

# City of Flagstaff, AZ

## Water, Reclaimed Water, & Wastewater Cost-of-Service Study

*City Council Work Session  
December 12, 2023*

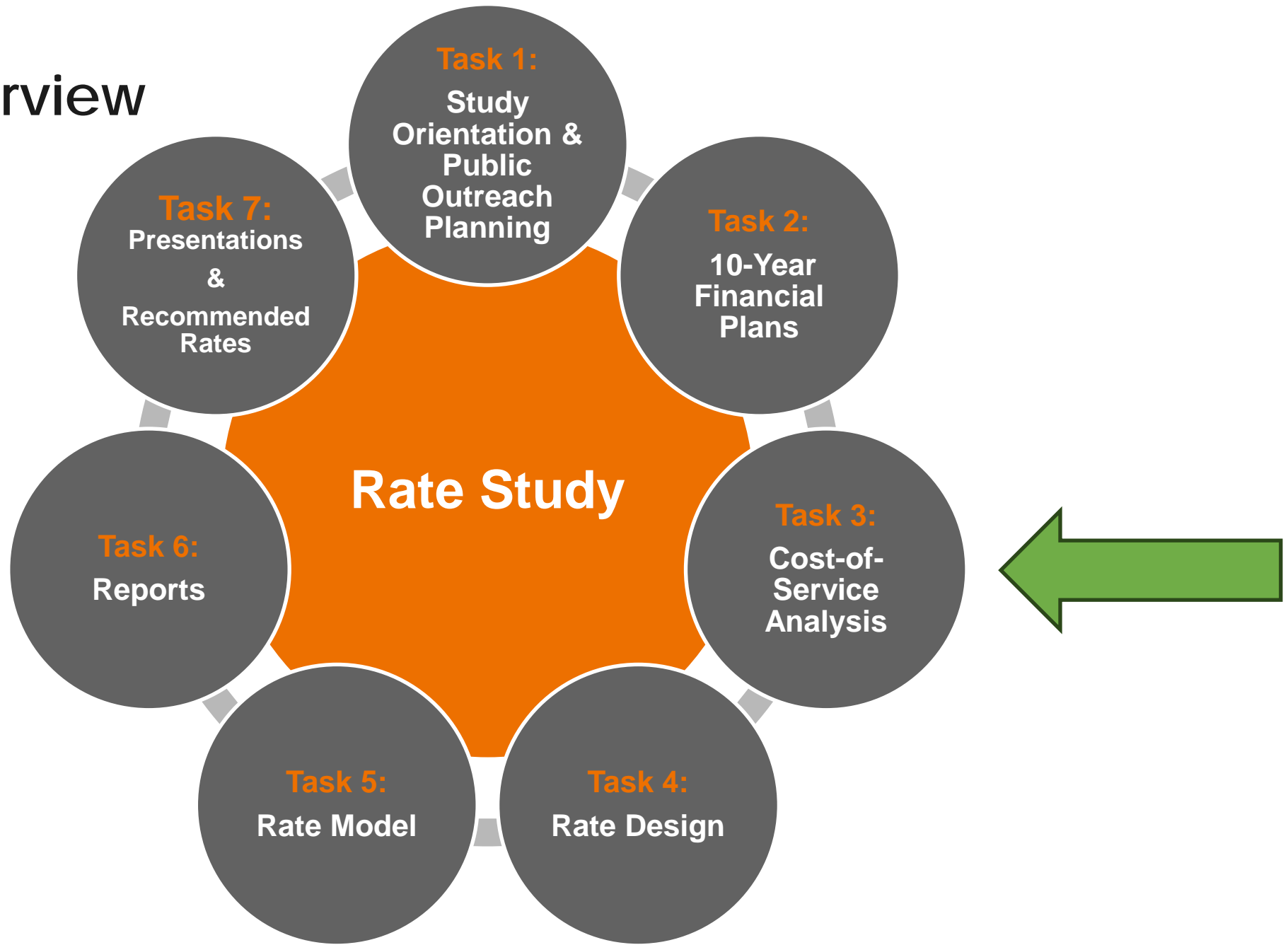


# Agenda

1. Overview of Scope
2. Technical Analysis to Date
  1. Capacity Fees
  2. Miscellaneous Fees Status
  3. Cost-of-Service Analysis Status
3. Customer Characteristics
4. Discussion



