Washougal Rate Study

CAC Meeting #4: Cost of Service

June 20, 2023

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consor

Welcome & Introductions

- **Welcome!**
- **Team Introductions**
- **CAC Introductions**

Agenda

- **Welcome & Introductions**
- **CAC Role & Schedule**
- **Cost of Service**
  - Water
  - Sewer
- **Wrap-up & Next Steps**

CAC Role & Schedule

- Role in public process
- Meet 5-6 times: January – September 2023
- Represent the Community
- Provide input, feedback, and recommendations
- Discussion/Questions

Operating Principles

1. I will come to each meeting with an open mind
2. I will focus on solutions
3. I will listen to what others have to say and do my best to understand
4. I will let others participate
5. I will treat others with respect
6. I will think before speaking
7. It's ok to disagree, but I will do my best to find common ground
8. I will stay on topic
9. I will explore interests, not positions
10. I will tackle the topic, not the person
11. I will work to reach consensus on all decisions

Cost of Service

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Discussion Overview

- **Background**
- **Overview of the rate setting process**
- **Cost of Service**
  - Water
  - Sewer
- **Input / questions / discussion**
- **Next steps**

Background

- **Rate study update commenced in 2022**
- **Public outreach workshop** **11/5/2022**
- **CAC Meeting #1: Rate Setting Fundamentals** **1/25/2023**
- **CAC Meeting #2: Revenue Requirement** **5/3/2023**
- **CAC Meeting #3: Revenue Requirement Follow Up** **5/23/2023**
  - » Reviewed key assumptions and factors for all utilities
  - » Reviewed proposed revenue requirement scenario for each utility

Utility	2024	2025	2026	2027	2028	Cumulative
Water	4.30%	4.30%	4.30%	4.30%	4.30%	23.43%
Sewer	4.00%	4.00%	4.00%	2.00%	2.00%	17.03%
Stormwater	4.25%	4.25%	4.25%	4.25%	4.25%	23.13%
Avg. Res. Bill	**4.13%**	**4.13%**	**4.13%**	**3.04%**	**3.06%**	**19.89%**

Notes:

1. Avg. Res. Bill assumes 15ccf water consumption and 11ccf winter average use for sewer billing.
2. Sewer assumes the use of Revenue Bond financing for the Waste Water Treatment Plant Update project.
3. Water RRF funding reaches 90% by 2028, sewer reaches 50%, stormwater reaches 100%.

  - » Committee requested 1 additional scenario, targeting combined average Residential bill at or below 15% cumulative by 2028

Background (continued)

- **Original**

Utility	2024	2025	2026	2027	2028	Cumulative
Water	4.30%	4.30%	4.30%	4.30%	4.30%	23.43%
Sewer	4.00%	4.00%	4.00%	2.00%	2.00%	17.03%
Stormwater	4.25%	4.25%	4.25%	4.25%	4.25%	23.13%
Avg. Res. Bill	**4.13%**	**4.13%**	**4.13%**	**3.04%**	**3.06%**	**19.89%**

Utility	RRF Funding				
	2024	2025	2026	2027	2028
Water	88.00%	88.00%	90.00%	90.00%	90.00%
Sewer	5.00%	5.00%	12.00%	41.00%	50.00%
Stormwater	100.00%	100.00%	100.00%	100.00%	100.00%

- **Follow up**

Utility	2024	2025	2026	2027	2028	Cumulative
Water	3.80%	3.80%	3.80%	3.80%	3.80%	20.50%
Sewer	2.00%	2.00%	2.00%	2.00%	2.00%	10.41%
Stormwater	3.80%	3.80%	3.80%	3.80%	3.80%	20.50%
Avg. Res. Bill	**2.81%**	**2.82%**	**2.83%**	**2.84%**	**2.84%**	**14.98%**

Utility	RRF Funding				
	2024	2025	2026	2027	2028
Water	77.00%	77.00%	77.00%	77.00%	77.00%
Sewer	19.00%	19.00%	19.00%	46.00%	54.00%
Stormwater	100.00%	100.00%	100.00%	100.00%	100.00%

Background (continued)

- **Updated scenario**
  - » Assumes the City will receive low interest financing for the Wastewater Treatment Plant Upgrade project
  - » Reduces RRF funding for the water utility
  - » Increases debt requirements outside the 5-year rate setting period
  - » All debt assumes a 30-year term, 1.50 coverage minimum target (revenue bonds)
  - » Targets average Residential customer for the 15% cumulative target
    - – Cumulative impacts may vary slightly based on usage level and class of service

Overview of Rate Setting Process

Fiscal Policies – Set the Management Foundation

Step 1:
Revenue Requirement
(defining overall needs)

- Revenue
- Debt
- Reserves
- O&M
- Capital

Today's Focus

Step 2:
Cost of Service
(equity evaluation)

- Define Customer Classes
- Allocate Costs

Step 3:
Design Rates
(collect target revenue)

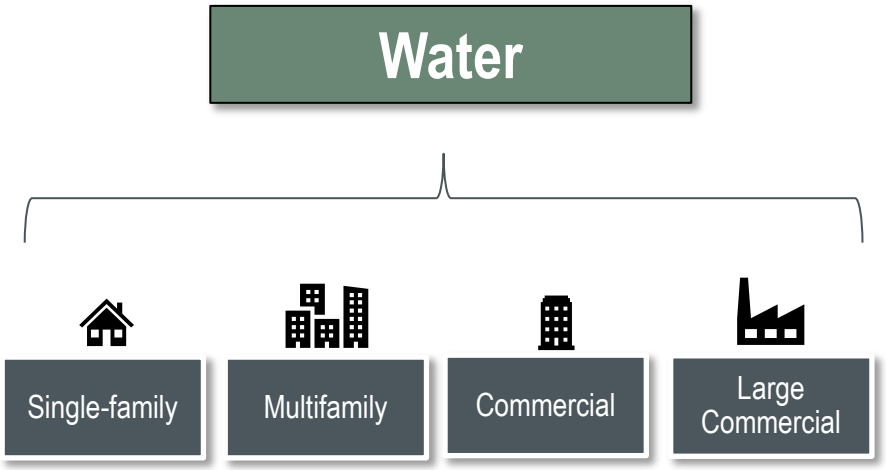
- Fixed Charge
- Variable Charge

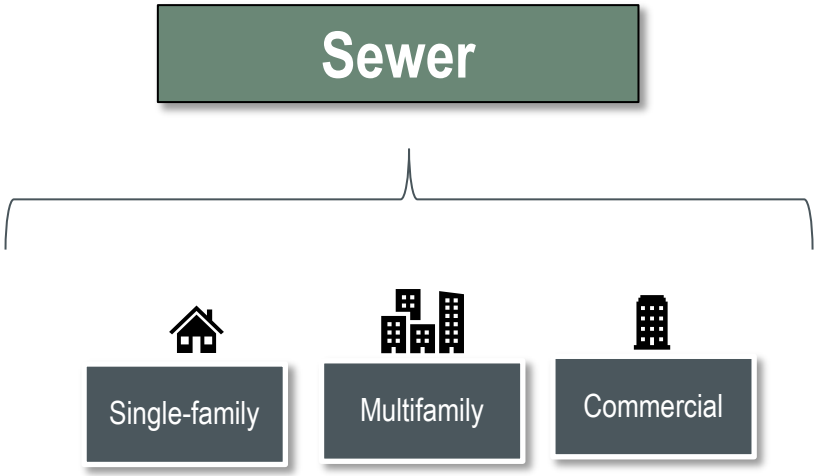
What is Cost of Service?

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

Customer Class Designations

- **Rate study evaluates the existing classes of service for each utility**





Note: Single-family includes measured industrial. Municipal code dictates that measured industrial customers are converted to Equivalent Residential Units (ERUs) and billed based on single-family rates.

