liff Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total	67,218 0 110,000 0 0 300,000 0 477,218 2018 67,218 0 110,000 0 0 0 300,000	57,615 0 210,000 9,000 0 0 0 276,615 2019 124,833 0 320,000 9,000 0 0 300,000	48,013 0 30,000 106,500 0 0 110,000 294,513 2020 172,846 0 350,000 115,500 0 0 410,000	70,419 0 0 0,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 252,000 0 0 0	0 0 30,000 144,000 0 0 1,040,000 1,214,000 2022 243,264 0 420,000 396,000 0 0 0	6,402 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000 0 0	28,808 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0 0 0 0 0 0 0 0 0 0 0 0	6,402 0 129,000 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000 0 0 2,730,000	2026 284,875 0 420,000 651,000 0 2,730,000	2027 284,875 0 420,000 651,000 0 2,730,000	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0 0 4,120,000	313,683 0 420,000 651,000 0 0 4,120,000 9,124,683 Total 313,683 0 420,000 651,000 651,000 0 0 0	2019 57,615 0 210,000 9,000 0 0 0 276,615 Test Year 2019 124,833 0 320,000 0 0 0 300,000
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total	67,218 0 110,000 0 0 0 300,000 477,218 2018 67,218 0 110,000 0 0 300,000 0	57,615 0 210,000 9,000 0 0 0 276,615 2019 124,833 320,000 9,000 0 0 300,000	48,013 0 30,000 106,500 0 0 110,000 0 294,513 2020 172,846 0 350,000 115,500 0 0 410,000	70,419 0 40,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 252,000 0 0 410,000	0 0 0 30,000 144,000 0 0 0 0 1,040,000 1,214,000 2022 243,264 420,000 396,000 0 0 410,000 1,040,000	6,402 0 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000 0 0 0 410,000 3,040,000	28,808 0 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0 0 0 90,000 3,620,000	6,402 0 129,000 0 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000 0 0 2,730,000 3,620,000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0 0 4,120,000 3,620,000	313,683 0 420,000 651,000 0 0 4,120,000 3,620,000 9,124,683 Total 313,683 0 420,000 651,000 0 0 4,120,000 0 4,120,000 0 4,120,000 0 0 0 0 0 0 0 0 0 0 0 0	2019 57,615 0 210,000 9,000 0 0 0 0 276,615 Test Year 2019 124,833 0 320,000 0 0 300,000 0 0 300,000 0
Administration Pumps Liff Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Liff Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total	67,218 0 110,000 0 0 300,000 0 477,218 2018 67,218 0 110,000 0 0 0 300,000	57,615 0 210,000 9,000 0 0 0 276,615 2019 124,833 0 320,000 9,000 0 0 300,000	48,013 0 30,000 106,500 0 0 110,000 294,513 2020 172,846 0 350,000 115,500 0 0 410,000	70,419 0 0 0,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 252,000 0 0 0	0 0 30,000 144,000 0 0 1,040,000 1,214,000 2022 243,264 0 420,000 396,000 0 0 0	6,402 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000 0 0	28,808 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0 0 0 0 0 0 0 0 0 0 0 0	6,402 0 129,000 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000 0 0 2,730,000	2026 284,875 0 420,000 651,000 0 2,730,000	2027 284,875 0 420,000 651,000 0 2,730,000	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0 0 4,120,000	313,683 0 420,000 651,000 0 0 4,120,000 9,124,683 Total 313,683 0 420,000 651,000 651,000 0 0 0	2019 57,615 0 210,000 9,000 0 0 0 276,615 Test Year 2019 124,833 0 320,000 0 0 0 300,000
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total	67,218 0 110,000 0 0 0 300,000 0 477,218 2018 67,218 0 110,000 0 0 300,000 0 477,218	57,615 0 210,000 9,000 0 0 0 276,615 2019 124,833 0 320,000 9,000 0 0 300,000 0	48,013 0 30,000 106,500 0 0 110,000 0 294,513 2020 172,846 0 350,000 115,500 0 0 410,000 0 1,048,346	70,419 0 40,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 252,000 0 0 410,000 0 1,295,264	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000 2022 243,264 0 420,000 396,000 0 0 410,000 1,040,000 2,509,264	6,402 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000 0 0 0 410,000 3,040,000 4,641,666	28,808 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0 0 0 890,000 3,620,000 5,730,473	6,402 0 129,000 0 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000 0 0 2,730,000 7,705,875	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2027 284,875 0 420,000 651,000 0 2,730,000 7,705,875	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0 0 0 1,120,000 3,620,000 9,124,683	313,683 0 420,000 651,000 0 0 4,120,000 9,124,683 Total 313,683 0 420,000 651,000 0 0 0 4,120,000 9,124,683	2019 57,615 0 210,000 9,000 0 0 0 0 276,615 Test Year 2019 124,833 0 320,000 0 0 300,000 0 753,833
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Annual Functionalized Sewer CIP	67,218 0 110,000 0 0 0 300,000 0 477,218 2018 67,218 0 110,000 0 0 300,000 477,218	57,615 0 210,000 9,000 0 0 0 276,615 2019 124,833 0 320,000 9,000 0 0 300,000 0 753,833	48,013 0 30,000 106,500 0 0 110,000 0 294,513 2020 172,846 0 350,000 0 0 410,000 0 1,048,346	70,419 0 40,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 0 0 410,000 1,295,264	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000 222 243,264 0 420,000 0 0 0 410,000 1,040,000 2,509,264	6,402 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 0 0 0 410,000 3,040,000 4,641,666	28,808 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0 0 0 890,000 3,620,000 5,730,473	6,402 0 129,000 0 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000 0 0 2,730,000 3,620,000 7,705,875	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2027 284,875 0 420,000 0 0 2,730,000 7,705,875	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0 0 0 4,120,000 3,620,000 9,124,683	313,683 0 420,000 651,000 0 0 4,120,000 3,620,000 9,124,683 Total 313,683 0 420,000 0 0 0 4,120,000 0 0 0 0 0 1,120,000 0 0 0 1,120,000 0 0 0 1,120,000 0 0 1,120,000 0 0 1,120,000 0 0 0 1,120,000 0 0 1,120,000 0 0 1,120,000 0 0 0 0 0 0 0 0 0 0 0 0	2019 57,615 0 210,000 9,000 0 0 0 0 276,615 Test Year 2019 124,833 0 320,000 0 0 300,000 0 753,833 Test Year 2019
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Annual Functionalized Water CIP Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total	67,218 0 110,000 0 0 300,000 0 477,218 2018 67,218 0 110,000 0 0 300,000 0 477,218	57,615 0 210,000 9,000 0 0 0 276,615 2019 124,833 0 320,000 9,000 0 0 300,000 0 753,833	48,013 0 30,000 106,500 0 0 110,000 0 294,513 2020 172,846 0 350,000 115,500 0 0 410,000 0 1,048,346	70,419 0,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 252,000 0 410,000 0 1,295,264	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000 2022 243,264 0 420,000 396,000 0 0 410,000 1,040,000 2,509,264	6,402 0 126,000 0 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000 0 0 410,000 3,040,000 4,641,666	28,808 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0 0 0 890,000 3,620,000 5,730,473	6,402 0 129,000 0 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000 0 0 2,730,000 3,620,000 7,705,875	2026 284,875 0 420,000 651,000 0 2,730,000 3,620,000 7,705,875	2027 284,875 0 420,000 651,000 0 2,730,000 3,620,000 7,705,875	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0 0 0 4,120,000 3,620,000 9,124,683	313,683 0 420,000 651,000 0 0 4,120,000 9,124,683 Total 313,683 0 420,000 651,000 0 0 0 4,120,000 651,000 0 1,120,000 9,124,683	2019 57,615 0 210,000 9,000 0 0 0 0 276,615 Test Year 2019 124,833 0 0 320,000 9,000 0 0 300,000 0 753,833 Test Year 2019
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total	67,218 0 110,000 0 0 0 300,000 0 477,218 2018 67,218 0 110,000 0 300,000 0 477,218	57,615 0 210,000 9,000 0 0 0 0 276,615 2019 124,833 320,000 9,000 0 0 320,000 0 0 320,000 0 0 130,000 0 0 140,000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	48,013 0 30,000 106,500 0 0 110,000 0 294,513 2020 172,846 0 350,000 115,500 0 0 410,000 0 1,048,346	70,419 0 40,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 252,000 0 410,000 0 1,295,264	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000 2022 243,264 420,000 396,000 0 0 410,000 1,040,000 2,509,264	6,402 0 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000 0 0 0 410,000 3,040,000 4,641,666	28,808 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0 0 0 890,000 3,620,000 5,730,473	6,402 0 129,000 0 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000 0 0 2,730,000 7,705,875	2026 284,875 0 420,000 651,000 0 2,730,000 7,705,875	2027 284,875 0 420,000 651,000 0 2,730,000 7,705,875	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0 0 0 4120,000 3,620,000 9,124,683 2028	313,683 0 420,000 651,000 0 0 4,120,000 9,124,683 Total 313,683 0 420,000 651,000 0 0 0 4,120,000 0 1,124,683	2019 57,615 0 210,000 9,000 0 0 0 0 276,615 Test Year 2019 124,833 0 320,000 0 0 300,000 0 753,833 Test Year 2019 16,004
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Annual Functionalized Sewer CIP Administration Lift Station Meters	67,218 0 110,000 0 0 300,000 0 477,218 2018 67,218 0 110,000 0 300,000 0 477,218 2018 67,218 110,000 0 0 0 0 0 0 0 0 0 0 0 0	57,615 0 210,000 9,000 0 0 0 0 276,615 2019 124,833 0 320,000 0 0 0 300,000 0 753,833	48,013 0 30,000 106,500 0 0 110,000 0 294,513 2020 172,846 0 350,000 0 0 410,000 0 1,048,346	70,419 0 40,000 136,500 0 0 0 0 246,919 2021 243,264 0 390,000 0 0 410,000 0 1,295,264	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000 2022 243,264 0 420,000 0 0 0 410,000 1,040,000 2,509,264	6,402 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000 0 0 410,000 3,040,000 4,641,666	28,808 0 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0 0 0 890,000 3,620,000 5,730,473	6,402 0 129,000 0 1,840,000 0 1,840,000 1,975,402 2025 284,875 0 420,000 651,000 0 0 2,730,000 7,705,875	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2027 284,875 0 420,000 551,000 7,705,875 2027 3,201 40,000 0	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0 0 4,120,000 3,620,000 9,124,683 2028 38,410 100,000 0	313,683 0 420,000 651,000 0 0 4,120,000 3,620,000 9,124,683 Total 313,683 0 420,000 651,000 0 0 0 4,120,000 3,620,000 9,124,683	2019 57,615 0 210,000 9,000 0 0 0 0 276,615 Test Year 2019 124,833 0 320,000 0 0 0 753,833 Test Year 2019 16,004 110,000 10,500
Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total Cumulative Functionalized Water CIP Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total	67,218 0 110,000 0 0 0 300,000 0 477,218 2018 67,218 0 110,000 0 300,000 0 477,218	57,615 0 210,000 9,000 0 0 0 0 276,615 2019 124,833 320,000 9,000 0 0 320,000 0 0 320,000 0 0 130,000 0 0 140,000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	48,013 0 30,000 106,500 0 0 110,000 0 294,513 2020 172,846 0 350,000 115,500 0 0 410,000 0 1,048,346	70,419 0 40,000 136,500 0 0 0 246,919 2021 243,264 0 390,000 252,000 0 410,000 0 1,295,264	0 0 30,000 144,000 0 0 0 1,040,000 1,214,000 2022 243,264 420,000 396,000 0 0 410,000 1,040,000 2,509,264	6,402 0 0 126,000 0 0 0 2,000,000 2,132,402 2023 249,666 0 420,000 522,000 0 0 0 410,000 3,040,000 4,641,666	28,808 0 0 0 0 480,000 580,000 1,088,808 2024 278,473 0 420,000 522,000 0 0 0 890,000 3,620,000 5,730,473	6,402 0 129,000 0 0 1,840,000 0 1,975,402 2025 284,875 0 420,000 651,000 0 0 2,730,000 7,705,875	2026 284,875 0 420,000 651,000 0 2,730,000 7,705,875	2027 284,875 0 420,000 651,000 0 2,730,000 7,705,875	28,808 0 0 0 0 1,390,000 0 1,418,808 2028 313,683 0 420,000 651,000 0 0 0 4120,000 3,620,000 9,124,683 2028	313,683 0 420,000 651,000 0 0 4,120,000 9,124,683 Total 313,683 0 420,000 651,000 0 0 0 4,120,000 0 1,124,683	2019 57,615 0 210,000 9,000 0 0 0 0 276,615 Test Year 2019 124,833 0 320,000 0 0 300,000 0 753,833 Test Year 2019 16,004