# Scope Overview





# Capacity & Miscellaneous Fees: Overview

Task 3.6

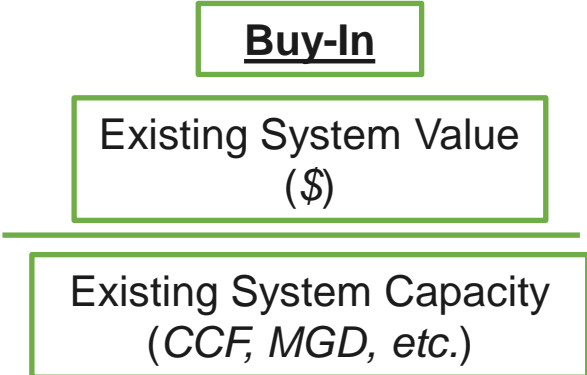
Calculate **capacity fees** & other **miscellaneous fees**; determine level of fees to implement.

Approach



Outcomes / Benefits

- Updated capacity fee calculation
- Scavenger wastes evaluation
- Cover costs of other services such as river can waste collection & cleaning





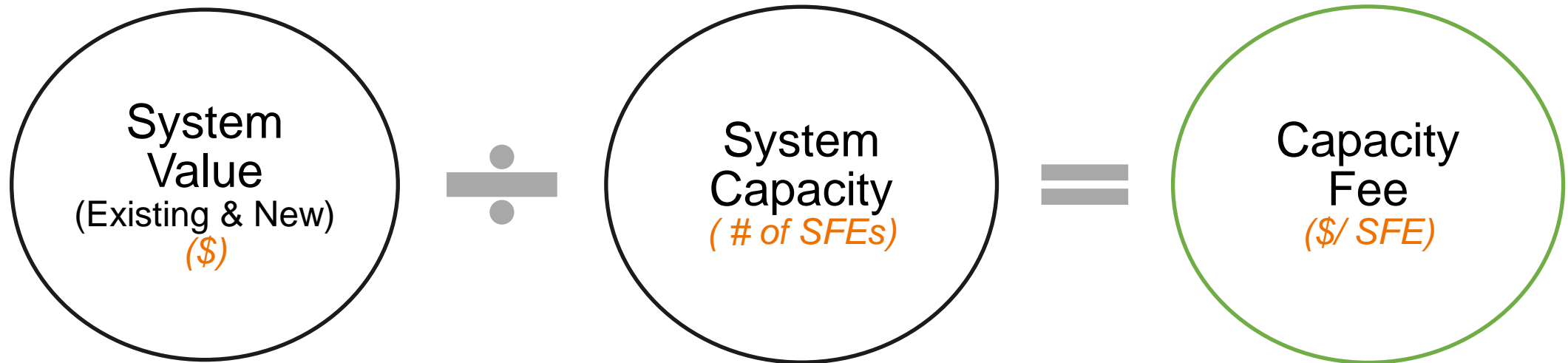
# Legal Guidance

- A.R.S. Section 9-463.05 (the “Development Fee Statute”) and A.R.S. § 9-511.01 (the “Utility Statute”) for capacity fees
  - Development impact fees may only be charged within municipal boundaries
  - City’s water & wastewater service areas extend beyond City limits - *capacity fees* are relevant



# Capacity Fee Approach Overview

- One-time charge to new connections to finance growth portion of system capacity