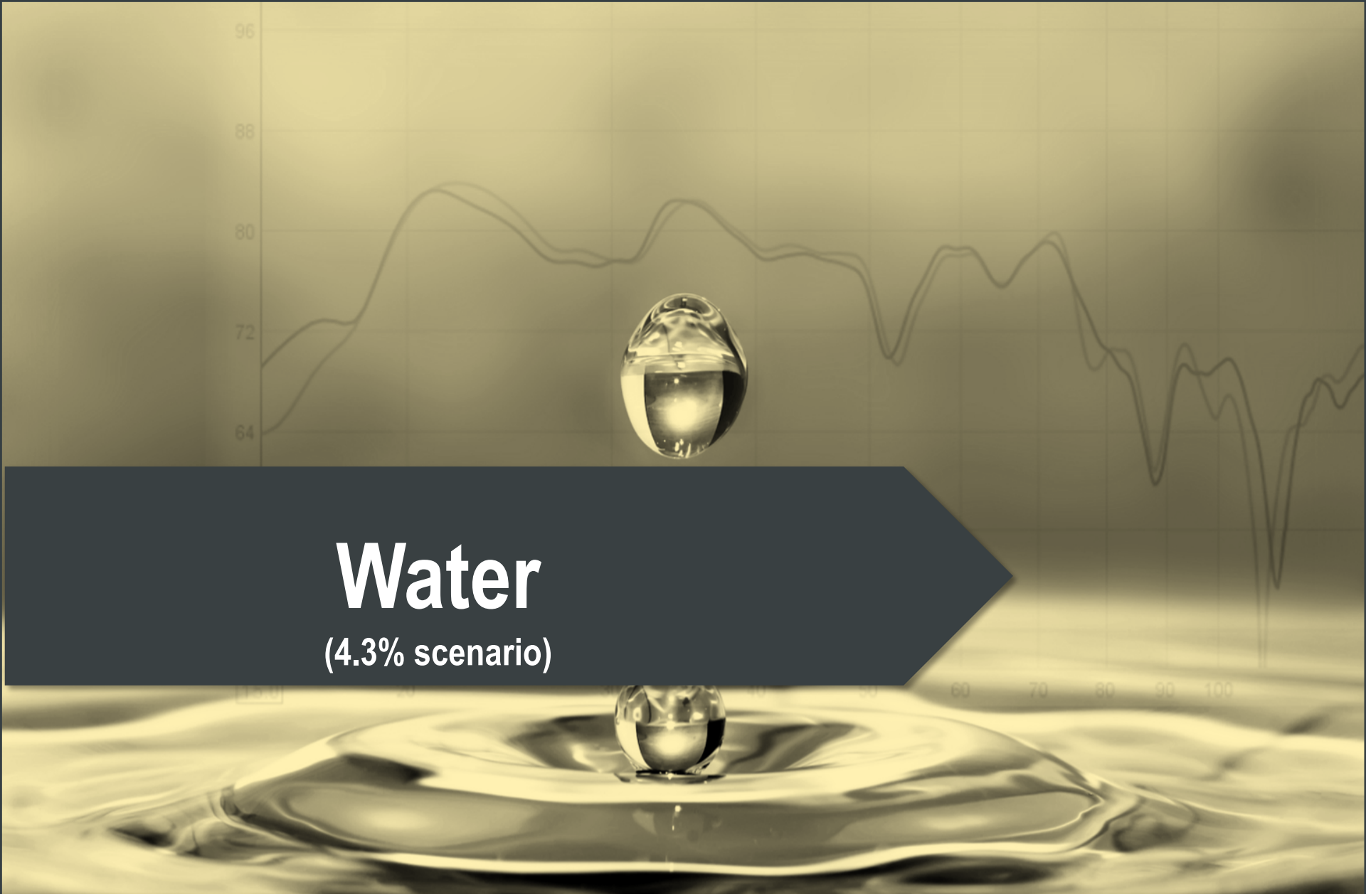
Cost of Service

- **Defines equitable shares of cost responsibility by customer class**
- **Allocates total utility cost by function**

Water Utility Functions*	Sewer Utility Functions*
• Customer	• Customer
• Meters & Services	• Flow
• Base Demand (avg. use)	• Strength
• Peak Demand (peak use)	
• Fire Protection	

- **Develops allocation factors using customer facility requirements and usage characteristics**
- **Allocates 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



Water

(4.3% scenario)

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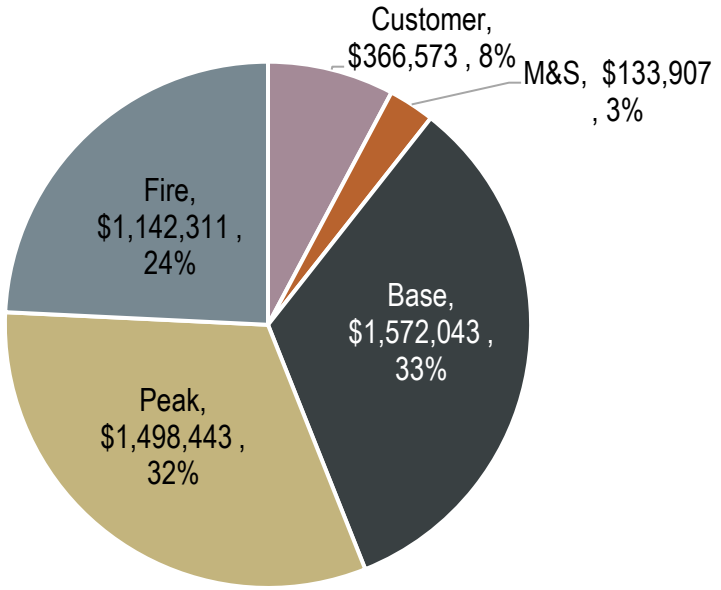
Classification

- **What is it?**
  - » Establishes a rational relationship between functions (activities) and costs
  - » Identifies statistics to allocate cost of service to rate classes



2024 Revenue Requirement: $4,713,276

Base	Costs relate to average service provided on demand and are essentially correlated with year-round water consumption.
Peak	Costs relate to peak demand service; associated with the ability of the system to provide capacity to customers with higher than average volume.
Fire	Costs associated with providing adequate capacity and water flow corresponding to min. fire safety standards. Incremental costs for storage, T&D, and hydrants for fire protection.
Customer	These are the costs associated with establishing, maintaining, and serving water customers and tend to include administrative, billing, and customer service costs.
M&S	Costs associated with installation, maintenance, and repairs of meters and services.

