



# Water, Sewer & Storm Rate Study



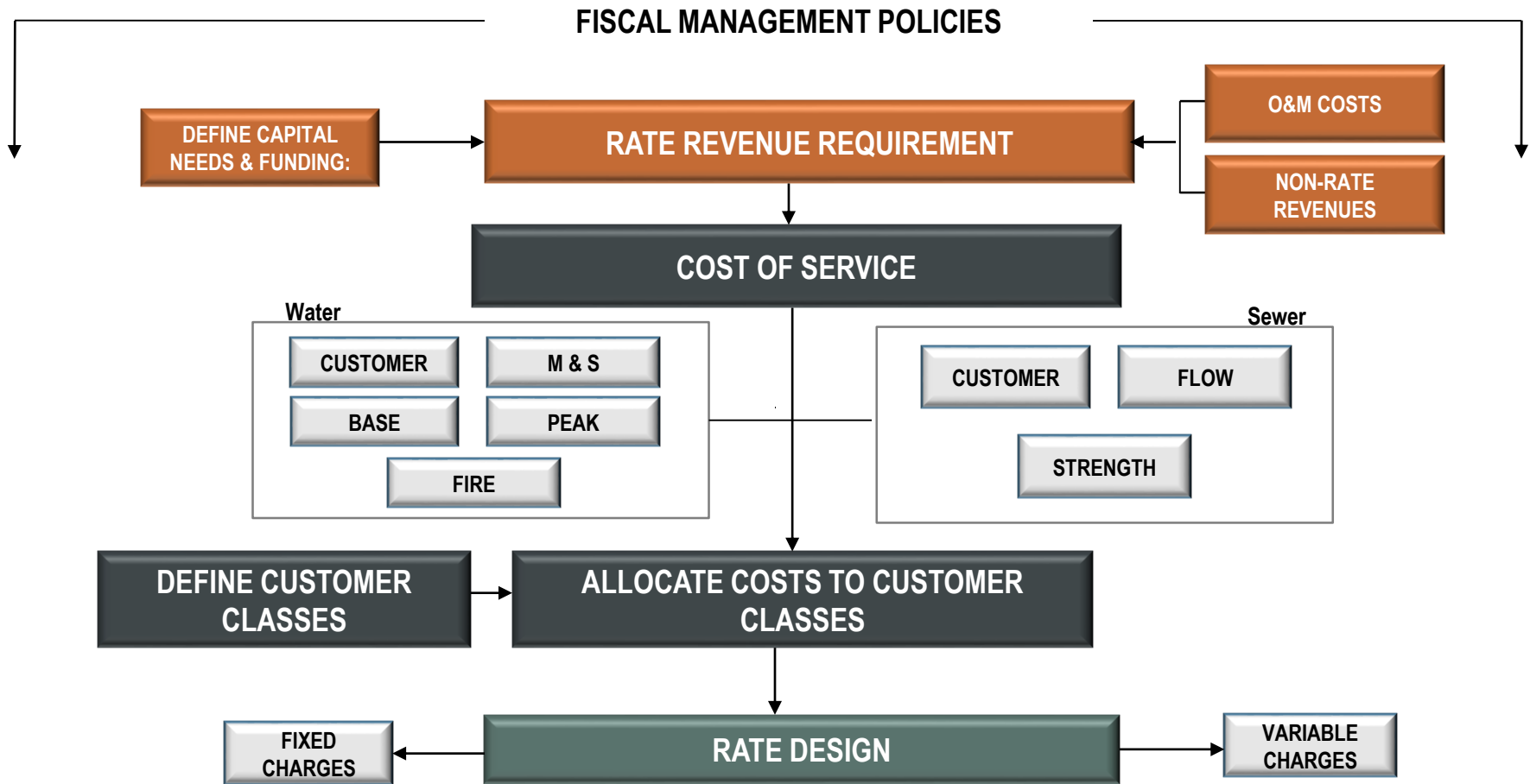
# Discussion Outline

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- ◆ **Overview of rate setting process**
- ◆ **Summary of findings**
  - Revenue requirement
  - Cost of service
  - Rate design
- ◆ **Next Steps**
- ◆ **Questions**



# Overview of the Rate Setting Process





# Key Assumptions

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- ◆ **Study focus: FY2018-FY2023**
  - Projections through FY2037
- ◆ **Customer growth:**
  - Water & Sewer: 0.3% per year
  - Storm: 0.6% per year
- ◆ **FY2017 adjusted budget used as baseline**
- ◆ **New debt to fund Capital:**
  - Revenue bonds: 20-year term, 5.0% interest, 1.0% issuance cost
- ◆ **Capital costs include Renewal & Replacement (R&R) funding of aging system assets for each utility**
- ◆ **Annual adjustments effective:**
  - July of each FY (12 months)
- ◆ **Fiscal policies:**
  - Operating (days of O&M): Water 75; Sewer 45; Storm 30
  - Capital: Water & Sewer 1.0% of plant in service, Storm \$150,000

# Revenue Requirement



# **Revenue Requirement Overview**

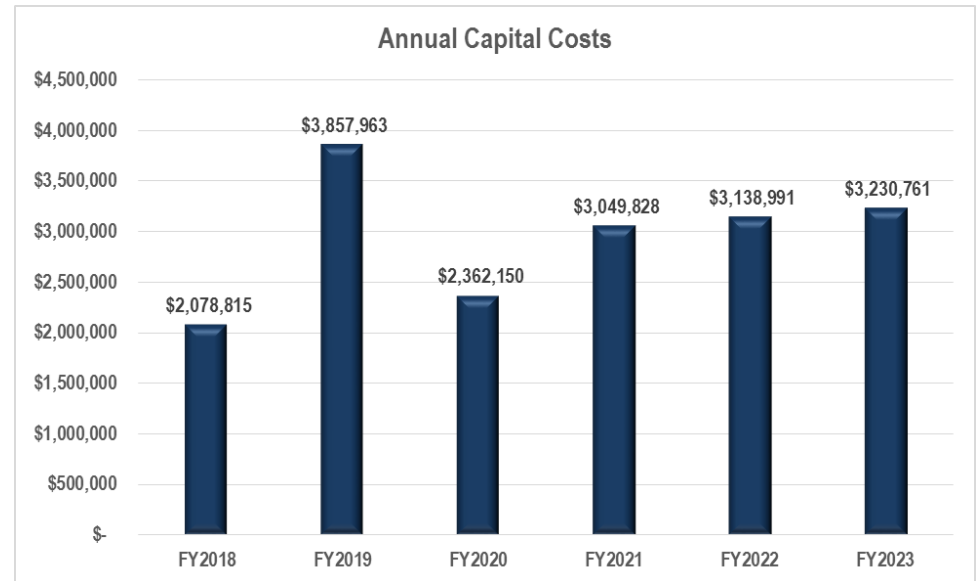
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- ◆ **Determines the amount of revenue necessary to meet all utility financial obligations on a stand-alone basis**
  - Operating costs
  - Capital costs
  - Financial policies and targets
- ◆ **Evaluates existing revenue levels for sufficiency**
- ◆ **Develops a multi-year rate implementation strategy**