*SFE = Single Family Equivalent in terms of usage level of service*



# Capacity Fee Approaches

Methodology	Existing System Capacity	New Capacity from Growth CIP
Buy- In Method	Available	No Growth CIP
Incremental Method	Limited/ No Capacity	Available
Combined Method	Available	Available

Current approach (exception: wastewater treatment)



# Current Capacity Fees

- Based on meter size, regardless of customer class

## CITY OF FLAGSTAFF WATER & SEWER SYSTEM FEES

Effective July 1, 2019 except as otherwise noted (\*\*Subject to Change\*\*)

### WATER AND SEWER FEES

All Single Family Subdivisions: Residential and Townhomes (1 Meter, 1 Unit) EXCEPT as listed in next section  
 Any Meter Larger than a 3/4" Must have documentation approved by Water Services 928-213-2400

Meter Size	Meter Fee	Water Capacity Fee	Sewer Capacity Fee	Service Fee	Taxes	Total Fees
3/4"	\$ 340	\$ 5,728	\$ 3,723	\$ 24	\$ 33.42	\$ 9,848.42
1"	\$ 520	\$ 9,566	\$ 3,723	\$ 24	\$ 49.94	\$ 13,882.94
1 1/2"	\$ 920	\$ 19,074	\$ 3,723	\$ 24	\$ 86.67	\$ 23,827.67
2" or larger Call	Call	Call	Call	Call	Call	Call

#### Exceptions Single Family Residential Subdivisions (1 Meter, 1 Unit)

##### Linwood Heights & Rock Ridge West (1" Meter Required)

1"	\$ 520	\$ 9,566	\$ 3,723	\$ 24	\$ 49.94	\$ 13,882.94
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##### Pine Canyon (1 1/2" Meter Required)

1" *(See Comment Below)*	\$ 520	\$ 9,566	\$ 3,723	\$ 24	\$ 49.94	\$ 13,882.94
1 1/2"	\$ 920	\$ 19,074	\$ 3,723	\$ 24	\$ 86.67	\$ 23,827.67

\*\* Meters <1 1/2" in Pine Canyon must be approved by the Fire Department as adequate to handle domestic & fire sprinkler system

#### Multi-Family Residential, Condos, Mobile Homes (Sewer Fees are Per Unit) *Water Services Invoice Required 928-213-2400*

Meter Size	Meter Fee	Water Capacity Fee	Sewer Capacity Fee	Service Fee	Taxes	Total Fees
3/4"	\$ 340	\$ 5,728	\$3,723 (Per Unit)	Based on # of Units		
1"	\$ 520	\$ 9,566	\$3,723 (Per Unit)	Based on # of Units		
1 1/2"	\$ 920	\$ 19,074	\$3,723 (Per Unit)	Based on # of Units		
2"	\$ 1,070	\$ 30,530	\$3,723 (Per Unit)	Based on # of Units		
3"	\$ 3,130	\$ 57,279	\$3,723 (Per Unit)	Based on # of Units		
4"	\$ 4,130	\$ 95,484	\$3,723 (Per Unit)	Based on # of Units		
6" or Larger			Call			

#### Commercial/Non-Residential *Water Services Invoice Required 928-213-2400*

Meter Size	Meter Fee	Water Capacity Fee	Sewer Capacity Fee	Service Fee	Taxes	Total Fees
3/4"	\$ 340	\$ 5,728	\$ 3,723	\$ 24	\$ 33.42	\$ 9,848.42
1"	\$ 520	\$ 9,566	\$ 6,218	\$ 24	\$ 49.94	\$ 16,377.94
1 1/2"	\$ 920	\$ 19,074	\$ 12,399	\$ 24	\$ 86.67	\$ 32,503.67
2"	\$ 1,070	\$ 30,530	\$ 19,845	\$ 24	\$ 100.44	\$ 51,569.44
3"	\$ 3,130	\$ 57,279	\$ 37,233	\$ 24	\$ 289.57	\$ 97,955.57
4"	\$ 4,130	\$ 95,484	\$ 62,068	\$ 24	\$ 381.38	\$ 162,087.38
6"	\$ 6,130	\$ 190,910	\$ 124,099	\$ 24	\$ 565.00	\$ 321,728.00
8"	\$ 13,737	\$ 305,468	\$ 198,566	\$ 24	\$ 1,263.40	\$ 519,058.40
10" Call	Call	\$ 439,157	\$ 285,468	\$ 24	Call	Call