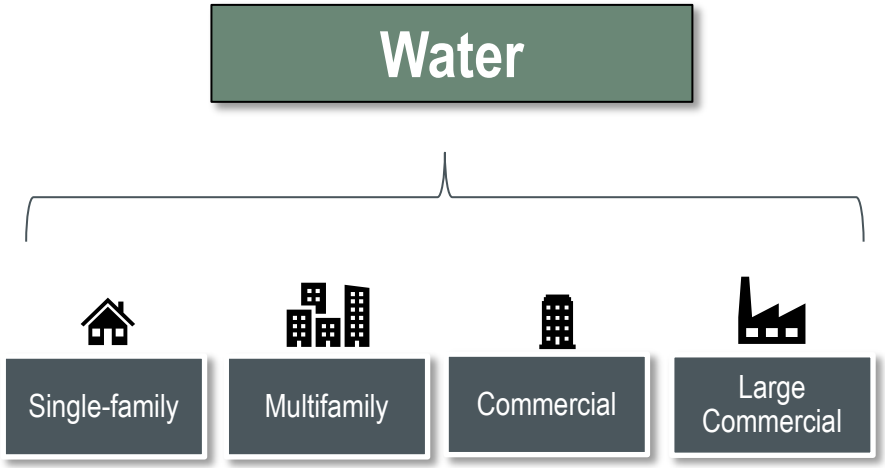
Classification of Cost Shares

Plant in Service	Functions of Water Service					Basis
	Customer	Meters	Base	Peak	Fire	
Supply/ Treatment			✓	✓		*Based on MDD/ADD ratio of 2.20*
Pumping			✓	✓		*Based on MDD/ADD ratio of 2.20*
Storage			✓	✓	✓	*Based on review of system plan requirements*
Transmission & Distribution			✓	✓	✓	*Based on proportional differential between pipes*
Meters & Services		✓				*Direct to M&S*
Hydrants					✓	*Direct to Fire*
General		✓	✓	✓	✓	*As all other plant*
% Share Total Plant in Service	*0.00%*	*4.08%*	*34.95%*	*32.29%*	*28.68%*	
% Share Supply / Treatment	*0.00%*	*0.00%*	*45.87%*	*54.13%*	*0.00%*	
% Share Distribution (P./St./T&D/M&S/H.)	*0.00%*	*4.48%*	*33.89%*	*30.16%*	*31.47%*	

Revenue Requirement	Functions of Water Service					Basis
	Customer	Meters	Base	Peak	Fire	
Indirect Costs	✓	✓	✓	✓	✓	*Based on line item review of costs*
Water Administration	✓	✓	✓	✓	✓	*In support of Plant and all other expenses*
Water Training	✓	✓	✓	✓	✓	*In support of Plant and all other expenses*
Water Maintenance		✓	✓			*As Supply / Treatment Plant*
Water Operations		✓	✓	✓	✓	*As Distribution Plant*
Taxes	✓	✓	✓	✓	✓	*As allocated expenses net of non rate revenues*
Non Rate Revenues	✓	✓	✓	✓	✓	*Primarily as all other revenue requirement*
% Share Revenue Requirement	*7.78%*	*2.84%*	*33.35%*	*31.79%*	*24.24%*	

Customer Class Designation

- **Rate study evaluates the existing classes of service for each utility**



Allocation Factors

- **Based on demands customers place on the system**

Class	Accounts	MSE	ccf	Peaking Factor		Fire Flow Requirements		
				Ratio	W. ccf	gpm	Duration (h)	kgal
Single-family	5,051	5,069	447,615	1.49	667,060	1,500	2	909,266
Multi-family	196	286	94,167	1.20	113,447	1,500	2	35,214
Commercial	291	485	94,973	1.60	152,246	3,500	3	183,248
Lg. Commercial	1	13	44,938	1.09	48,980	3,500	3	597
Total	**5,539**	**5,854**	**681,693**		**981,734**			**1,128,325**

Notes: based on 2021 data adjusted to reconcile to 2021 financials and assumed growth.

Class	Accounts	MSE	ccf	Peaking Factor	Fire Flow Requirements	
				W. ccf		kgal
Single-family	91.20%	86.59%	65.66%	67.95%		80.59%
Multi-family	3.53%	4.89%	13.81%	11.56%		3.12%
Commercial	5.25%	8.29%	13.93%	15.51%		16.24%
Lg. Commercial	0.02%	0.23%	6.59%	4.99%		0.05%
Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**		**100.00%**

Notes

1. MSE: meter service equivalent equating replacement cost of each meter to ¾”
2. ccf: 100 cubic fee = 748 gallons
3. w.ccf: weighted ccf based on ccf times the peaking ratio
4. kgal: 1,000 gallons – accounts multiplied by gpm, duration hours and divided by 1,000
5. h: hours

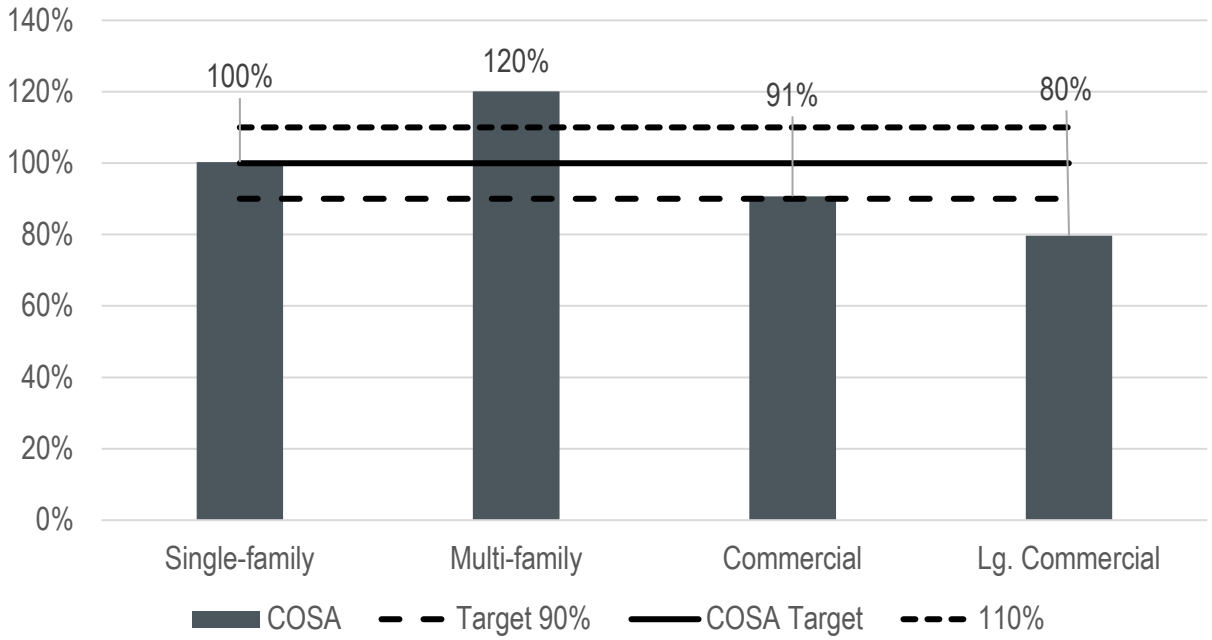
Cost of Service Summary

- **Applying the allocation factors to the classification cost pools**

Class	Functions of Water Service					2024	% Share
	Customer	M&S	Base	Peak	Fire		
Single-family	$ 334,313	$ 115,948	$ 1,032,239	$ 1,018,150	$ 920,537	$ 3,421,186	*72.59%*
Multi-family	12,947	6,553	217,157	173,157	35,651	445,465	*9.45%*
Commercial	19,250	11,098	219,016	232,377	185,519	667,261	*14.16%*
Lg. Commercial	63	308	103,631	74,759	604	179,364	*3.81%*
Total	**$ 366,573**	**$ 133,907**	**$ 1,572,043**	**$ 1,498,443**	**$ 1,142,311**	**$ 4,713,276**	***100.00%***

Class	COSA 2024		Existing 2024		Difference		*Avg. Unit Cost $/ccf*	
	$	% Share	$	% Share	$	%	*COSA*	*Existing*
Single-family	$ 3,421,186	72.59%	$ 3,288,862	72.78%	$ 132,324	4.02%	$ 7.64	$ 7.35
Multi-family	445,465	9.45%	513,064	11.35%	(67,599)	-13.18%	4.73	5.45
Commercial	667,261	14.16%	580,021	12.84%	87,240	15.04%	7.03	6.11
Lg. Commercial	179,364	3.81%	137,015	3.03%	42,350	30.91%	3.99	3.05
Total	**$ 4,713,276**	**100.00%**	**$ 4,518,961**	**100.00%**	**$ 194,315**	**4.30%**	**$ 6.91**	**$ 6.63**