Type of Issue / Debt Service	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total	Test Year 2019
Revenue Bonds													
Amount of Issue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		0
Term	20	20	20	20	20	20	20	20	20	20	20		
Interest Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%		
Issue Expense	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%		
Annual Debt Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Issuance Cost	0	0	0 0	0	0	0 0	0	0	0	0	0	0	0
Debt Service Reserve Net Proceeds for CIP	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Proceeds for CIP	U	U	U	U	U	U	U	U	U	U	U	U	U
Cumulative Net Proceeds for CIP Cumulative Debt Service Reserve	0	0	0	0	0	0	0	0	0	0	0		0
Debt Service													
Existing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Proposed													
2018	0	0	0	0	0	0	0	0	0	0	0	0	0
2019		0	0	0	0	0	0	0	0	0	0	0	0
2020			0	0	0	0	0	0	0	0	0	0	0
2021				0	0	0	0	0	0	0	0	0	0
2022					0	0	0	0	0	0	0	0	0
2023						0	0	0	0	0	0	0	0
2024							0	0	0	0	0	0	0
2025								0	0	0	0	0	0
2026									0	0	0	0	0
2027 2028										0	0	0	0
Total Debt Service	0	0	0	0	0	0	0	0	0	0	0	0	0
State Revolving Loan													
Amount of Issue	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		0
Term	20	20	20	20	20	20	20	20	20	20	20		
Interest Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%		
Issue Expense	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	_	_
Annual Debt Service	0	0	0	0	0	0	0	0	0	0	0	0	0
Issuance Cost	0	0	0	0	0	0	0	0	0	0	0	0	0
Debt Service Reserve	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Proceeds for CIP	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Net Proceeds for CIP	0	0	0	0	0	0	0	0	0	0	0		0
Cumulative Debt Service Reserve	0	0	0	0	0	0	0	0	0	0	0		0
Debt Service													
Existing Proposed	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
2018	0	0	0	0	0	0	0	0	0	0	0	0	0
2019		0	0	0	0	0	0	0	0	0	0	0	0
2020			0	0	0	0	0	0	0	0	0	0	0
2021				0	0	0	0	0	0	0	0	0	0
2022					0	0	0	0	0	0	0	0	0
2023						0	0	0	0	0	0	0	0
2024						-	0	0	0	0	0	0	0
2025							=	0	0	0	0	0	0
2026								Ü	0	0	0	0	0
2027									ŭ	0	0	0	0
										· ·			
2028											0	0	0