# Capacity Fee Options

Methodology	Water Fund	Wastewater Fund
<b>Buy- In Method</b>		
<i>Fixed Assets: RCNLD*</i>	\$181.8M	\$182.9M
<i>Existing Capacity</i>	16.90 MGD – Treatment is limiting factor	10.28 MGD – Interceptors are limiting factor
<b>Incremental Method</b>		
<i>Total CIP</i>	\$209.5M	\$112.3M
<i>Expansion-Related CIP</i>	\$70.5M	\$36.8M
<i>Incremental Capacity</i>	In Process	In Process
<b>Combined Method</b>		
<i>Total System Value</i>	\$252.3M	\$219.7M
<i>Total System Capacity</i>	In Process	In Process
<b>Level of Service – gallons per day (gpd)</b>		
<i>Existing Fee</i>	286 gpd	257 gpd
<i>Proposed</i>	875 gpd	788 gpd

\* Replacement Cost New Less Depreciation





# Capacity Fee Options

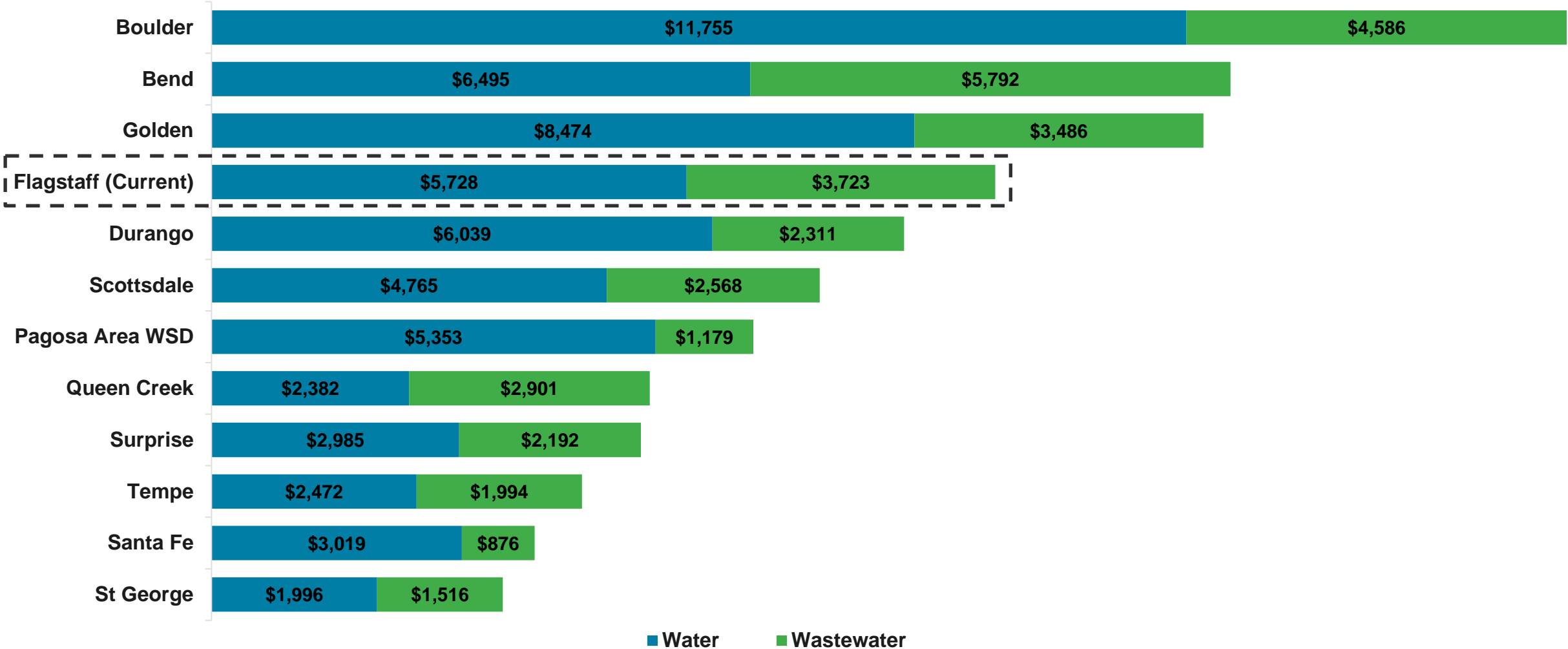
Methodology	Water Fund	Wastewater Fund
Existing capacity fee*	\$5,728	\$3,723
Buy-in fee	In process	In process
Incremental fee	In process	In process
Combined fee	In process	In process