Cost of Service Summary



- **±5.0%-10.0% of average is within Cost-of-Service range of reasonableness**
  - » Single-family and Commercial classes are within 10% of COSA
  - » Multi-family is paying more than allocated share of costs and may go up less than average
  - » Large Commercial is paying less than allocated share of costs and may go up more than average

COSA Phase-In

Class	2024	2025	2026	2027	2028
Single-family	4.29%	4.28%	4.28%	4.27%	4.27%
Multi-family	3.00%	3.00%	3.00%	3.00%	3.00%
Commercial	5.25%	5.25%	5.25%	5.25%	5.25%
Lg. Commercial	5.50%	5.50%	5.50%	5.50%	5.50%
Total	**4.30%**	**4.30%**	**4.30%**	**4.30%**	**4.30%**

- **Gradually phase-in results towards COSA overtime**
  - » Single-family tied to average increase
  - » Multi-family slightly below average to make progress towards COSA
  - » Commercial & large commercial slightly above average to make progress towards COSA
  - » Revisit findings during the next study update and recalibrate if necessary

Sewer

(4.0% scenario)

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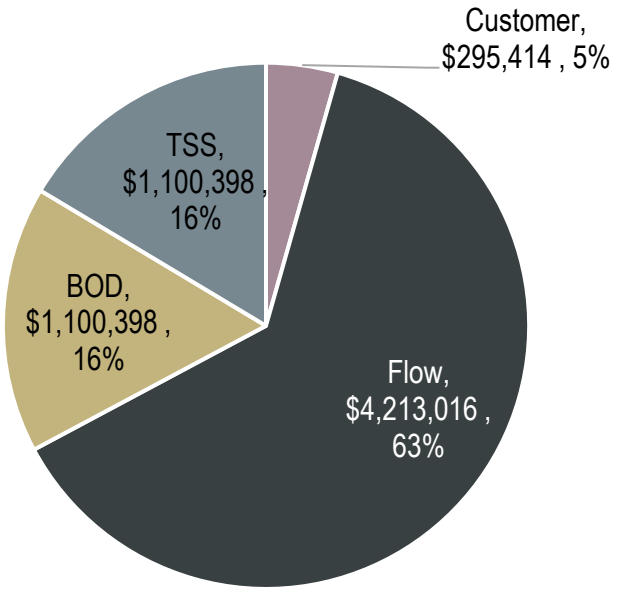
Classification

- **What is it?**
  - » Establishes a rational relationship between functions (activities) and costs
  - » Identifies statistics to allocate cost of service to rate classes



2024 Revenue Requirement: $6,709,227

Flow	Costs related to sewer volume processed within the system in a year.
BOD	Costs related to strength of sewage processed related to biochemical oxygen demand (BOD).
TSS	Costs related to strength of sewage processed related to total suspended solids (TSS).
Customer	These are the costs associated with establishing, maintaining, and serving sewer customers and tend to include administrative, billing, and customer service costs.

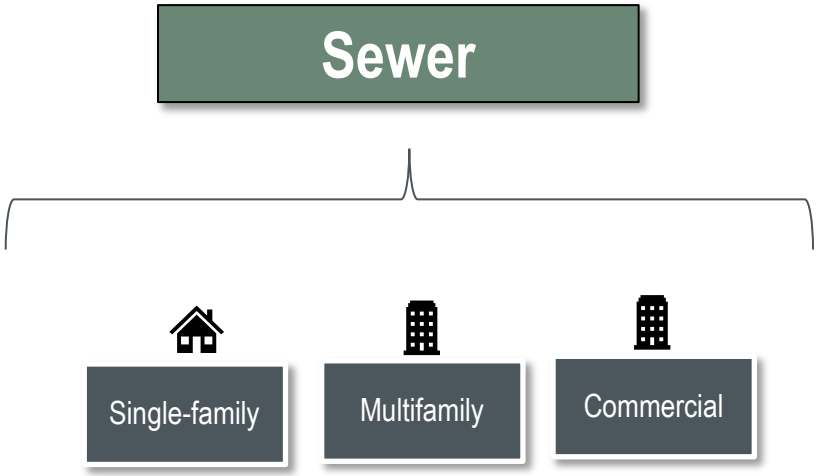
Classification of Cost Shares

Plant in Service	Functions of Water Service				Basis
	Customer	Flow	BOD	TSS	
Treatment		✓	✓	✓	*Treatment Plant allocation*
Collection		✓			*As flow*
Pumping		✓			*As flow*
General		✓	✓	✓	*As all other plant*
% Share Total Plant in Service	*0.00%*	*62.41%*	*18.80%*	*18.80%*	
% Share Supply / Treatment	*0.00%*	*40.00%*	*30.00%*	*30.00%*	
% Share Distribution (Coll/Pumping)	*0.00%*	*100.00%*	*0.00%*	*0.00%*	

Revenue Requirement	Functions of Water Service				Basis
	Customer	Flow	BOD	TSS	
Indirect Costs	✓	✓	✓	✓	*Based on line item review of costs*
Sewer Administration	✓	✓	✓	✓	*In support of Plant and all other expenses*
Sewer Training	✓	✓	✓	✓	*In support of Plant and all other expenses*
Sewer Maintenace		✓	✓	✓	*As Treatment Plant*
Sewer Operations		✓			*As Collection & Pumping Plant*
Taxes	✓	✓	✓	✓	*As allocates expenses net of non rate revenues*
Non Rate Revenues	✓	✓	✓	✓	*As all other revenue requirement*
% Share Revenue Requirement	*4.40%*	*62.79%*	*16.40%*	*16.40%*	

Customer Class Designation

- **Rate study evaluates the existing classes of service for each utility**



Note: Single-family includes measured industrial. Municipal code dictates that measured industrial customers are converted to Equivalent Residential Units (ERUs) and billed based on single-family rates.

Allocation Factors

- **Based on demands customers place on the system**

Class	Accounts	Flow (ccf)	BOD		TSS	
			mg/l	lbs	mg/l	lbs
Single-family	4,989	342,092	300	640,683	300	640,683
Multi-family	199	76,753	300	143,746	300	143,746
Commercial	228	66,836	300	125,173	300	125,173
Total	**5,416**	**485,681**		**909,602**		**909,602**

Notes:

1. Based on 2021 data adjusted to reconcile to 2021/2022 financials and assumed growth.
2. Residential and Multi-Family assume winter average flow.
3. Concentrations based on maximum City limit.

Class	Accounts	Flow (ccf)	BOD		TSS	
			mg/l	lbs	mg/l	lbs
Single-family	92.11%	70.44%		70.44%		70.44%
Multi-family	3.68%	15.80%		15.80%		15.80%
Commercial	4.21%	13.76%		13.76%		13.76%
Total	**100.00%**	**100.00%**		**100.00%**		**100.00%**

Notes

1. ccf: 100 cubic fee = 748 gallons
2. mg/l: milligrams per liter
3. lbs: pounds
4. BOD: Biological Oxygen Demand
5. TSS: Total Suspended Solids