# Key Components - Water

Description	Water (FY2018-FY2023)
Existing Rate Revenue	\$3.76 mil - \$3.82 mil
O&M Expenses	\$2.93 mil - \$3.11 mil
Existing Debt Service	\$400 k
New Debt Service	\$498 k - \$1.47 mil
Total CIP (Inflated)	\$17,718,508

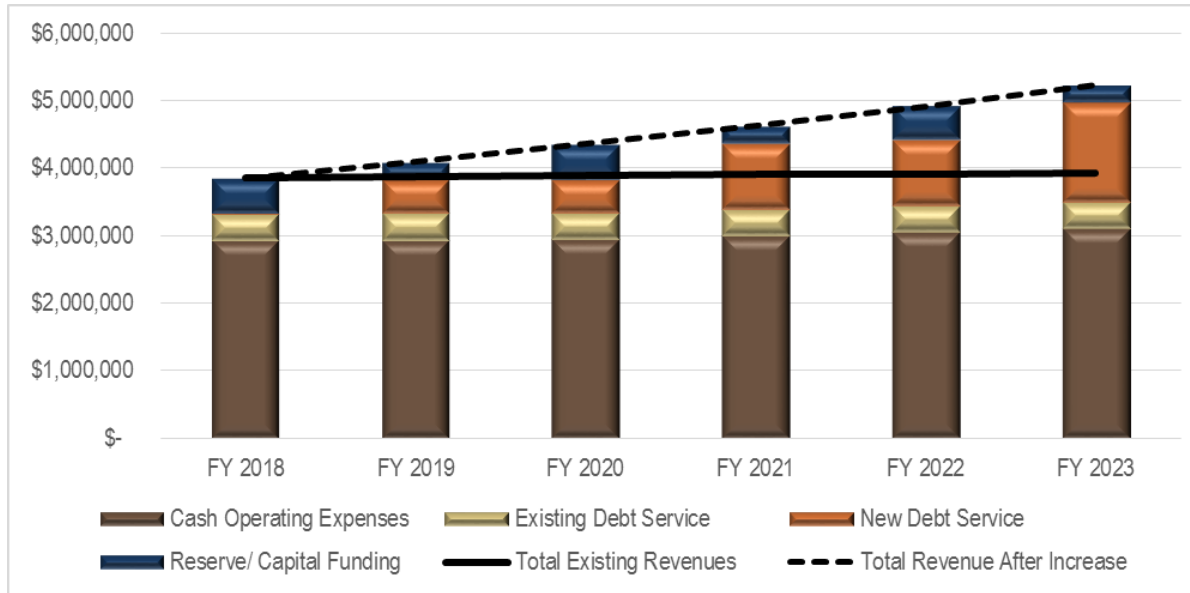


- ◆ **Total CIP of \$17.72 million (inflated to the year of construction)**
  - Includes R&R funding of Valves, Hydrants, Meter and Mains
- ◆ **Capital program funded by:**
  - Existing resources: cash reserves, rate funding, LID assessments, CWSRF Loan and infrastructure fee revenues
- ◆ **New debt required - \$16.50 million**
  - FY2019: \$5.50 million
  - FY2021: \$5.30 million
  - FY2023: \$5.70 million

**Note:** FY2018/FY2019 CIP is based on budget, future years are based on historical annual average costs plus R&R.



# Revenue Requirement – Water



Water Sample Bill	Existing	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Monthly Bill (5/8") - 3,500 gallons	\$ 31.80	\$ 31.80	\$ 33.71	\$ 35.73	\$ 37.87	\$ 40.15	\$ 42.56
\$ Monthly Difference		\$ -	\$ 1.91	\$ 2.02	\$ 2.14	\$ 2.27	\$ 2.41
Proposed Increase		0.00%	6.00%	6.00%	6.00%	6.00%	6.00%

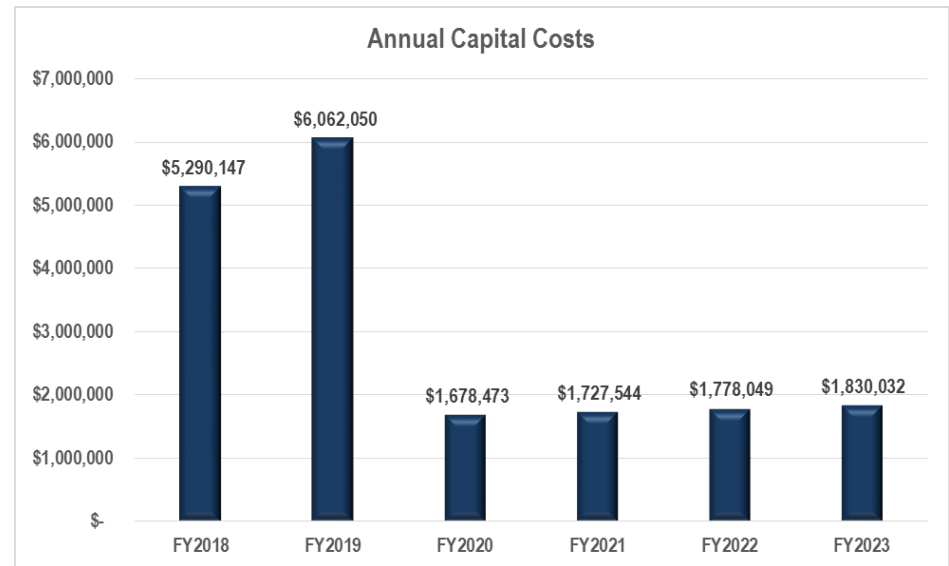
- ◆ Adjustments effective: July 1<sup>st</sup> of each fiscal year
- ◆ Key rate increase drivers:
  - Cost of capital and associated annual debt service





# Key Components - Sewer

Description	Sewer (FY2018-FY2023)
Existing Rate Revenue	\$3.94 mil - \$4.01 mil
O&M Expenses	\$3.23 mil - \$3.53 mil
Existing Debt Service	\$566 k - \$266 k
New Debt Service	\$386 k - \$1.59 mil
Total CIP (Inflated)	\$18,366,295