\*Existing capacity fee is for a 3/4-inch meter





# Capacity Fee Comparison



\*Plus \$3.20 per sq ft of outdoor components

\*\*Plus \$1.18 per sq ft of lot size



# List of Miscellaneous Fees Under Review

- Connection fees (water meter installations)
- Water service charges
  - New customer accounts
  - Non-payment service charge
- Permit for watering outside of regulated times
- Backflow prevention permit fee
- Backflow compliance fee
- Unauthorized connection fee
- Industrial pretreatment discharge permit fee
- Scavenger wastes
  - Septage
  - Restaurant grease
  - Mud sump (solid waste)
- Scavenger waste permit fee
- After hours fee for dumping
- Sewer tap fees



# Miscellaneous Fee Process

1. Perform interviews with staff to identify activities and costs
2. Populate in Stantec's cost computation template
3. Survey comparable utilities for local fees (benchmarking)
4. Financial implications/impacts –cost recovery



$$\begin{array}{l} \text{Hours Spent} \\ \text{(i.e., Customer Service,} \\ \text{Field Services, Technical} \\ \text{Services)} \end{array} \times \begin{array}{l} \text{Costs per Hour} \\ \text{(Labor, vehicles \&} \\ \text{equipment)} \end{array} + \begin{array}{l} \text{Unit} \\ \text{Costs} \\ \text{(Materials)} \end{array} = \text{Cost of Service}$$



# Cost-of-Service Analysis: Overview

Task 3

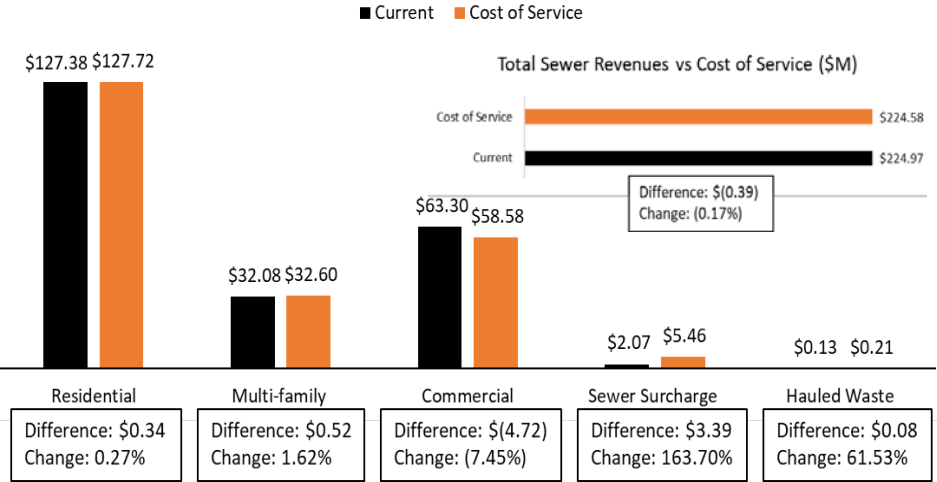
Allocate revenue requirements to system, function, and customer class based on test year revenue requirement, system characteristics, and customer usage characteristics.