	%	Month	Budget											Test Year
Item	Increase	Effective	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Sewer User Charges at Existing Rates			\$2,084,250	\$2,084,592	\$2,084,934	\$2,085,276	\$2,085,619	\$2,085,961	\$2,086,303	\$2,086,645	\$2,086,988	\$2,087,330	\$2,087,672	\$2,084,592
Revenues from Rate Increases			_	_	_	_	_	_	_	_	_	_	_	_
2018	0.0%	12	0	0	0	0	0	0	0	0	0	0	0	0
2019	3.0%	10		52,115	62,548	62,558	62,569	62,579	62,589	62,599	62,610	62,620	62,630	52,115
2020	3.0%	12			64,424	64,435	64,446	64,456	64,467	64,477	64,488	64,498	64,509	0
2021	3.0%	12				66,368	66,379	66,390	66,401	66,412	66,423	66,433	66,444	(
2022	5.0%	12					113,951	113,969	113,988	114,007	114,025	114,044	114,063	0
2023	6.0%	12						143,601	143,625	143,648	143,672	143,696	143,719	0
2024	6.0%	12							152,242	152,267	152,292	152,317	152,342	0
2025	7.0%	12							,	188,304	188,335	188,366	188,397	C
2026	7.0%	12								,	201,518	201,551	201,584	(
2027	3.0%	12										92,426	92,441	-
2028	3.0%	12										32,420	95,214	
Total Sewer Rate Revenues	3.0%	12	2,084,250	2,136,707	2,211,907	2,278,638	2,392,962	2,536,956	2,689,615	2,878,360	3,080,350	3,173,281	3,269,016	2,136,707
otal sewel rate revenues			2,004,230	2,130,707	2,211,507	2,270,030	2,332,302	2,330,330	2,003,013	2,070,300	3,000,330	3,173,201	3,203,010	2,130,707
Miscellaneous Non-Rate Revenue														
System Development Charges			1,000	600	600	600	600	600	600	600	600	600	600	600
Other Operating Income			18,000	18,540	19,096	19,669	20,259	20,867	21,493	22,138	22,802	23,486	24,190	18,540
Other Income			0	0	0	0	0	0	0	0	0	0	0	. 0
Interest Income			28,156	28,354	29,547	31,253	28,610	17,189	7,295	0	0	8,112	11,731	28,354
Total Miscellaneous Non-Rate Revenue			47,156	47,494	49,244	51,522	49,469	38,656	29,388	22,738	23,402	32,198	36,522	47,494
Total Revenue			2,131,406	2,184,201	2,261,150	2,330,159	2,442,431	2,575,612	2,719,003	2,901,098	3,103,752	3,205,480	3,305,537	2,184,201
Operating Expenses														
Sewage Treatment			1,211,354	1,235,581	1,260,293	1,285,499	1,311,209	1,337,433	1,364,181	1,391,465	1,419,294	1,447,680	1,476,634	1,235,581
=			163,243	168,140	173,185	178,380	183,731	189,243	194,921	200,768	206,791	212,995	219,385	168,140
Operations & Maintenance - Sewer														
General & Administrative - Sewer			288,076	296,718	305,620	314,788	324,232	333,959	343,978	354,297	364,926	375,874	387,150	296,718
Water/Sewer Acquisition, Repair and Reserve			47,250	59,483	61,267	63,105	64,998	66,948	68,957	71,025	73,156	75,351	77,611	59,483
Total Operating Expenses			1,709,923	1,759,922	1,800,364	1,841,772	1,884,170	1,927,583	1,972,036	2,017,556	2,064,168	2,111,900	2,160,780	1,759,922
Capital Improvements														
Administration			67,218	57,615	48,013	70,419	0	6,402	28,808	6,402	0	0	28,808	57,615
Pumps			0	0	0	0	0	0	0	0	0	0	0	0
Lift Station			110,000	210,000	30,000	40,000	30,000	0	0	0	0	0	0	210,000
Meters			0	9,000	106,500	136,500	144,000	126,000	0	129,000	0	0	0	9,000
Transmission			0	0	0	0	0	0	0	0	0	0	0	0
Distribution			0	0	0	0	0	0	0	0	0	0	0	0
			0		0	0	0		0		0	0	0	0
Treated Water Storage				0				0		0				
Collection			300,000	0	110,000	0	0	0	480,000	1,840,000	0	0	1,390,000	0
Interceptor			0	0	0	0	1,040,000	2,000,000	580,000	0	0	0	0	0
Total Sewer CIP			477,218	276,615	294,513	246,919	1,214,000	2,132,402	1,088,808	1,975,402	0	0	1,418,808	276,615
Debt Service														
Revenue Bonds Existing	1		0	0	0	0	0	0	0	0	0	0	0	0
Revenue Bonds Proposed			0	0	0	0	0	0	0	0	0	0	0	0
State Revolving Loan Existing			0	0	0	0	0	0	0	0	0	0	0	0
State Revolving Loan Proposed			0	0	0	0	0	0	0	0	0	0	0	0
Total Debt Service			0	0	0	0	0	0	0	0	0	0	0	0
Total Expenditures			2,187,141	2,036,537	2,094,877	2,088,691	3,098,170	4,059,985	3,060,844	3,992,957	2,064,168	2,111,900	3,579,587	2,036,537
	1													
Net Operating Surplus / (Deficit)			(55,735)	147,663	166,274	241,469	(655,739)	(1,484,372)	(341,841)	(1,091,859)	1,039,585	1,093,580	(274,050)	147,663