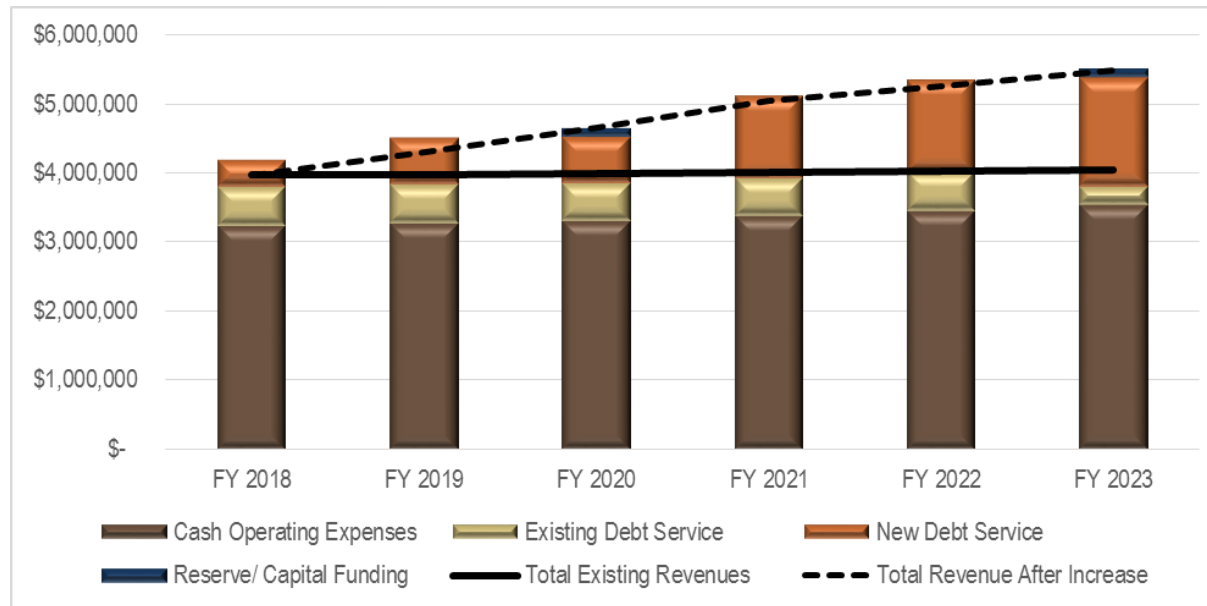


- ◆ **Total CIP of \$18.37 million (inflated to the year of construction)**
  - Includes R&R funding of Manholes, Cleanouts, Gravity Mains and Force Mains
- ◆ **Capital program funded by:**
  - Existing resources: cash reserves, rate funding and CWSRF Loans
- ◆ **New debt required - \$10.20 million**
  - FY2019: \$3.40 million
  - FY2021: \$3.80 million
  - FY2023: \$3.00 million

**Note:** FY2018/FY2019 CIP is based on budget, future years are based on historical annual average costs plus R&R.



# Revenue Requirement – Sewer



Sewer Sample Bill	Existing	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Monthly Bill - 3,000 gallons	\$ 44.45	\$ 44.45	\$ 48.01	\$ 51.85	\$ 55.99	\$ 58.23	\$ 60.56
\$ Monthly Difference		\$ -	\$ 3.56	\$ 3.84	\$ 4.15	\$ 2.24	\$ 2.33
Proposed Increase		0.00%	8.00%	8.00%	8.00%	4.00%	4.00%

- ◆ Adjustments effective: July 1<sup>st</sup> of each fiscal year
- ◆ Assumes the use of \$563,000 in reserves
- ◆ Key rate increase drivers:
  - Cost of capital and associated annual debt service



# Storm Considerations

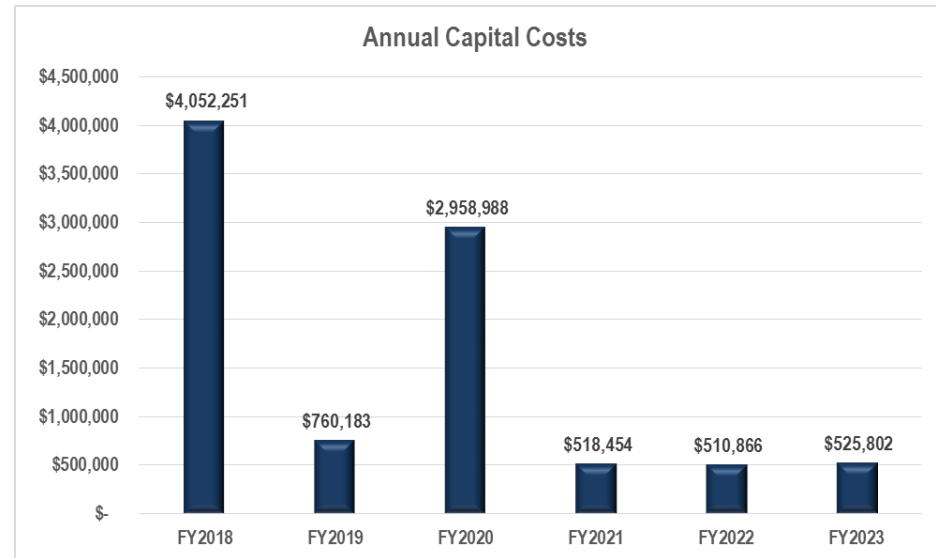
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- ◆ **Existing Storm rates are not sufficient to meet ongoing obligations**
  - Operating expenses are subsidized by Streets
  - Capital costs are paid for through the infrastructure fee
  - All customers pay an equal Storm fee per account
- ◆ **Proposed changes:**
  - Transition Storm utility to self-sufficiency
    - Eliminate Streets subsidy and infrastructure fees
  - Bill customers based on Equivalent Service Units (ESUs)
    - Tied to impervious surface area for Non Single Family customers
    - Very common industry rate structure
    - Shifts revenue collection from Single Family to Non Single Family (Commercial) customers commensurate with their impervious surface area



# Key Components – Storm

Description	Storm (FY2018-FY2023)
Existing Rate Revenue	\$453 k - \$468 k
O&M Expenses	\$542 k - \$611 k
New Debt Service	\$240 k - \$555 k
Total CIP (Inflated)	\$9,326,543