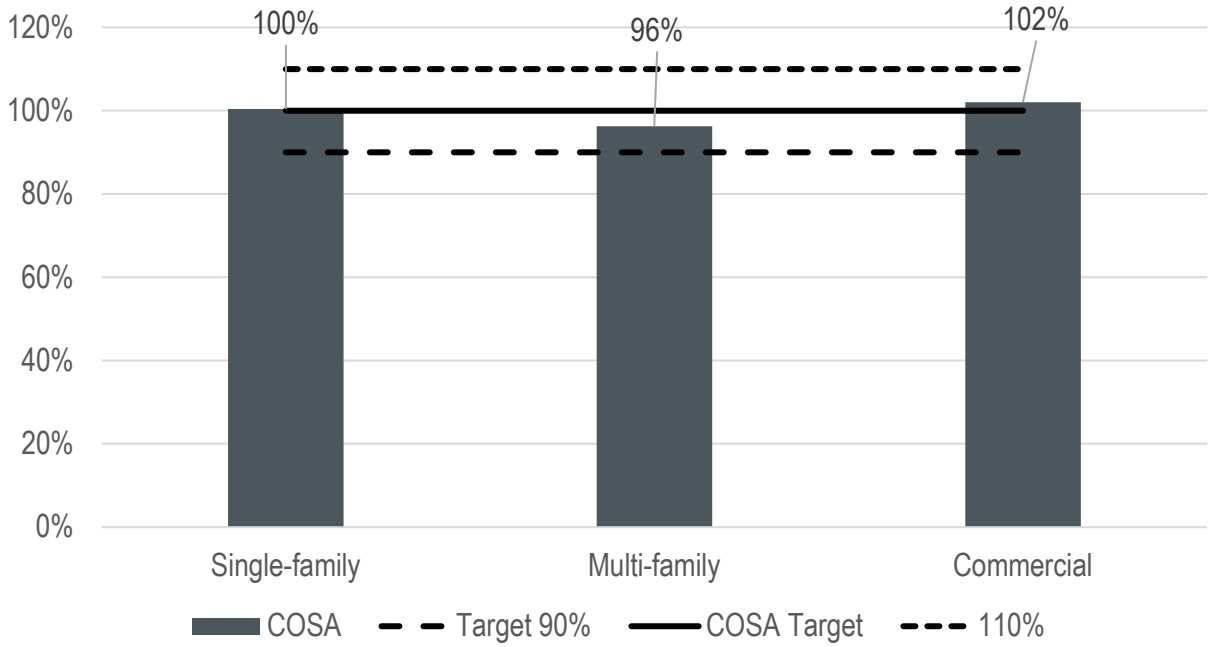
Cost of Service Summary

- **Applying the allocation factors to the classification cost pools**

Class	Functions of Sewer Service				2024	% Share
	Customer	Flow	BOD	TSS		
Single-family	$ 272,113	$ 2,967,458	$ 775,071	$ 775,071	$ 4,789,713	*71.39%*
Multi-family	10,875	665,791	173,898	173,898	1,024,463	*15.27%*
Commercial	12,425	579,767	151,430	151,430	895,052	*13.34%*
Total	**$ 295,414**	**$ 4,213,016**	**$ 1,100,398**	**$ 1,100,398**	**$ 6,709,227**	***100.00%***

Class	COSA 2024		Existing 2024		Difference		*Avg. Unit Cost $/ccf*	
	$	% Share	$	% Share	$	%	*COSA*	*Existing*
Single-family	$ 4,789,713	71.39%	$ 4,624,685	71.69%	$ 165,027	3.57%	$ 14.00	$ 13.52
Multi-family	1,024,463	15.27%	948,433	14.70%	76,030	8.02%	13.35	12.36
Commercial	895,052	13.34%	878,062	13.61%	16,990	1.93%	13.39	13.14
Total	**$ 6,709,227**	**100.00%**	**$ 6,451,180**	**100.00%**	**$ 258,047**	**4.00%**	**$ 13.81**	**$ 13.28**

Cost of Service Summary



- **±5.0%-10.0% of average is within Cost-of-Service range of reasonableness**
  - » All classes within Cost-of-Service
  - » Apply the increases on an across-the-board basis

COSA Phase-In

Class	2024	2025	2026	2027	2028
Single-family	4.00%	4.00%	4.00%	2.00%	2.00%
Multi-family	4.00%	4.00%	4.00%	2.00%	2.00%
Commercial	4.00%	4.00%	4.00%	2.00%	2.00%
Total	**4.00%**	**4.00%**	**4.00%**	**2.00%**	**2.00%**

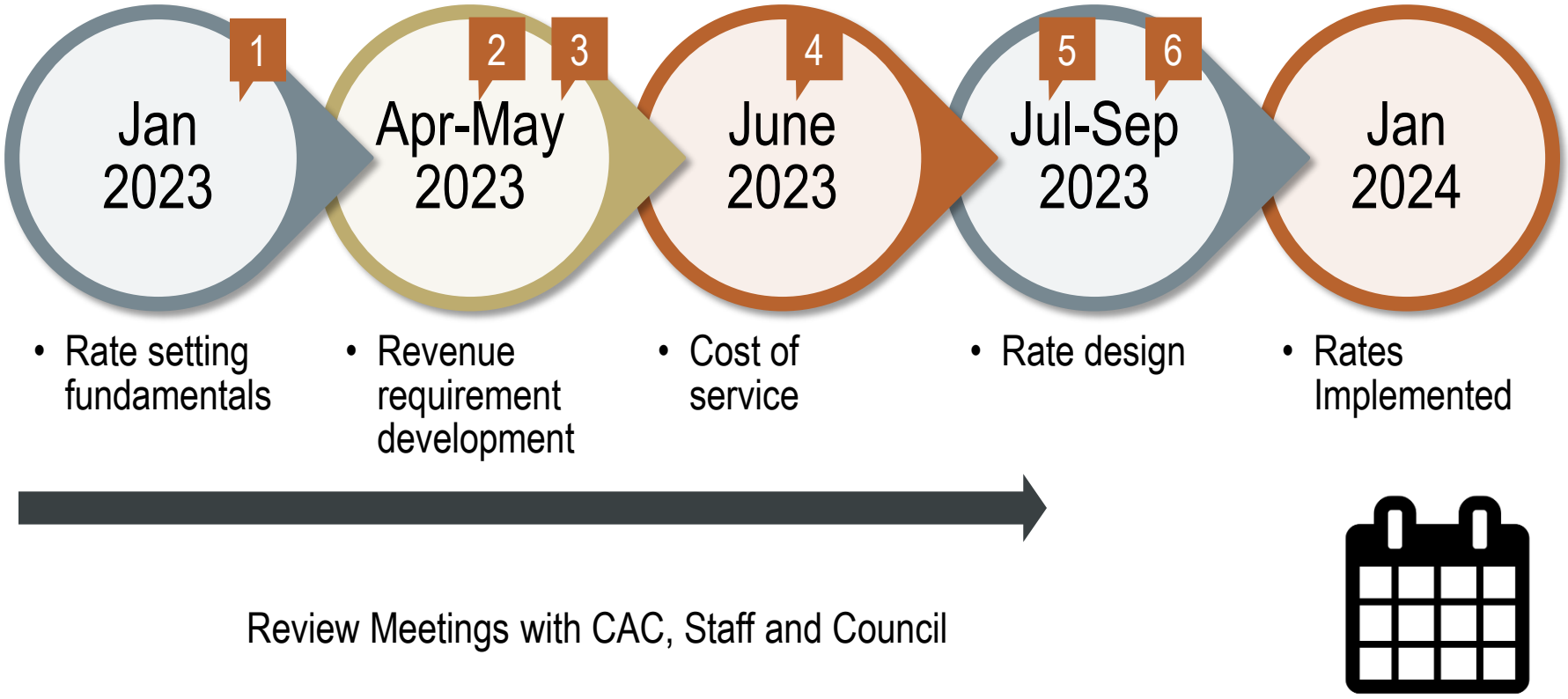
- **Revisit Cost-of-Service during the next study period**

Future Topics: Monthly Billing

- **Current high-level estimates assume the following cost increase by utility to convert to monthly billing**
  - Water: $100,000 per year (plus inflation)
  - Sewer: $70,000 per year (plus inflation)
  - Stormwater: $30,000 per year (plus inflation)
- **Based on these cost increases, additional increases may be required**
  - Water: 0.45% to 0.60% per year more 2024-2028
  - Sewer: 0.45% per year more 2024-2026 for revenue bond scenario
    - 0.25% per year more 2024-2029 for low interest loan scenario
  - Stormwater: 0.30% per year more 2024-2032

FIGURES ARE ESTIMATES ONLY AT THIS TIME

Wrap-up & Next Steps



Thank you!