Approach



Outcomes / Benefits

- Equitable and justifiable allocation of system costs to customer classes based on customer characteristics
- Basis for potential changes to rates and fees





Water

# CITY OF FLAGSTAFF WATER & SEWER RATES

Effective January 1, 2023 (\*\*Subject to Change\*\*)

## MONTHLY FIXED CHARGE

Meter Size:	Customer Class	Inside City Rate	Outside City Rate
3/4"	All	\$16.64	\$18.30
1"	All	\$19.60	\$21.56
1 1/2"	All	\$26.98	\$29.68
2"	All	\$35.84	\$39.42
3"	All	\$56.52	\$62.17
4"	All	\$86.05	\$94.66
6"	All	\$159.88	\$175.87
8"	All	\$248.47	\$273.32
10"	All	\$351.83	\$387.01

## WATER RATES

POTABLE WATER: (per 1,000 gallons)		Customer Class	Water Rate	Outside City Rate	Water Energy	*WRIP FEE
Single Family	Tier 1 (0 - 3,500 gallons)	R1 or R4	\$3.44	\$3.78	\$1.24	\$0.53
	Tier 2 (3,501 - 6,200 gallons)		\$4.45	\$4.90	\$1.24	\$0.53
	Tier 3 (6,201 - 11,500 gallons)		\$6.86	\$7.55	\$1.24	\$0.53
	Tier 4 (11,501+ gallons)		\$13.72	\$15.09	\$1.24	\$0.53
Multi-Family Units		R2 or R3	\$4.42	\$4.86	\$1.24	\$0.53
Commercial/Schools		C	\$4.69	\$5.16	\$1.24	\$0.53
Northern Arizona University		NA	\$4.30		\$1.24	\$0.53
Manufacturing		MN	\$4.63	\$5.09	\$1.24	\$0.53
Landscaping/Lawn Meters		LM	\$4.69	\$5.16	\$1.24	\$0.53
Hydrant Meter		HM	\$7.17	\$7.89	\$1.24	\$0.53
Standpipe**		SP	\$10.19			