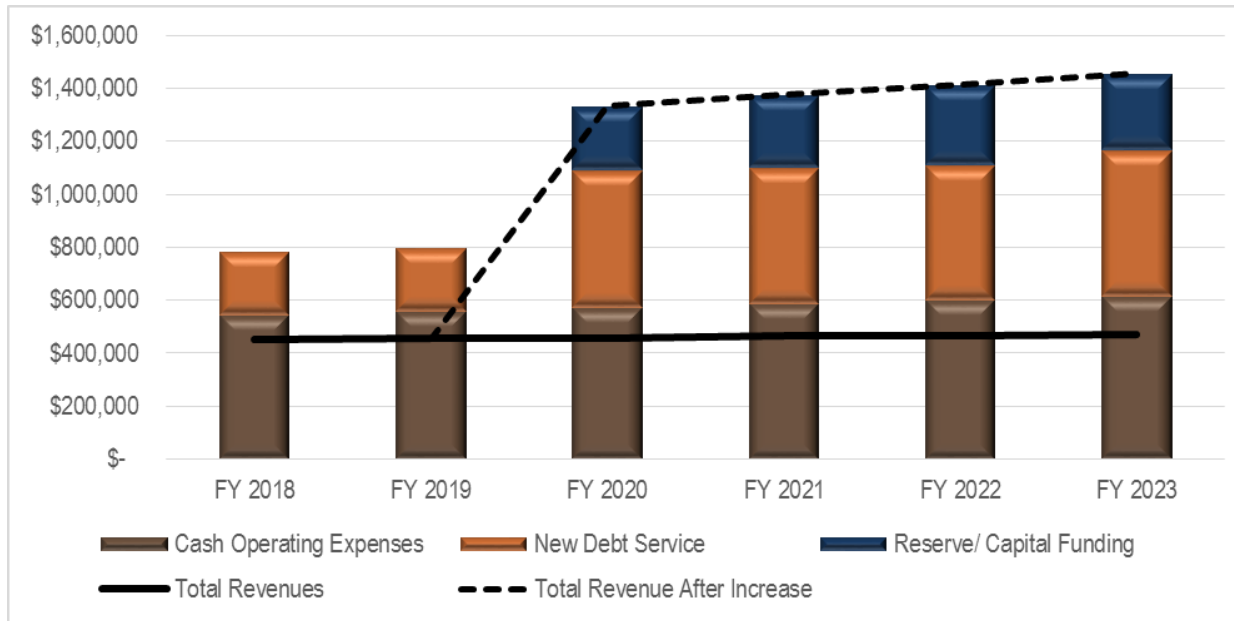


- ◆ **Total CIP of \$9.33 million (inflated to the year of construction)**
  - Includes R&R funding of Manholes, Catch Basins, Mains
- ◆ **Capital program funded by:**
  - Existing resources: cash reserves, rate funding, CWSRF Loan and infrastructure fee revenues
- ◆ **New debt required - \$3.70 million**
  - FY2020: \$3.20 million
  - FY2023: \$500,000

**Note:** FY2018-FY2020 CIP is based on budget, future years are based on historical annual average costs plus R&R.



# Revenue Requirement – Storm



Residential Storm Sample Bill	Existing	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
<b>Monthly Bill - per Account</b>	<b>\$ 8.25</b>	<b>\$ 8.25</b>	<b>\$ 8.25</b>	<b>\$ 23.97</b>	<b>\$ 24.51</b>	<b>\$ 25.06</b>	<b>\$ 25.62</b>
<i>\$ Monthly Difference</i>		\$ -	\$ -	\$ 15.72	\$ 0.54	\$ 0.55	\$ 0.56
<b>Monthly Bill - per ESU</b>				<b>\$ 8.25</b>	<b>\$ 8.43</b>	<b>\$ 8.62</b>	<b>\$ 8.82</b>
<i>\$ Monthly Difference</i>				\$ 8.25	\$ 0.19	\$ 0.19	\$ 0.19
<b>Proposed Increase</b>		<b>0.00%</b>	<b>0.00%</b>	<b>190.50%</b>	<b>2.25%</b>	<b>2.25%</b>	<b>2.25%</b>

Note: rates apply on a per Equivalent Service Unit (ESU) basis starting FY2020.



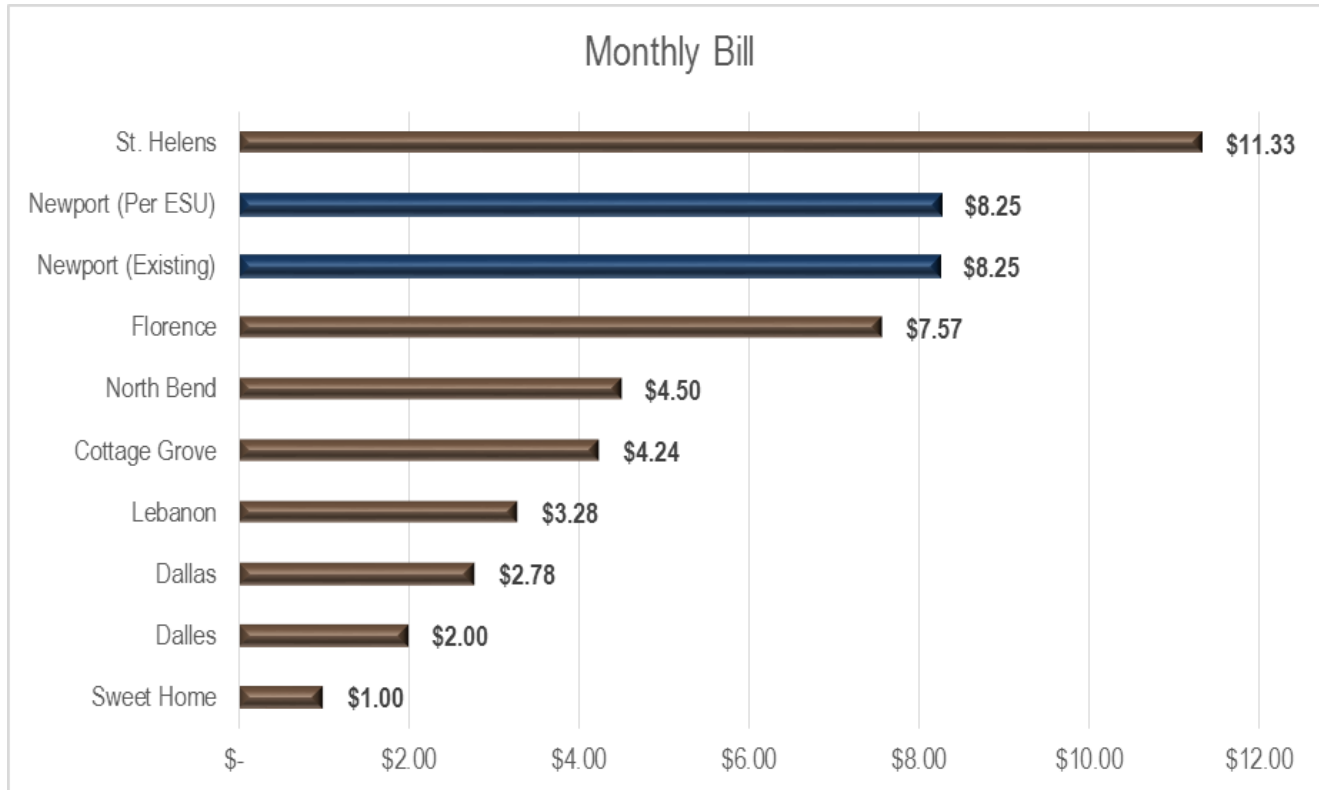
# Storm Summary

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- ◆ **Proposed strategy sets Storm rates to be self sufficient**
  - Eliminates Streets subsidy for operations starting FY2020
  - Eliminates infrastructure fees for capital use starting in FY2020
- ◆ **Scenario recap**
  - July 2019 (FY2020) adjustment with conversion to an ESU rate and July adjustments thereafter.
    - Requires subsidies of:
      - FY 2018: \$331,000
      - FY 2019: \$339,000



# Storm Residential Survey





# Non Residential Sample Impacts

Description	Accounts	ESUs	Monthly Bill		Difference
			Existing	Proposed	
Large Commercial 1	1	147	\$ 8.25	\$ 1,212.75	\$ 1,204.50
Large Commercial 2	1	129	8.25	1,064.25	1,056.00
Hotel 1	1	49	8.25	404.25	396.00
Hotel 2	1	38	8.25	313.50	305.25

**Notes:**

1. Equivalent Service Unit (ESU) = 2,700 square feet of impervious surface area.
2. ESUs were rounded to a whole number for this example.