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Water

(3.8% scenario)

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Classification

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  - » Establishes a rational relationship between functions (activities) and costs
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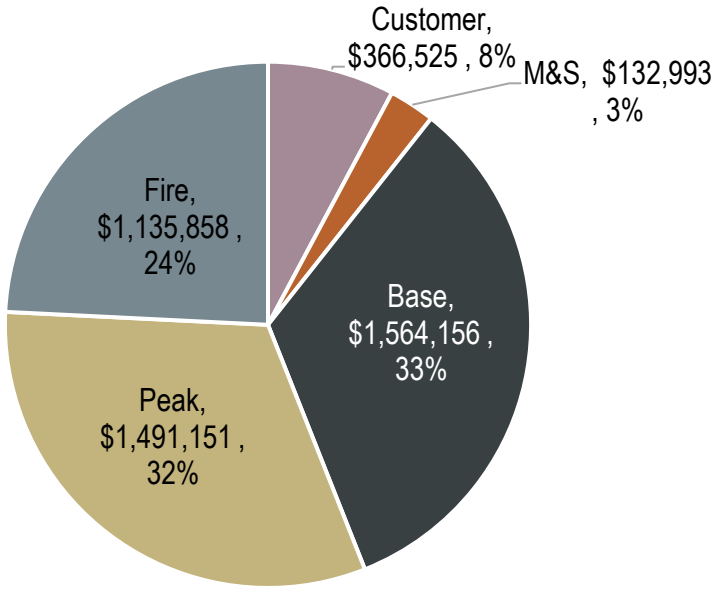


2024 Revenue Requirement: $4,690,681

Base	Costs relate to average service provided on demand and are essentially correlated with year-round water consumption.
Peak	Costs relate to peak demand service; associated with the ability of the system to provide capacity to customers with higher than average volume.
Fire	Costs associated with providing adequate capacity and water flow corresponding to min. fire safety standards. Incremental costs for storage, T&D, and hydrants for fire protection.
Customer	These are the costs associated with establishing, maintaining, and serving water customers and tend to include administrative, billing, and customer service costs.
M&S	Costs associated with installation, maintenance, and repairs of meters and services.

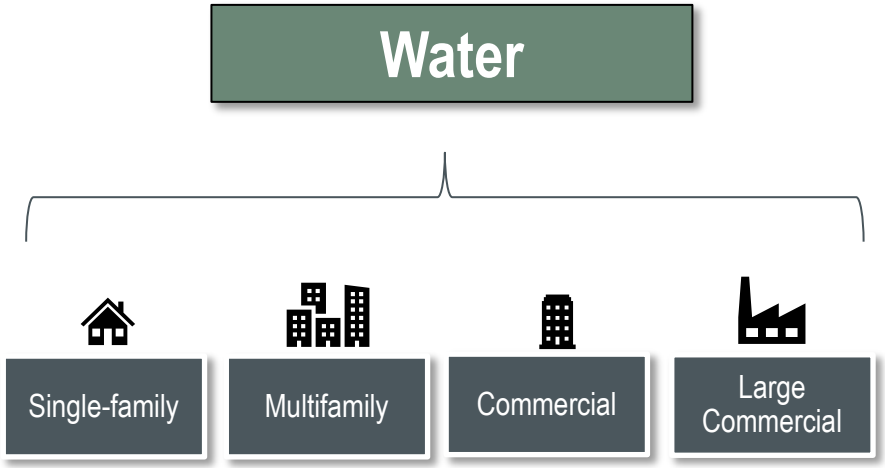
Classification of Cost Shares

Plant in Service	Functions of Water Service					Basis
	Customer	Meters	Base	Peak	Fire	
Supply/ Treatment			✓	✓		*Based on MDD/ADD ratio of 2.20*
Pumping			✓	✓		*Based on MDD/ADD ratio of 2.20*
Storage			✓	✓	✓	*Based on review of system plan requirements*
Transmission & Distribution			✓	✓	✓	*Based on proportional differential between pipes*
Meters & Services		✓				*Direct to M&S*
Hydrants					✓	*Direct to Fire*
General		✓	✓	✓	✓	*As all other plant*
% Share Total Plant in Service	*0.00%*	*4.08%*	*34.95%*	*32.29%*	*28.68%*	
% Share Supply / Treatment	*0.00%*	*0.00%*	*45.87%*	*54.13%*	*0.00%*	
% Share Distribution (P./St./T&D/M&S/H.)	*0.00%*	*4.48%*	*33.89%*	*30.16%*	*31.47%*	

Revenue Requirement	Functions of Water Service					Basis
	Customer	Meters	Base	Peak	Fire	
Indirect Costs	✓	✓	✓	✓	✓	*Based on line item review of costs*
Water Administration	✓	✓	✓	✓	✓	*In support of Plant and all other expenses*
Water Training	✓	✓	✓	✓	✓	*In support of Plant and all other expenses*
Water Maintenance		✓	✓			*As Supply / Treatment Plant*
Water Operations		✓	✓	✓	✓	*As Distribution Plant*
Taxes	✓	✓	✓	✓	✓	*As allocated expenses net of non rate revenues*
Non Rate Revenues	✓	✓	✓	✓	✓	*Primarily as all other revenue requirement*
% Share Revenue Requirement	*7.81%*	*2.84%*	*33.35%*	*31.79%*	*24.22%*	

Customer Class Designation

- **Rate study evaluates the existing classes of service for each utility**



Allocation Factors

- **Based on demands customers place on the system**

Class	Accounts	MSE	ccf	Peaking Factor		Fire Flow Requirements		
				Ratio	W. ccf	gpm	Duration (h)	kgal
Single-family	5,051	5,069	447,615	1.49	667,060	1,500	2	909,266
Multi-family	196	286	94,167	1.20	113,447	1,500	2	35,214
Commercial	291	485	94,973	1.60	152,246	3,500	3	183,248
Lg. Commercial	1	13	44,938	1.09	48,980	3,500	3	597
Total	**5,539**	**5,854**	**681,693**		**981,734**			**1,128,325**

Notes: based on 2021 data adjusted to reconcile to 2021 financials and assumed growth.