\*\*Includes sales tax and environmental fee

\*Effective 7/1/22

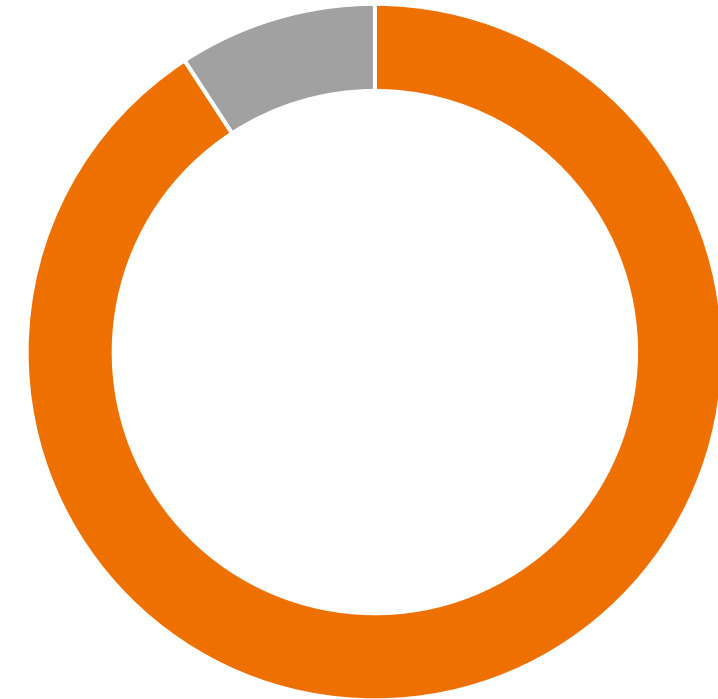
Outside City 10% surcharge



# How Many Customers We Have – Water System

Service Class		Number of Accounts	Account Make-Up by Service Class
Residential	Residential/Multi-family	21,441	90.79%
Non-Residential	Commercial	1,785	7.56%
	Landscaping	339	1.44%
	Manufacturing	39	0.17%
	Institutional	8	0.03%
	Hydrant	4	0.02%
	Standpipe	1	0.004%
<b>Total</b>		<b>23,617</b>	

2023 Accounts by Type



■ Residential/Multi-family

■ Non-Residential



# FY 2023 Inside-City Water Consumption & Current Rates

## Water

Residential Service Class	Usage (1,000 gallons)	% of Usage	Current Rate
<b>Single-Family Block</b>	<b>739,644</b>	<b>33.19%</b>	
<i>Tier 1 (0 - 3,500 gallons)</i>	<i>472,400</i>	<i>21.20%</i>	\$3.44
<i>Tier 2 (3,501 - 6,200 gallons)</i>	<i>132,904</i>	<i>5.96%</i>	\$4.45
<i>Tier 3 (6,201 - 11,500 gallons)</i>	<i>82,344</i>	<i>3.70%</i>	\$6.86
<i>Tier 4 (11,501+ gallons)</i>	<i>51,996</i>	<i>2.33%</i>	\$13.72
Commercial	607,616	27.27%	\$4.69
Multi-Family Units	550,608	24.71%	\$4.42
Institutional	162,455	7.29%	\$4.30
Landscaping	75,190	3.37%	\$4.69
Manufacturing	63,675	2.86%	\$4.63
Standpipe	28,600	1.28%	\$10.19
Hydrant	606	0.03%	\$7.17
<b>Total</b>	<b>2,228,394</b>	<b>100%</b>	



## Wastewater

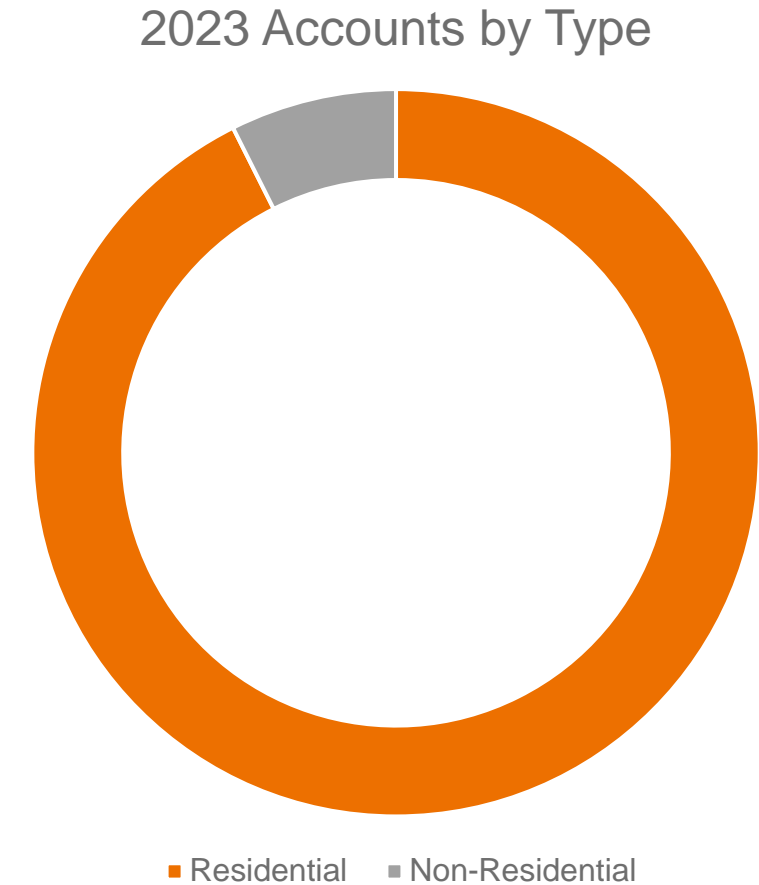
<b>SEWER RATES</b>			
<b>SEWER: (per 1,000 gallons)</b>	<b>Customer Class</b>	<b>Inside City Rate</b>	<b>Outside City Rate</b>
<b>Residential</b>			
*Single- and Multi-Family	R1 - R4	\$5.35	\$5.89
<b>Non-Residential</b>			
Car Washes	CW	\$5.38	\$5.92
Laundromats	L	\$5.53	\$6.08
Commercial	C	\$5.68	\$6.25
Hotels & Motels	H	\$7.58	\$8.34
Restaurants	RF	\$9.09	\$10.00
Industrial Laundries	IL	\$8.36	\$9.20
Manufacturing	MN	\$6.09	\$6.70
Pet Food Manufacturers	PF	\$13.34	\$14.67
Soft Drink Bottling	SD	\$10.57	\$11.63
Ice Cream Cone Manufacturing	IC	\$16.48	\$18.13
NAU	NA	\$4.91	\$5.40