# **Cost of Service**



# Cost of Service

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- ◆ **An equitable distribution of cost shares that considers utility specific data:**
  - Measures of usage and demand
  - Planning, engineering and design criteria
  - Facility requirements
- ◆ **Total cost by customer class (equity)**
- ◆ **Unit costs (\$/usage; \$/customer)**
- ◆ **Fundamental question: do cost differences exist to serve different customer classes of service**



# Cost of Service Process

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- ◆ **Step 1: Allocate total utility cost by function**

<b>Water Utility Functions**</b>	<b>Sewer Utility Functions**</b>
<ul style="list-style-type: none"><li>■ Customer</li><li>■ Meters &amp; Services</li><li>■ Base Demand (average use)</li><li>■ Peak Demand (peak use)</li><li>■ Fire Protection</li></ul>	<ul style="list-style-type: none"><li>■ Customer</li><li>■ Flow</li><li>■ Strength</li></ul>

- ◆ **Step 2: Assign allocation factors using class specific information**

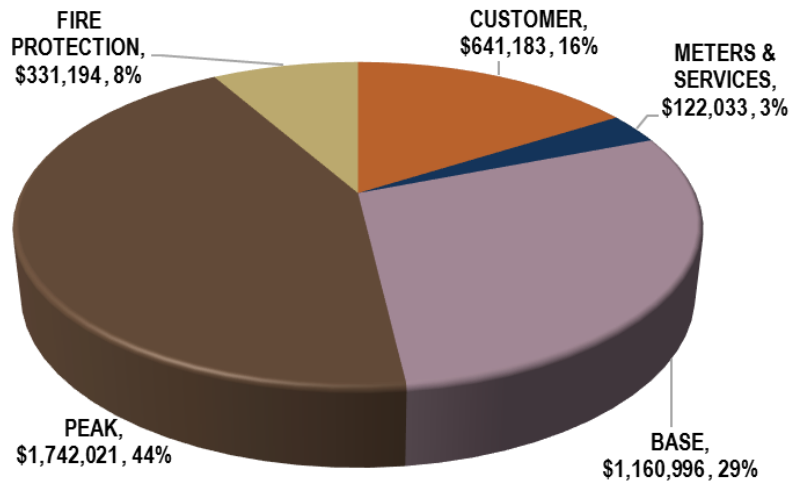
- ◆ **Step 3: Allocate costs to customer classes**

\*\* Industry Standard Methodologies; AWWA Principles of Water Rates, Fees and Charges, M1 Manual and the Water Environment Federation Financing and Charges for Wastewater Systems Manual 27

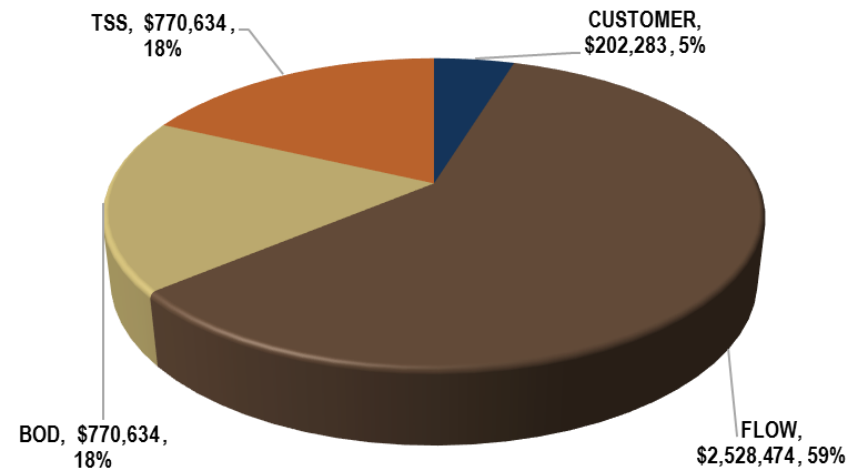


# Cost Allocation to Functions

## Water



## Sewer





# Cost Allocation to Customer Classes - Water

Class	2019 Revenues				Difference		
	Existing		COSA		\$	%	
Single Family	\$	1,389,181	\$	1,314,335	\$	(74,847)	-5.4%
Multi Family		315,884		282,178		(33,706)	-10.7%
Commercial		2,066,092		2,400,914		334,822	16.2%
<b>Total</b>	<b>\$</b>	<b>3,771,157</b>	<b>\$</b>	<b>3,997,427</b>	<b>\$</b>	<b>226,269</b>	<b>6.0%</b>

- ◆ **± 5.0% of average within COS (industry standard)**
- ◆ **First cost of service study completed by the City**
  - Cost of service adjustments are warranted
  - Historical information – continue collecting data and monitoring
  - Consider phase-in to confirm trends over time



# Water Cost of Service Proposed Phase-In

Class	2019 COSA	2019 Phase-In
Single Family	-5.4%	-0.8%
Multi Family	-10.7%	-1.6%
Commercial	16.2%	11.7%
<b>Total</b>	<b>6.0%</b>	<b>6.0%</b>

- ◆ **Make progress towards cost of service**
  - Continue collecting data and monitoring
  - Revisit during next update



# Cost Allocation to Customer Classes - Sewer

Class	2019 Revenues				Difference		
	Existing		COSA		\$	%	
Single Family	\$	1,744,216	\$	1,439,022	\$	(305,194)	-17.5%
Multi Family		459,159		576,273		117,114	25.5%
Commercial		1,752,203		2,256,729		504,526	28.8%
<b>Total</b>	<b>\$</b>	<b>3,955,578</b>	<b>\$</b>	<b>4,272,024</b>	<b>\$</b>	<b>316,446</b>	<b>8.0%</b>

- ◆ **± 5.0% of average within COS (industry standard)**
- ◆ **First cost of service study completed by the City**
  - Cost of service adjustments are warranted
  - Historical information – continue collecting data and monitoring
  - Consider phase-in to confirm trends over time



## Sewer Cost of Service Proposed Phase-In

Class	2019 COSA	2019 Phase-In
Single Family	-17.5%	0.0%
Multi Family	25.5%	15.8%
Commercial	28.8%	13.9%
<b>Total</b>	<b>8.0%</b>	<b>8.0%</b>