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Sewer Financial Plan

	%	Month	Budget											Test Year
Item	Increase	Effective	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019
Beginning Cash Reserves			3,885,637	3,829,903	3,977,566	4,143,840	4,385,309	3,729,570	2,245,197	1,903,356	811,497	1,851,081	2,944,661	3,829,903
Add: Net Operating Surplus / Deficit			(55,735)	147,663	166,274	241,469	(655,739)	(1,484,372)	(341,841)	(1,091,859)	1,039,585	1,093,580	(274,050)	147,663
Add: Bond Proceeds			0	0	0	0	0	0	0	0	0	0	0	0
Ending Cash Reserves			\$3,829,903	\$3,977,566	\$4,143,840	\$4,385,309	\$3,729,570	\$2,245,197	\$1,903,356	\$811,497	\$1,851,081	\$2,944,661	\$2,670,611	\$3,977,566
Target Cash Reserves														
Operating (60 days of non-Littleton Englewood O&M)			290,000	290,000	300,000	310,000	310,000	320,000	330,000	340,000	340,000	350,000	360,000	290,000
Capital (Next Years CIP)			28,808	24,006	35,209	0	3,201	14,404	3,201	0	0	14,404	14,404	24,006
Total Target Cash Reserves			\$318,808	\$314,006	\$335,209	\$310,000	\$313,201	\$334,404	\$333,201	\$340,000	\$340,000	\$364,404	\$374,404	\$314,006
Variance From Cash Reserves			\$3,511,095	\$3,663,560	\$3,808,631	\$4,075,309	\$3,416,369	\$1,910,794	\$1,570,155	\$471,497	\$1,511,081	\$2,580,257	\$2,296,207	\$3,663,560
Debt Service Coverage														
Net Revenues Available for Debt Service			\$374,327	\$376,785	\$411,543	\$436,866	\$508,792	\$609,373	\$717,579	\$860,805	\$1,016,183	\$1,061,382	\$1,108,236	\$376,785
Debt Service			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt Service Coverage (Target = 1.50)			N/A											