Class	Accounts	MSE	ccf	Peaking Factor	Fire Flow Requirements	
				W. ccf		kgal
Single-family	91.20%	86.59%	65.66%	67.95%		80.59%
Multi-family	3.53%	4.89%	13.81%	11.56%		3.12%
Commercial	5.25%	8.29%	13.93%	15.51%		16.24%
Lg. Commercial	0.02%	0.23%	6.59%	4.99%		0.05%
Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**		**100.00%**

Notes

1. MSE: meter service equivalent equating replacement cost of each meter to ¾”
2. ccf: 100 cubic fee = 748 gallons
3. w.ccf: weighted ccf based on ccf times the peaking ratio
4. kgal: 1,000 gallons – accounts multiplied by gpm, duration hours and divided by 1,000
5. h: hours

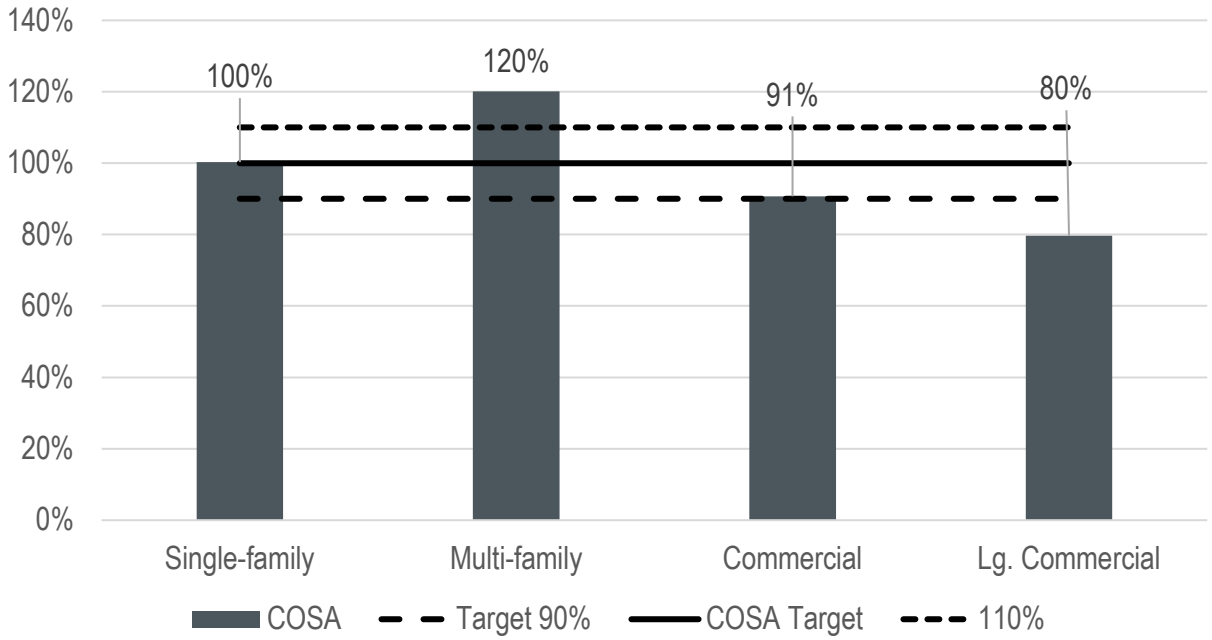
Cost of Service Summary

- **Applying the allocation factors to the classification cost pools**

Class	Functions of Water Service					2024	% Share
	Customer	M&S	Base	Peak	Fire		
Single-family	$ 334,269	$ 115,156	$ 1,027,060	$ 1,013,195	$ 915,337	$ 3,405,017	*72.59%*
Multi-family	12,946	6,508	216,068	172,314	35,449	443,285	*9.45%*
Commercial	19,248	11,022	217,917	231,246	184,471	663,905	*14.15%*
Lg. Commercial	63	306	103,111	74,395	601	178,475	*3.80%*
Total	**$ 366,525**	**$ 132,993**	**$ 1,564,156**	**$ 1,491,151**	**$ 1,135,858**	**$ 4,690,681**	***100.00%***

Class	COSA 2024		Existing 2024		Difference		Avg. Unit Cost $/ccf	
	$	% Share	$	% Share	$	%	*COSA*	*Existing*
Single-family	$ 3,405,017	72.59%	$ 3,288,862	72.78%	$ 116,155	3.53%	$ 7.61	$ 7.35
Multi-family	443,285	9.45%	513,064	11.35%	(69,779)	-13.60%	4.71	5.45
Commercial	663,905	14.15%	580,021	12.84%	83,884	14.46%	6.99	6.11
Lg. Commercial	178,475	3.80%	137,015	3.03%	41,460	30.26%	3.97	3.05
Total	**$ 4,690,681**	**100.00%**	**$ 4,518,961**	**100.00%**	**$ 171,721**	**3.80%**	**$ 6.88**	**$ 6.63**

Cost of Service Summary



- **±5.0%-10.0% of average is within Cost-of-Service range of reasonableness**
  - » Single-family and Commercial classes are within 10% of COSA
  - » Multi-family is paying more than allocated share of costs and may go up less than average
  - » Large Commercial is paying less than allocated share of costs and may go up more than average

COSA Phase-In

Class	2024	2025	2026	2027	2028
Single-family	3.79%	3.78%	3.78%	3.77%	3.77%
Multi-family	2.50%	2.50%	2.50%	2.50%	2.50%
Commercial	4.75%	4.75%	4.75%	4.75%	4.75%
Lg. Commercial	5.00%	5.00%	5.00%	5.00%	5.00%
Total	**3.80%**	**3.80%**	**3.80%**	**3.80%**	**3.80%**

- **Gradually phase-in results towards COSA overtime**
  - » Single-family tied to average increase
  - » Multi-family slightly below average to make progress towards COSA
  - » Commercial & large commercial slightly above average to make progress towards COSA
  - » Revisit findings during the next study update and recalibrate if necessary

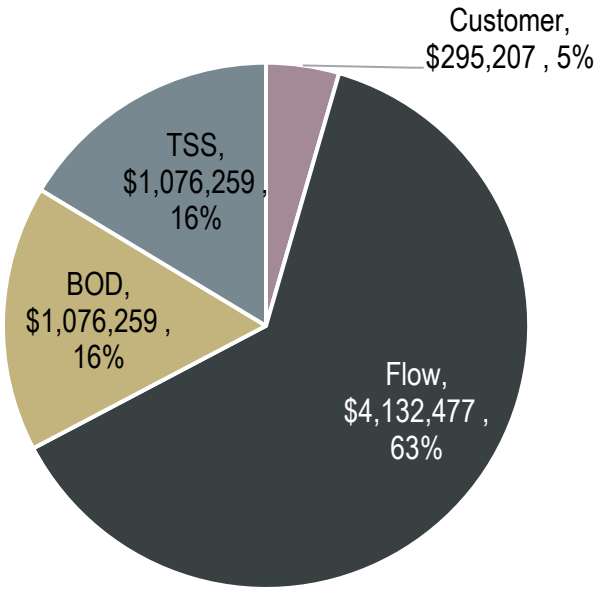
Sewer

(2.0% scenario)

FCS GROUP
Solutions-Oriented Consulting

Classification

- **What is it?**
  - » Establishes a rational relationship between functions (activities) and costs
  - » Identifies statistics to allocate cost of service to rate classes



2024 Revenue Requirement: $6,580,203

Flow	Costs related to sewer volume processed within the system in a year.
BOD	Costs related to strength of sewage processed related to biochemical oxygen demand (BOD).
TSS	Costs related to strength of sewage processed related to total suspended solids (TSS).
Customer	These are the costs associated with establishing, maintaining, and serving sewer customers and tend to include administrative, billing, and customer service costs.