- ◆ **Make progress towards cost of service**
  - Continue collecting data and monitoring
  - Revisit during next update



# Rate Design



# Rate Design

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- ◆ **Produce sufficient revenue to meet utility financial requirements**
- ◆ **Cost based and equitable**
- ◆ **Collect the target revenue level for each class of service**
- ◆ **Meet the goals and objectives of the utility**
- ◆ **Rate design considerations:**
  - Phase-in cost of service overall increases
  - Eliminate water allowance of 1,000 gallons (water only)
  - Eliminate sewer garden rate (sewer only)
    - All usage is charged
  - Conversion to ESU billing (stormwater only)



# Water Rate Design

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- ◆ **Phase in towards cost of service**
  - Eliminate allowance for all classes of service
  - Differentiate rates by class of service (existing rates are the same)



# Water Rate Schedule

Description	Single Family & Multi Family					
	Existing	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Monthly Fixed</b>						
5/8"x3/4"	\$ 21.80	\$ 18.50	\$ 19.61	\$ 20.79	\$ 22.03	\$ 23.36
1"	28.95	24.57	26.04	27.61	29.26	31.02
1.5"	44.10	37.42	39.67	42.05	44.57	47.24
2"	75.50	64.07	67.91	71.99	76.31	80.89
3"	112.70	95.64	101.38	107.46	113.91	120.74
4"	187.35	158.99	168.53	178.64	189.36	200.72
<b>Variable (per 1,000 gallons)</b>						
0-1,000 gallons	\$ -					
1,001+ gallons	4.00					
All usage		\$ 4.00	\$ 4.24	\$ 4.49	\$ 4.76	\$ 5.05

Description	Commercial					
	Existing	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Monthly Fixed</b>						
5/8"x3/4"	\$ 21.80	\$ 21.90	\$ 23.21	\$ 24.61	\$ 26.08	\$ 27.65
1"	28.95	29.08	30.82	32.67	34.63	36.71
1.5"	44.10	44.30	46.96	49.78	52.76	55.93
2"	75.50	75.85	80.40	85.23	90.34	95.76
3"	112.70	113.22	120.01	127.21	134.85	142.94
4"	187.35	188.21	199.50	211.47	224.16	237.61
<b>Variable (per 1,000 gallons)</b>						
0-1,000 gallons	\$ -					
1,001+ gallons	4.00					
All usage		\$ 4.50	\$ 4.77	\$ 5.06	\$ 5.36	\$ 5.68

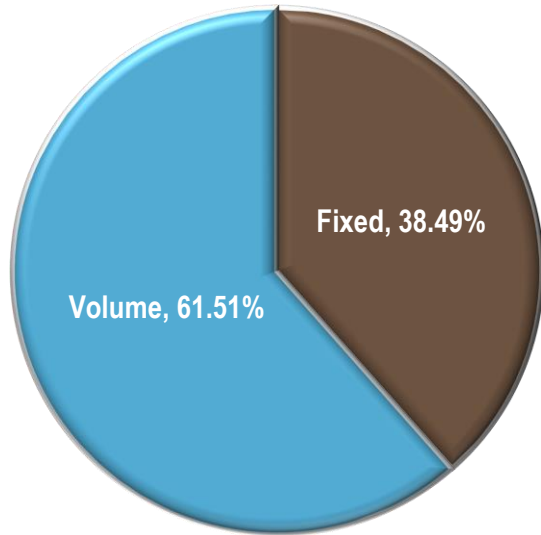
**Notes:** outside city rates have an approximate 1.9 multiplier on fixed charges and 1.6 multiplier on variable charges.



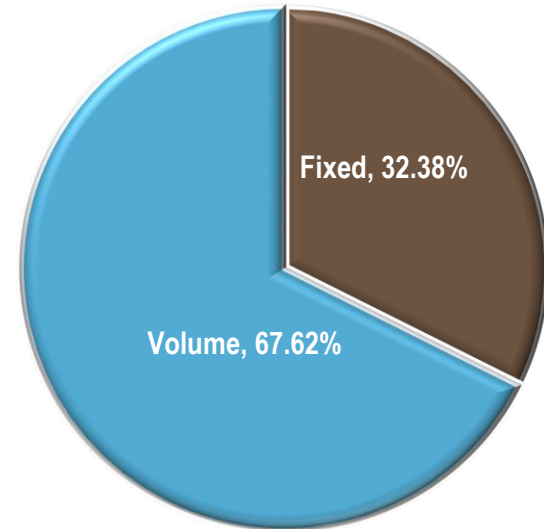
# Water Revenue Breakdown

Total Revenue

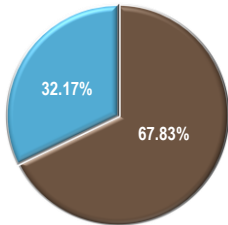
Existing



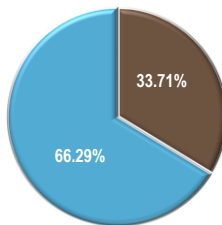
COSA Phase In



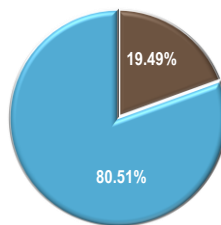
Residential



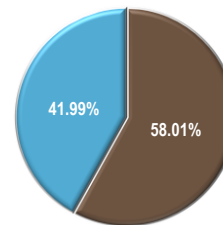
Multi Family



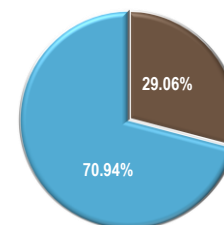
Commercial



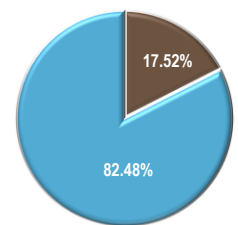
Residential



Multi Family



Commercial





# Water Residential Bill Impacts

1,000 gallons	Existing	Proposed				
		FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
0.0	\$ 21.80	\$ 18.50	\$ 19.61	\$ 20.79	\$ 22.03	\$ 23.36
1.0	21.80	22.50	23.85	25.28	26.80	28.41
2.0	25.80	26.50	28.09	29.78	31.56	33.46
<b>3.5</b>	<b>31.80</b>	<b>32.50</b>	<b>34.45</b>	<b>36.52</b>	<b>38.71</b>	<b>41.03</b>
5.0	37.80	38.50	40.81	43.26	45.85	48.61
7.0	45.80	46.50	49.29	52.25	55.38	58.71
9.0	53.80	54.50	57.77	61.24	64.91	68.80
11.0	61.80	62.50	66.25	70.23	74.44	78.90
14.0	73.80	74.50	78.97	83.71	88.73	94.05
17.0	85.80	86.50	91.69	97.19	103.02	109.20
20.0	97.80	98.50	104.41	110.67	117.32	124.35