Revenue Requirement Component Opeating Expenses Sewage Treatment Operations & Maintenance - Sewer General & Administrative - Sewer Water/Sewer Acquisition, Repair and Reserve Total Operating Expenses Capital Improvement Program Administration Pumps Lift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total CIP Debt Service Revenue Bonds Existing Revenue Bonds Proposed State Revolving Loan Proposed Total Debt Service Total Debt Service O Total Debt Service O Total Debt Service	\$1,235,581 168,140 296,718 59,483 1,759,922 57,615 0 210,000 9,000 0 0 0 0	\$1,260,293 173,185 305,620 61,267 1,800,364 48,013 0 30,000 106,500 0 0 110,000 0	\$1,285,499 178,380 314,788 63,105 1,841,772 70,419 0 40,000 136,500 0 0	\$1,311,209 183,731 324,232 64,998 1,884,170 0 0 30,000 144,000 0	\$1,337,433 189,243 333,959 66,948 1,927,583 6,402 0 0 126,000 0	\$1,364,181 194,921 343,978 68,957 1,972,036	\$1,391,465 200,768 354,297 71,025 2,017,556 6,402 0	2026 \$1,419,294 206,791 364,926 73,156 2,064,168	\$1,447,680 212,995 375,874 75,351 2,111,900 0 0	\$1,476,634 219,385 387,150 77,611 2,160,780 28,808 0	1,235,581 168,140 296,718 59,483 0 1,759,922
Sewage Treatment Operations & Maintenance - Sewer Operations & Maintenance - Sewer General & Administrative - Sewer Water/Sewer Acquisition, Repair and Reserve Total Operating Expenses 1,709,923 Capital Improvement Program Administration Pumps Otift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total CIP Debt Service Revenue Bonds Existing Revenue Bonds Proposed State Revolving Loan Proposed Total Debt Service Total Debt Service O Total Debt Service	168,140 296,718 59,483 1,759,922 57,615 0 210,000 9,000 0 0 0	173,185 305,620 61,267 1,800,364 48,013 0 30,000 106,500 0 0 110,000	178,380 314,788 63,105 1,841,772 70,419 0 40,000 136,500 0	183,731 324,232 64,998 1,884,170 0 0 30,000 144,000 0	189,243 333,959 66,948 1,927,583 6,402 0 0 126,000	194,921 343,978 68,957 1,972,036 28,808 0	200,768 354,297 71,025 2,017,556 6,402 0	206,791 364,926 73,156 2,064,168	212,995 375,874 75,351 2,111,900	219,385 387,150 77,611 2,160,780 28,808 0	168,140 296,718 59,483 0 1,759,922 57,615 0
Operations & Maintenance - Sewer General & Administrative - Sewer Water/Sewer Acquisition, Repair and Reserve Total Operating Expenses 1,709,923 Capital Improvement Program Administration Pumps OLift Station Meters Transmission Distribution Treated Water Storage Collection Interceptor Total CIP Debt Service Revenue Bonds Existing Revenue Bonds Proposed State Revolving Loan Existing State Revolving Loan Proposed Total Debt Service Total Debt Service O Total Debt Service	168,140 296,718 59,483 1,759,922 57,615 0 210,000 9,000 0 0 0	173,185 305,620 61,267 1,800,364 48,013 0 30,000 106,500 0 0 110,000	178,380 314,788 63,105 1,841,772 70,419 0 40,000 136,500 0	183,731 324,232 64,998 1,884,170 0 0 30,000 144,000 0	189,243 333,959 66,948 1,927,583 6,402 0 0 126,000	194,921 343,978 68,957 1,972,036 28,808 0	200,768 354,297 71,025 2,017,556 6,402 0	206,791 364,926 73,156 2,064,168	212,995 375,874 75,351 2,111,900	219,385 387,150 77,611 2,160,780 28,808 0	168,140 296,718 59,483 0 1,759,922 57,615
General & Administrative - Sewer Water/Sewer Acquisition, Repair and Reserve Total Operating Expenses 1,709,923 Capital Improvement Program Administration Pumps 0 Lift Station 110,000 Meters Transmission Distribution Treated Water Storage Collection Interceptor Total CIP Debt Service Revenue Bonds Existing Revenue Bonds Proposed State Revolving Loan Existing State Revolving Loan Proposed Total Debt Service Total Debt Service Revenue Bonds Proposed O Total Debt Service	296,718 59,483 1,759,922 57,615 0 210,000 9,000 0 0 0	305,620 61,267 1,800,364 48,013 0 30,000 106,500 0 0 110,000	314,788 63,105 1,841,772 70,419 0 40,000 136,500 0 0	324,232 64,998 1,884,170 0 0 30,000 144,000 0	333,959 66,948 1,927,583 6,402 0 0 126,000	343,978 68,957 1,972,036 28,808 0	354,297 71,025 2,017,556 6,402 0	364,926 73,156 2,064,168	375,874 75,351 2,111,900 0	387,150 77,611 2,160,780 28,808 0	296,718 59,483 0 1,759,922 57,615
Water/Sewer Acquisition, Repair and Reserve 47,250 Total Operating Expenses 1,709,923 Capital Improvement Program Administration 67,218 Pumps 0 Lift Station 110,000 Meters 0 Transmission 0 Distribution 0 Treated Water Storage 0 Collection 300,000 Interceptor 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	59,483 1,759,922 57,615 0 210,000 9,000 0 0 0 0	61,267 1,800,364 48,013 0 30,000 106,500 0 0 110,000	70,419 0 40,000 136,500 0	0 0 0 30,000 144,000 0	66,948 1,927,583 6,402 0 0 126,000	1,972,036 28,808 0	71,025 2,017,556 6,402 0	73,156 2,064,168 0 0	75,351 2,111,900 0 0	77,611 2,160,780 28,808 0	59,483 0 1,759,922 57,615 0
Total Operating Expenses 1,709,923 Capital Improvement Program Administration 67,218 Pumps 0 Lift Station 110,000 Meters 0 Transmission 0 Distribution 0 Treated Water Storage 0 Collection 300,000 Interceptor 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	1,759,922 57,615 0 210,000 9,000 0 0 0	1,800,364 48,013 0 30,000 106,500 0 0 110,000	70,419 0 40,000 136,500 0	1,884,170 0 0 30,000 144,000 0	1,927,583 6,402 0 0 126,000	1,972,036 28,808 0	2,017,556 6,402 0	2,064,168	2,111,900	2,160,780 28,808 0	0 1,759,922 57,615 0