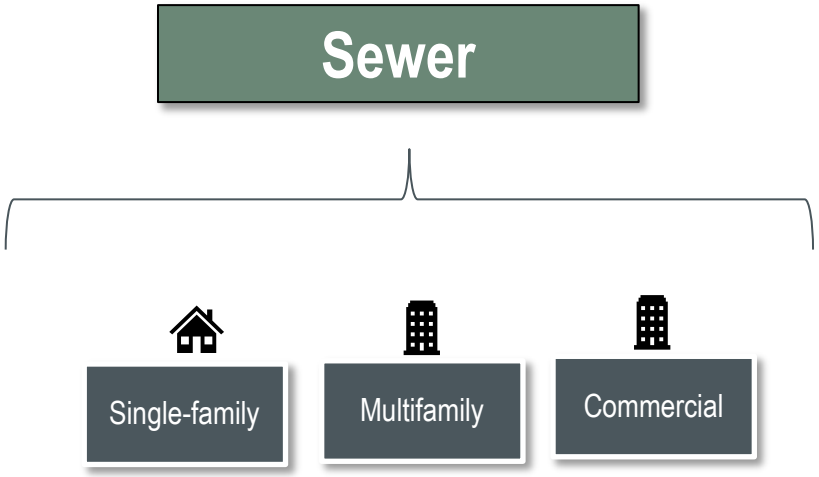
Classification of Cost Shares

Plant in Service	Functions of Water Service				Basis
	Customer	Flow	BOD	TSS	
Treatment		✓	✓	✓	*Treatment Plant allocation*
Collection		✓			*As flow*
Pumping		✓			*As flow*
General		✓	✓	✓	*As all other plant*
% Share Total Plant in Service	*0.00%*	*62.41%*	*18.80%*	*18.80%*	
% Share Supply / Treatment	*0.00%*	*40.00%*	*30.00%*	*30.00%*	
% Share Distribution (Coll/Pumping)	*0.00%*	*100.00%*	*0.00%*	*0.00%*	

Revenue Requirement	Functions of Water Service				Basis
	Customer	Flow	BOD	TSS	
Indirect Costs	✓	✓	✓	✓	*Based on line item review of costs*
Sewer Administration	✓	✓	✓	✓	*In support of Plant and all other expenses*
Sewer Training	✓	✓	✓	✓	*In support of Plant and all other expenses*
Sewer Maintenace		✓	✓	✓	*As Treatment Plant*
Sewer Operations		✓			*As Collection & Pumping Plant*
Taxes	✓	✓	✓	✓	*As allocates expenses net of non rate revenues*
Non Rate Revenues	✓	✓	✓	✓	*As all other revenue requirement*
% Share Revenue Requirement	*4.49%*	*62.80%*	*16.36%*	*16.36%*	

Customer Class Designation

- **Rate study evaluates the existing classes of service for each utility**



Note: Single-family includes measured industrial. Municipal code dictates that measured industrial customers are converted to Equivalent Residential Units (ERUs) and billed based on single-family rates.

Allocation Factors

- **Based on demands customers place on the system**

Class	Accounts	Flow (ccf)	BOD		TSS	
			mg/l	lbs	mg/l	lbs
Single-family	4,989	342,092	300	640,683	300	640,683
Multi-family	199	76,753	300	143,746	300	143,746
Commercial	228	66,836	300	125,173	300	125,173
Total	**5,416**	**485,681**		**909,602**		**909,602**

Notes:

1. Based on 2021 data adjusted to reconcile to 2021/2022 financials and assumed growth.
2. Residential and Multi-Family assume winter average flow.
3. Concentrations based on maximum City limit.

Class	Accounts	Flow (ccf)	BOD		TSS	
			mg/l	lbs	mg/l	lbs
Single-family	92.11%	70.44%		70.44%		70.44%
Multi-family	3.68%	15.80%		15.80%		15.80%
Commercial	4.21%	13.76%		13.76%		13.76%
Total	**100.00%**	**100.00%**		**100.00%**		**100.00%**

Notes

1. ccf: 100 cubic fee = 748 gallons
2. mg/l: milligrams per liter
3. lbs: pounds
4. BOD: Biological Oxygen Demand
5. TSS: Total Suspended Solids

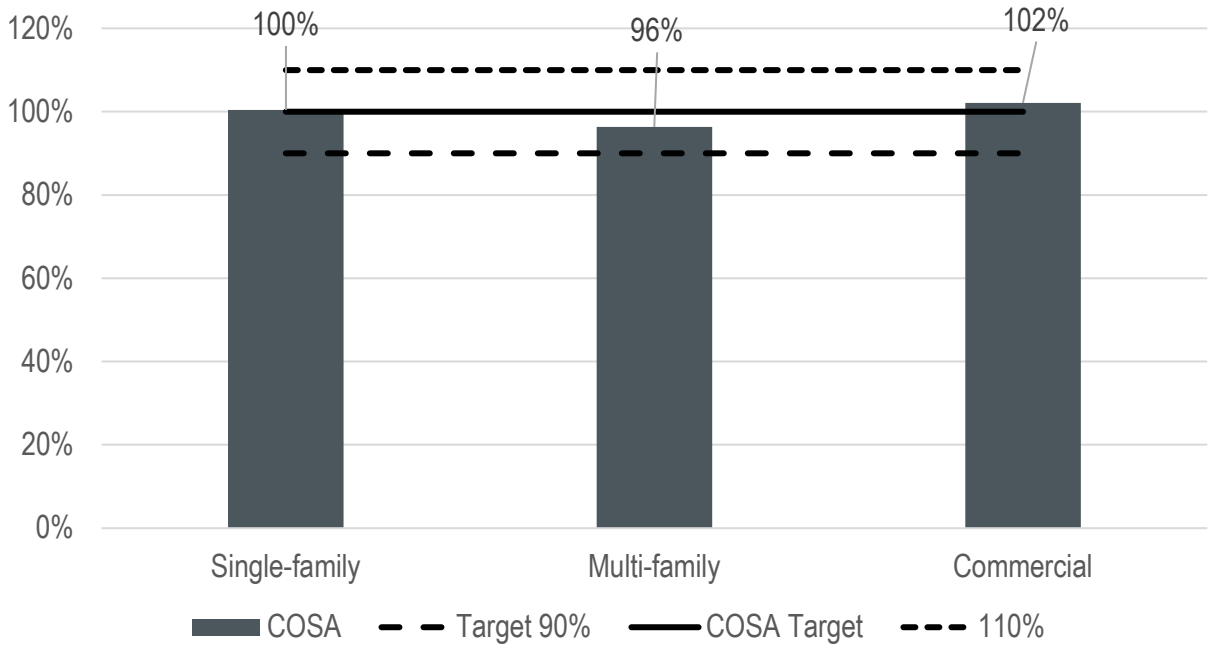
Cost of Service Summary

- **Applying the allocation factors to the classification cost pools**

Class	Functions of Sewer Service				2024	% Share
	Customer	Flow	BOD	TSS		
Single-family	$ 271,923	$ 2,910,730	$ 758,068	$ 758,068	$ 4,698,789	*71.41%*
Multi-family	10,868	653,064	170,083	170,083	1,004,098	*15.26%*
Commercial	12,417	568,684	148,108	148,108	877,316	*13.33%*
Total	**$ 295,207**	**$ 4,132,477**	**$ 1,076,259**	**$ 1,076,259**	**$ 6,580,203**	***100.00%***

Class	COSA 2024		Existing 2024		Difference		*Avg. Unit Cost $/ccf*	
	$	% Share	$	% Share	$	%	*COSA*	*Existing*
Single-family	$ 4,698,789	71.41%	$ 4,624,685	71.69%	$ 74,104	1.60%	$ 13.74	$ 13.52
Multi-family	1,004,098	15.26%	948,433	14.70%	55,665	5.87%	13.08	12.36
Commercial	877,316	13.33%	878,062	13.61%	(746)	-0.08%	13.13	13.14
Total	**$ 6,580,203**	**100.00%**	**$ 6,451,180**	**100.00%**	**$ 129,024**	**2.00%**	**$ 13.55**	**$ 13.28**

Cost of Service Summary



- **±5.0%-10.0% of average is within Cost-of-Service range of reasonableness**
  - » All classes within Cost-of-Service
  - » Apply the increases on an across-the-board basis

COSA Phase-In

Class	2024	2025	2026	2027	2028
Single-family	2.00%	2.00%	2.00%	2.00%	2.00%
Multi-family	2.00%	2.00%	2.00%	2.00%	2.00%
Commercial	2.00%	2.00%	2.00%	2.00%	2.00%
Total	**2.00%**	**2.00%**	**2.00%**	**2.00%**	**2.00%**

- **Revisit Cost-of-Service during the next study period**