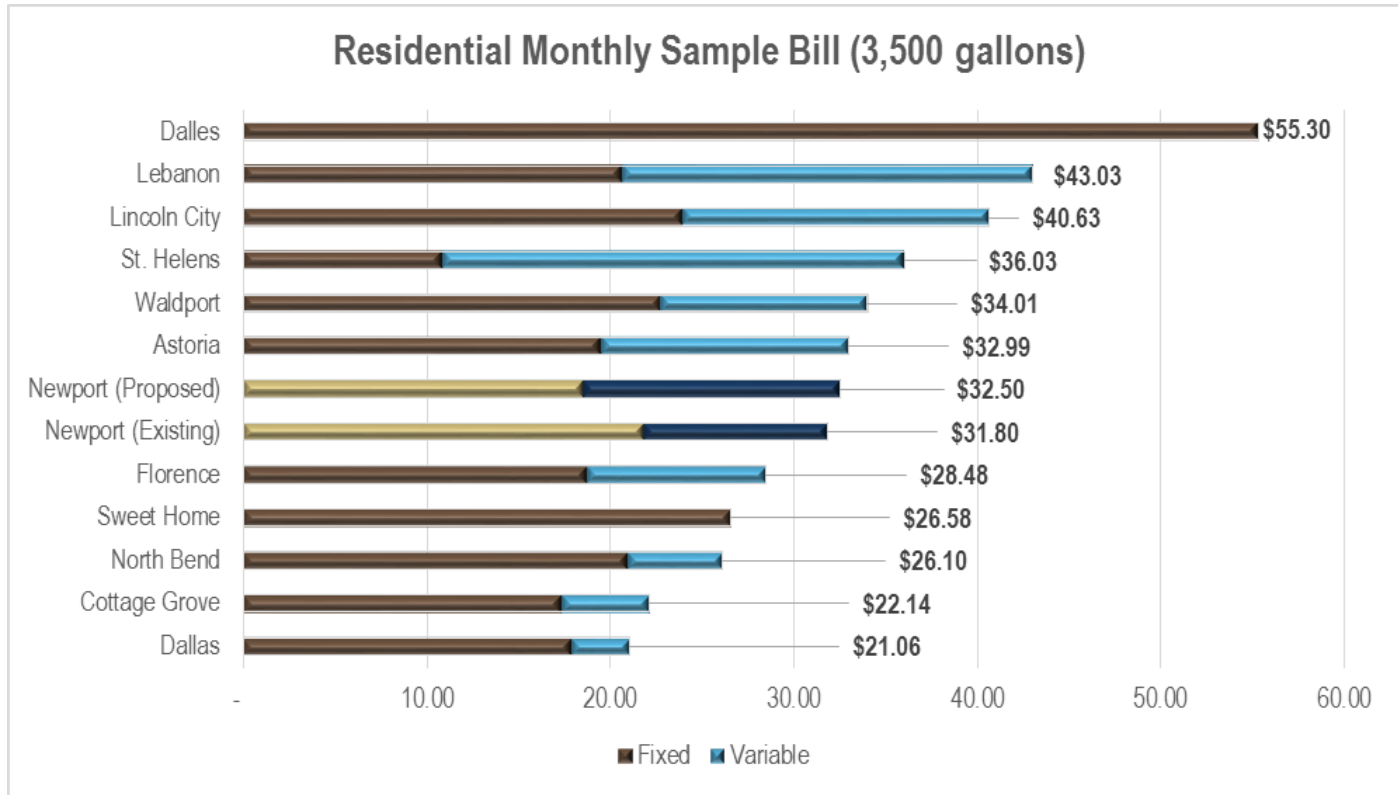
\$ Δ				
FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
\$ (3.30)	\$ 1.11	\$ 1.18	\$ 1.25	\$ 1.32
0.70	1.35	1.43	1.52	1.61
0.70	1.59	1.69	1.79	1.89
<b>0.70</b>	<b>1.95</b>	<b>2.07</b>	<b>2.19</b>	<b>2.32</b>
0.70	2.31	2.45	2.60	2.75
0.70	2.79	2.96	3.13	3.32
0.70	3.27	3.47	3.67	3.89
0.70	3.75	3.98	4.21	4.47
0.70	4.47	4.74	5.02	5.32
0.70	5.19	5.50	5.83	6.18
0.70	5.91	6.26	6.64	7.04

% Δ				
FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
-15.1%	6.0%	6.0%	6.0%	6.0%
3.2%	6.0%	6.0%	6.0%	6.0%
2.7%	6.0%	6.0%	6.0%	6.0%
<b>2.2%</b>	<b>6.0%</b>	<b>6.0%</b>	<b>6.0%</b>	<b>6.0%</b>
1.9%	6.0%	6.0%	6.0%	6.0%
1.5%	6.0%	6.0%	6.0%	6.0%
1.3%	6.0%	6.0%	6.0%	6.0%
1.1%	6.0%	6.0%	6.0%	6.0%
0.9%	6.0%	6.0%	6.0%	6.0%
0.8%	6.0%	6.0%	6.0%	6.0%
0.7%	6.0%	6.0%	6.0%	6.0%

Notes: assumes a 5/8" x 3/4" meter.



# Water Residential Bill Survey





# Sewer Rate Design

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- ◆ **Phase in towards cost of service**
  - Differentiate rates between Single Family and Non Single Family
  - Eliminate the “garden” rate for Single Family
    - Charge for all usage





# Sewer Rate Schedule

Description	Existing	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Monthly Fixed</b>						
Residential	\$ 23.90	\$ 23.90	\$ 25.81	\$ 27.88	\$ 28.99	\$ 30.15
Multi-Family	23.80	27.56	29.76	32.15	33.43	34.77
Commercial	23.80	27.56	29.76	32.15	33.43	34.77
<b>Variable (per 1,000 gallons)</b>						
Residential	\$ 6.85	\$ 6.13	\$ 6.62	\$ 7.15	\$ 7.44	\$ 7.73
Multi-Family	7.85	9.09	9.82	10.60	11.03	11.47
Commercial	7.85	9.09	9.82	10.60	11.03	11.47

**Notes:**

Existing rates are based off of a garden rate for single family customers.

Proposed rates charge for all usage for single family customers.