Capital Improvement Program Administration Pumps 0 Lift Station Meters 0 Transmission Distribution Treated Water Storage Collection Interceptor Total CIP Debt Service Revenue Bonds Existing Revenue Bonds Proposed State Revolving Loan Existing State Revolving Loan Proposed Total Debt Service 0 Total Debt Service 0 Total Debt Service 0	57,615 0 210,000 9,000 0 0 0	48,013 0 30,000 106,500 0 0 110,000	70,419 0 40,000 136,500 0 0	0 0 30,000 144,000 0	6,402 0 0 126,000	28,808 0 0	6,402 0 0	0	0	28,808	1,759,922 57,615 0
Capital Improvement Program Administration 67,218 Pumps 0 Lift Station 110,000 Meters 0 Transmission 0 Distribution 0 Treated Water Storage 0 Collection 300,000 Interceptor 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	57,615 0 210,000 9,000 0 0 0	48,013 0 30,000 106,500 0 0 110,000	70,419 0 40,000 136,500 0 0	0 0 30,000 144,000 0	6,402 0 0 126,000	28,808 0 0	6,402 0 0	0	0	28,808	57,615 0
Administration 67,218 Pumps 0 Lift Station 110,000 Meters 0 Transmission 0 Distribution 0 Treated Water Storage 0 Collection 300,000 Interceptor 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	0 210,000 9,000 0 0 0 0	0 30,000 106,500 0 0 110,000	0 40,000 136,500 0 0	30,000 144,000 0	0 0 126,000	0	0	0	0	0	0
Pumps 0 Lift Station 110,000 Meters 0 Transmission 0 Distribution 0 Treated Water Storage 0 Collection 300,000 Interceptor 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	0 210,000 9,000 0 0 0 0	0 30,000 106,500 0 0 110,000	0 40,000 136,500 0 0	30,000 144,000 0	0 0 126,000	0	0	0	0	0	0
Lift Station 110,000 Meters 0 0 Transmission 0 0 Distribution 0 0 Treated Water Storage 0 0 Collection 300,000 Interceptor 0 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 0 Revenue Bonds Proposed 0 0 State Revolving Loan Existing 0 0 State Revolving Loan Proposed 0 0 Total Debt Service 0 0	210,000 9,000 0 0 0 0	30,000 106,500 0 0 0 110,000	40,000 136,500 0 0	30,000 144,000 0	0 126,000	0	0	-	-	-	-
Meters Transmission Distribution Occllection Interceptor Total CIP Debt Service Revenue Bonds Existing Revenue Bonds Proposed State Revolving Loan Existing State Revolving Loan Proposed Total Debt Service Occllection Oc	9,000 0 0 0 0	106,500 0 0 0 110,000	136,500 0 0	144,000 0 0	126,000	-	ŭ	0	0	0	
Transmission 0 Distribution 0 Treated Water Storage 0 Collection 300,000 Interceptor 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	0 0 0 0	0 0 0 110,000	0 0 0	0		0				- 1	210,000
Distribution 0 Treated Water Storage 0 Collection 300,000 Interceptor 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	0 0 0 0	0 0 110,000	0	0	0		129,000	0	0	0	9,000
Treated Water Storage 0 Collection 300,000 Interceptor 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	0 0 0	0 110,000	0	-		0	0	0	0	0	0
Collection 300,000 Interceptor 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	0	110,000	-		0	0	0	0	0	0	0
Interceptor 0 Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	0	,	n	0	0	0	0	0	0	0	0
Total CIP 477,218 Debt Service Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0		0	J	0	0	480,000	1,840,000	0	0	1,390,000	0
Debt Service Revenue Bonds Existing Revenue Bonds Proposed O State Revolving Loan Existing State Revolving Loan Proposed Total Debt Service O	276,615		0	1,040,000	2,000,000	580,000	0	0	0	0	
Revenue Bonds Existing 0 Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0		294,513	246,919	1,214,000	2,132,402	1,088,808	1,975,402	0	0	1,418,808	276,615
Revenue Bonds Proposed 0 State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0											
State Revolving Loan Existing 0 State Revolving Loan Proposed 0 Total Debt Service 0	0	0	0	0	0	0	0	0	0	0	0
State Revolving Loan Proposed 0 Total Debt Service 0	0	0	0	0	0	0	0	0	0	0	0
Total Debt Service 0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Total Expenditures 2,187,141	2,036,537	2,094,877	2,088,691	3,098,170	4,059,985	3,060,844	3,992,957	2,064,168	2,111,900	3,579,587	2,036,537
Add: Net Operating Surplus / (Deficit) (55,735)	147,663	166,274	241,469	(655,739)	(1,484,372)	(341,841)	(1,091,859)	1,039,585	1,093,580	(274,050)	147,663
Gross Revenue Requirement from Rates 2,131,406	2,184,201	2,261,150	2,330,159	2,442,431	2,575,612	2,719,003	2,901,098	3,103,752	3,205,480	3,305,537	2,184,201
Less: Misc. Non-Rate Revenues											
System Development Charges 1,000	600	600	600	600	600	600	600	600	600	600	600
Other Operating Income 18,000	18,540	19,096	19,669	20,259	20,867	21,493	22,138	22,802	23,486	24,190	18,540
Other Income 0	0	0	0	0	0	0	0	0	0	0	0
Interest Income 28,156	28,354	29,547	31,253	28,610	17,189	7,295	0	0	8,112	11,731	28,354
Total Miscellaneous Non-Rate Revenues 47,156	47,494	49,244	51,522	49,469	38,656	29,388	22,738	23,402	32,198	36,522	47,494
Net Revenue Requirement from Rates 2,084,250	2,136,707	2,211,907	2,278,638	2,392,962	2,536,956	2,689,615	2,878,360	3,080,350	3,173,281	3,269,016	2,136,707
check 0	0	0	0	0	0	0	0	0	0	0	0
Capital Cost Revenue Requirement 421,483	424,278	460,786	488,388	558,261	648,029	746,966	883,542	1,039,585	1,093,580	1,144,758	424,278
Operating Revenue Requirement 1,709,923	1,759,922	1,800,364	1,841,772	1,884,170	1,927,583	1,972,036	2,017,556	2,064,168	2,111,900	2,160,780	1,759,922
Total Gross Revenue Requirement 2,131,406	2,184,201	2,261,150	2,330,159	2,442,431	2,575,612	2,719,003	2,901,098	3,103,752	3,205,480	3,305,537	2,184,201
Less: Misc. Non-Rate Revenues 47,156		49,244	51,522	49,469	38,656	29,388	22,738	23,402	32,198	36,522	47,494
Net Revenue Requirement from Rates 2,084,250	47,494	2,211,907	2,278,638	2,392,962	2,536,956	2,689,615	2,878,360	3,080,350	3,173,281	3,269,016	2,136,707
check 0	47,494 2,136,707	0	0	0	0	0	0			0	0