- ◆ **Separate fixed and variable charges for Single Family and Non Single Family**
- ◆ **City transitioning to 100% usage based charge**
- ◆ **Elimination of garden rate – moved to a subscription service**

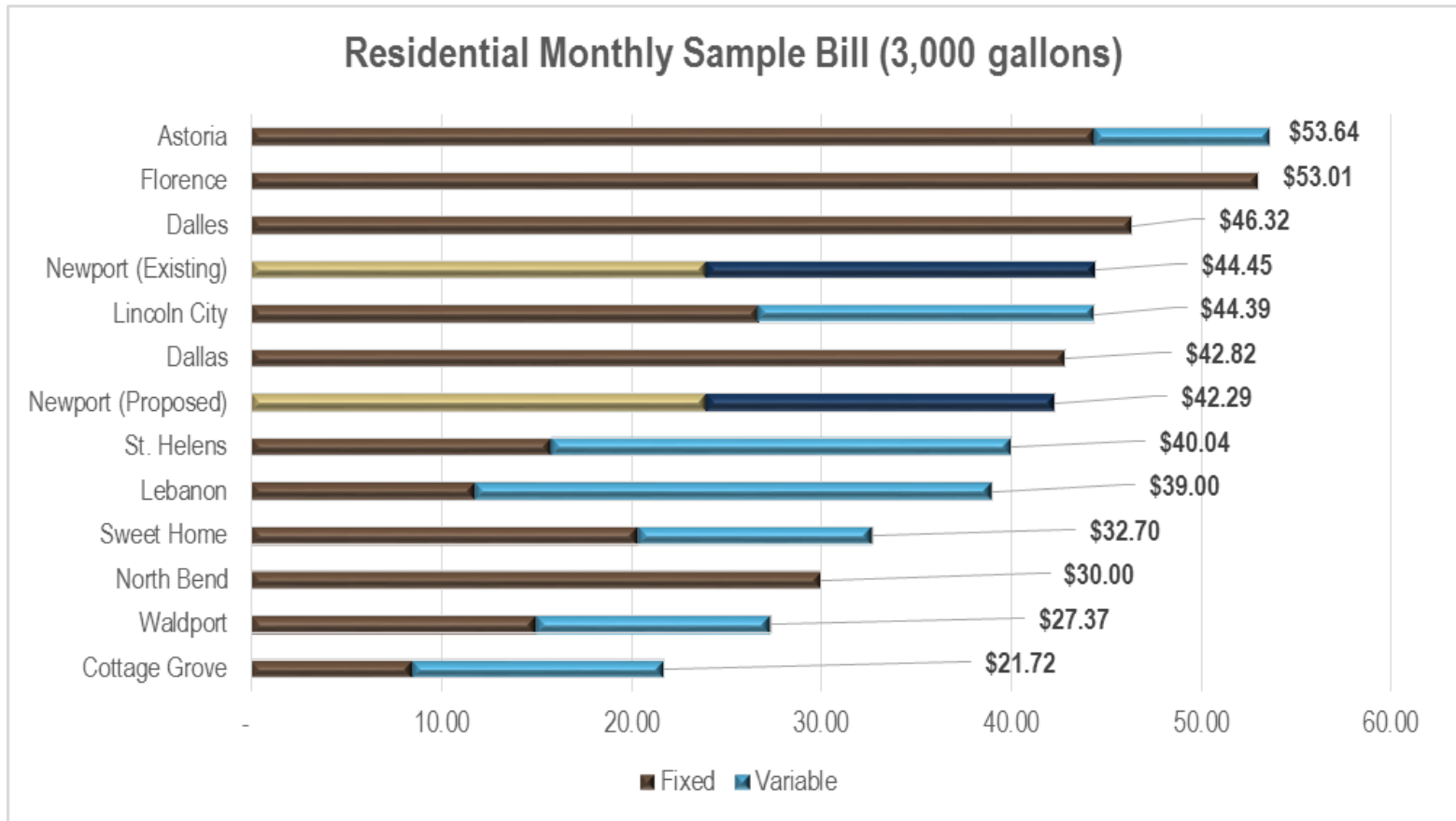


# Sewer Residential Bill Impacts

1,000 gallons	Existing	Proposed					\$ Δ					% Δ				
		FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
0.0	\$ 23.90	\$ 23.90	\$ 25.81	\$ 27.88	\$ 28.99	\$ 30.15	\$ -	\$ 1.91	\$ 2.06	\$ 1.12	\$ 1.16	0.0%	8.0%	8.0%	4.0%	4.0%
1.0	30.75	30.03	32.43	35.03	36.43	37.89	(0.72)	2.40	2.59	1.40	1.46	-2.3%	8.0%	8.0%	4.0%	4.0%
2.0	37.60	36.16	39.05	42.18	43.86	45.62	(1.44)	2.89	3.12	1.69	1.75	-3.8%	8.0%	8.0%	4.0%	4.0%
3.0	44.45	42.29	45.67	49.33	51.30	53.35	(2.16)	3.38	3.65	1.97	2.05	-4.9%	8.0%	8.0%	4.0%	4.0%
4.0	51.30	48.42	52.29	56.48	58.74	61.09	(2.88)	3.87	4.18	2.26	2.35	-5.6%	8.0%	8.0%	4.0%	4.0%
5.0	58.15	54.55	58.91	63.63	66.17	68.82	(3.60)	4.36	4.71	2.55	2.65	-6.2%	8.0%	8.0%	4.0%	4.0%
7.0	71.85	66.81	72.15	77.93	81.04	84.29	(5.04)	5.34	5.77	3.12	3.24	-7.0%	8.0%	8.0%	4.0%	4.0%
9.0	85.55	79.07	85.40	92.23	95.92	99.75	(6.48)	6.33	6.83	3.69	3.84	-7.6%	8.0%	8.0%	4.0%	4.0%
12.0	106.10	97.46	105.26	113.68	118.22	122.95	(8.64)	7.80	8.42	4.55	4.73	-8.1%	8.0%	8.0%	4.0%	4.0%
15.0	126.65	115.85	125.12	135.13	140.53	146.15	(10.80)	9.27	10.01	5.41	5.62	-8.5%	8.0%	8.0%	4.0%	4.0%
20.0	160.90	146.50	158.22	170.88	177.71	184.82	(14.40)	11.72	12.66	6.84	7.11	-8.9%	8.0%	8.0%	4.0%	4.0%



# Sewer Residential Bill Survey





# Rate Affordability

## Average Monthly Bill as a % of Median Household Income

Description	Existing Rates		Proposed Rates	
	Mo. Bill	\$ of MHI	Mo. Bill	\$ of MHI
Water	\$ 31.80	0.95%	\$ 32.50	0.97%
Sewer	44.45	1.33%	42.29	1.27%
Storm	8.25	0.25%	8.25	0.25%
<b>Combined</b>	<b>\$ 84.50</b>	<b>2.53%</b>	<b>\$ 83.04</b>	<b>2.49%</b>

**Note:** assumes median household income of \$40,000 per year.



## **Next Steps**

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- ◆ **Adopt proposed rates effective:**
  - Water & Sewer: July 1<sup>st</sup>, 2018 (FY2019)
  - Storm: July 1<sup>st</sup>, 2019 (FY2020)
- ◆ **Continue monitoring Water, Sewer & Storm rates to make sure they follow assumptions incorporated in the study**



## Questions/Discussion