Monthly Minimum Charge												
Meter Size		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Single Family Residential		\$28.52	\$29.38	\$30.26	\$31.16	\$32.72	\$34.69	\$36.77	\$39.34	\$42.09	\$43.36	\$44.66
Multi-Family Residential (per Unit)		28.52	29.38	30.26	31.16	32.72	34.69	36.77	39.34	42.09	43.36	44.66
Commercial		28.52	29.38	30.26	31.16	32.72	34.69	36.77	39.34	42.09	43.36	44.66
Commercial		20.32	23.30	30.20	31.10	32.72	34.03	30.77	33.34	42.03	43.30	44.00
Volume Rate (\$/kgal) Customer Class		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Single Family Residential		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Multi-Family Residential (per Unit)	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial - Min	_	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial - Above Min	_	3.75	3.86	3.98	4.10	4.30	4.56	4.83	5.17	5.53	5.70	5.87
Commercial - Actual Usage		3.73	5.60	3.36	4.10	4.50	4.30	4.63	3.17	3.33	3.70	3.67
Projected Number of Accounts (Units		2010	2040	2020	2024	2022	2022	2024	2025	2025	2027	2020
Customer Class	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Single Family Residential	3,987	3,988	3,989	3,990	3,991	3,992	3,993	3,994	3,995	3,996	3,997	3,988
Multi-Family Residential (Units)	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204	1,204
Commercial - Min	89	89	89	89	89	89	89	89	89	89	89	89
Commercial - Above Min	81	81	81	81	81	81	81	81	81	81	81	81
Commercial - Actual Usage	0	0	0	0	0	0	0	0	0	0	0	0
Total	5,361	5,362	5,363	5,364	5,365	5,366	5,367	5,368	5,369	5,370	5,371	5,362
Projected Revenue Monthly Minimun	n Charge											
Customer Class	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Single Family Residential		\$1,364,853	\$1,406,151	\$1,448,699	\$1,492,534	\$1,567,553	\$1,662,023	\$1,762,185	\$1,886,010	\$2,018,536	\$2,079,612	\$2,137,178
Multi-Family Residential (Units)		412,057	424,419	437,151	450,266	472,779	501,146	531,215	568,400	608,188	626,433	645,226
Commercial - Min		30,459	31,373	32,314	33,284	34,948	37,045	39,268	42,016	44,957	46,306	47,695
Commercial - Above Min		0	0	0	0	0	0	0	0	0	0	0
Commercial - Actual Usage		0	0	0	0	0	0	0	0	0	0	0
Total		\$1,807,369	\$1,861,943	\$1,918,164	\$1,976,083	\$2,075,280	\$2,200,213	\$2,332,667	\$2,496,426	\$2,671,681	\$2,752,352	\$2,830,099
Projected Total Volume Usage (kgal)												
Customer Class	2017	2018	2019	2020			2023	2024	2025	2026	2027	2028
Single Family Residential			2019	2020	2021	2022	2023	2024				
		1	2019	2020	2021	2022	1	1	1	1	1	1
Multi-Family Residential (Units)		1 1								1 1	1 1	1
Multi-Family Residential (Units) Commercial - Min			1	1	1	1	1	1	1			
		1	1	1 1	1 1	1 1	1 1	1 1	1 1	1	1	1
Commercial - Min		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
Commercial - Min Commercial - Above Min		1 1 73,926	1 1 1 73,926	1 1 1 73,926	1 1 1 73,926	1 1 1 73,926	1 1 1 73,926	1 1 1 73,926	1 1 1 73,926	1 1 73,926	1 1 73,926	1 1 73,926
Commercial - Min Commercial - Above Min Commercial - Actual Usage		1 1 73,926 0 73,929	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	1 1 73,926 0	1 1 73,926 0	1 1 73,926 0 73,929
Commercial - Min Commercial - Above Min Commercial - Actual Usage Total	2017	73,929 2018	73,929 2019	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	73,926 0 73,929	73,926 0	73,926 0 73,929
Commercial - Min Commercial - Above Min Commercial - Actual Usage Total Projected Total Volume Revenue Customer Class Single Family Residential	2017	73,926 0 73,929 2018	1 1 1 73,926 0 73,929	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0	1 1 1 73,926 0 73,929	1 1 1 73,926 0	73,926 0 73,929	73,926 0 73,929	73,926 0 73,929 2028
Commercial - Min Commercial - Above Min Commercial - Actual Usage Total Projected Total Volume Revenue Customer Class Single Family Residential Multi-Family Residential (Units)	2017	73,929 2018 \$0 0	73,929 2019 \$0	73,929 2020 \$0	73,929 2021 \$0	73,929 2022 \$0 0	1 1 1 73,926 0 73,929	73,929 2024 \$0 0	73,929 2025 \$0 0	73,926 0 73,929	73,926 0	73,929 73,929 2028 \$0 0
Commercial - Min Commercial - Above Min Commercial - Actual Usage Total Projected Total Volume Revenue Customer Class Single Family Residential Multi-Family Residential (Units) Commercial - Min	2017	73,929 2018 \$0 0	1 1 1 73,926 0 73,929 2019 \$0 0	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	73,929 73,929 2026 \$0 0	1 1 73,926 0 73,929	73,929 73,929 2028 \$0 0
Commercial - Min Commercial - Above Min Commercial - Actual Usage Total Projected Total Volume Revenue Customer Class Single Family Residential Multi-Family Residential (Units) Commercial - Min Commercial - Above Min	2017	73,929 2018 \$0 0 277,223	1 1 1 73,926 0 73,929 2019 \$0 0 0 285,539	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	73,929 2026 \$0 0	73,929 73,929 2027 \$0 0	73,929 73,929 2028 \$0 0
Commercial - Min Commercial - Above Min Commercial - Actual Usage Total Projected Total Volume Revenue Customer Class Single Family Residential Multi-Family Residential (Units) Commercial - Min	2017	73,929 2018 \$0 0	1 1 1 73,926 0 73,929 2019 \$0 0	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	1 1 1 73,926 0 73,929	73,929 73,929 2026 \$0 0	1 1 73,926 0 73,929	73,929 73,929 2028 \$0 0

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Existing and Proposed Sewer Rates

Commercial - 8"

2018		2019	
Monthly Minium Charge		Monthly Meter Charge (All Customers)	
Single Family Residential	\$28.52	Single Family Residential	\$29.38
Multi-Family Residential (per unit)	28.52	Multi-Family Residential (per unit)	29.38
Commercial	28.52	Commercial	29.38
Volumetric Rates (Per 1,000 gallons per n	nonth)	Volumetric Rates (Per 1,000 gallons per	month)
Commercial (Above AWC)	\$3.75	Commercial (Above AWC)	\$3.86
System Development Charges		System Development Charges	
Single Family Residential	\$600	3/4"	\$3,084
Multi-Family Residential (Per Unit)	600	1"	4,935
Commercial - 3/4"	600	1 1/2"	6,169
Commercial - 1"	1,200	2"	19,739
Commercial - 1 1/2"	2,400	3"	39,479
Commercial - 2"	4,800	4"	61,685
Commercial - 3"	10,800	6"	123,371
Commercial - 4"	21,600	8"	197,393
Commercial - 6"	56,400	Multi-Family Residential (Per Unit)	3,084

120,000

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Existing and Proposed Water Rates

2018		2019	
Monthly Minium Charge		Monthly Meter Charge (All Customers)	
Single Family Residential - 3/4"	\$26.70	3/4"	\$19.19
Single Family Residential - 1"	26.70	1"	25.84
Multi-Family Residential	26.70	1 1/2"	30.28
Commercial - 3/4"	26.70	2"	79.09
Commercial - 1"	48.93	3"	150.09
Commercial - 1 1/2"	106.76	4"	229.96
Commercial - 2"	191.28	6"	451.82
Commercial - 3"	427.02	8"	718.05
Commercial - 4"	760.62		
Commercial - 6"	1,708.08		
Commercial - 8"			
Volumetric Rates (Per 1,000 gallons per	month)	Volumetric Rates (Per 1,000 gallons per m	onth)
Single Family Residential - 3/4"		Single Family Residential (All Meter Sizes)	
Minimum Charge (5,000 gal)	\$0.00	1-5,000 gal	\$2.12
5,001 to 16,000 gal	5.34	5,001-16,000 gal	5.81
16,001 to 27,000 gal	5.85	16,001-27,000 gal	8.08
27,001 to 38,000 gal	6.35	27,001 to 38,000 gal	9.85
Over 38,001 gal	6.86	Over 38,001 gal	11.26
Single Family Residential - 1"			
Minimum Charge (5,000 gal)	\$0.00		
5,001 to 16,000 gal	5.34		
16,001 to 27,000 gal	5.85		
27,001 to 38,000 gal	6.35		
Over 38,001 gal	6.86		
Multi-Family Residential		Multi-Family Residential	
Minimum Charge (5,000 gal)	\$0.00	All Consumpton	\$6.15
5,001 to 10,000 gal	5.34		
Over 10,001 gal	5.85		

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Existing and Proposed Water Rates

2018	
Commercial - 3/4"	
Minimum Charge (5,000 gal)	\$0.00
5,001 to 22,000 gal	5.34
Over 22,001 gal	5.85
Commercial - 1"	
Minimum Charge (10,000 gal)	\$0.00
10,001 to 41,000 gal	5.34
Over 41,001 gal	5.85
Commercial - 1.5"	
Minimum Charge (23,000 gal)	\$0.00
23,001 to 94,000 gal	5.34
Over 94,001 gal	5.85
Commercial - 2"	
Minimum Charge (42,000 gal)	\$0.00
42,001 to 169,000 gal	5.34
Over 169,001 gal	5.85
Commercial - 3"	
Minimum Charge (95,000 gal)	\$0.00
95,001 to 382,000 gal	5.34
Over 382,001 gal	5.85
Commercial - 4"	
Minimum Charge (170,000 gal)	\$0.00
170,001 to 681,000 gal	5.34
Over 681,001 gal	5.85
Commercial - 6"	
Minimum Charge (383,000 gal)	\$0.00
383,001 to 1,534,000 gal	5.34
Over 1,534,001 gal	5.85
Commercial - 8"	
Minimum Charge (682,000 gal)	\$0.00
682,001 to 2,729,000 gal	5.34
Over 2,729,001 gal	5.85

2019

Commercial (All Meter Sizes)
All Consumpton \$4.52

Irrigation (All Meter Sizes)
All Consumption

Ken-Caryl Water and Sanitation District 2018 Water and Sewer Rate Study Existing and Proposed Water Rates

2018		2019	
Monthly Private Fire Lines		Monthly Private Fire Lines	
4" or less	\$26.70	4" or less	\$28.74
6"	47.25	6"	83.49
8"	83.30	8"	177.91
System Development Charges		System Development Charges	
Single Family Residential - 3/4"	\$2,500	3/4"	\$3,312
Single Family - 1"	5,000	1"	5,300
Multi-Family Residential (Per Unit)	2,500	1 1/2"	6,625
Commercial - 3/4"	2,500	2"	21,199
Commercial - 1"	5,000	3"	42,397
Commercial - 1 1/2"	10,000	4"	66,246
Commercial - 2"	20,000	6"	132,492
Commercial - 3"	45,000	8"	211,987
Commercial - 4"	90,000	Multi-Family Residential (Per Unit)	3,312
Commercial - 6"	235,000		
Commercial - 8"	500,000		