\*Residential usage based on WQA (usage billed in winter months of December, January, February, March)



# How Many Customers We Have – Wastewater System

Service Class		Number of Accounts	Account Make-Up by Service Class
Residential	Residential	21,080	92.6%
Non-Residential	Commercial	1,402	6.2%
	Restaurants	132	0.6%
	Hotels and Motels	97	0.4%
	Manufacturing	27	0.1%
	Car Washes	13	0.1%
	Laundromats	6	0.026%
	Industrial Laundries	1	0.004%
<b>Total</b>		<b>22,758</b>	





# FY 2023 Inside-City Wastewater Usage & Current Rates

## Wastewater

Service Class	Usage (1,000 gallons)	% of Usage	Current Rate
Residential	1,116,143	67.40%	\$5.35
Commercial	277,949	16.80%	\$5.68
Hotels and Motels	138,843	8.40%	\$7.58
Restaurants	61,531	3.70%	\$9.09
Car Washes	24,539	1.50%	\$5.38
Manufacturing	19,262	1.20%	\$6.09
Industrial Laundries	9,342	0.60%	\$8.36
Laundromats	7,893	0.50%	\$5.53
<b>Total</b>	<b>1,655,502</b>	<b>100%</b>	



# Reclaimed Water

<b>RECLAIMED WATER: (per 1,000 gallons)</b>		<b>Customer Class</b>	<b>Inside City Rate</b>	<b>Outside City Rate</b>
Private Residential	Tier 1 (0 - 3,500 gallons)	R1	\$1.64	\$ 1.80
	Tier 2 (3,501 - 6,200 gallons)		\$1.99	2.19
	Tier 3 (6,201 - 11,500 gallons)		\$2.84	3.12
	Tier 4 (11,501+ gallons)		\$5.24	5.76
Commercial (no main Ext):		C	\$2.08	2.28
Commercial (w/ main Ext):		C	\$4.45	4.89
Manufacturing (no main Ext):		MN	\$2.05	2.26
Manufacturing (w/ main Ext):		MN	\$4.40	4.84
NAU (No main extension):		NA	\$1.94	N/A
NAU (with main extension):		NA	\$4.16	N/A
Hydrant Meter		WR	\$4.21	N/A
Standpipe**		RS	\$4.79	N/A
Off Peak/Golf Course:	All Tiers	WR	\$1.81	1.99

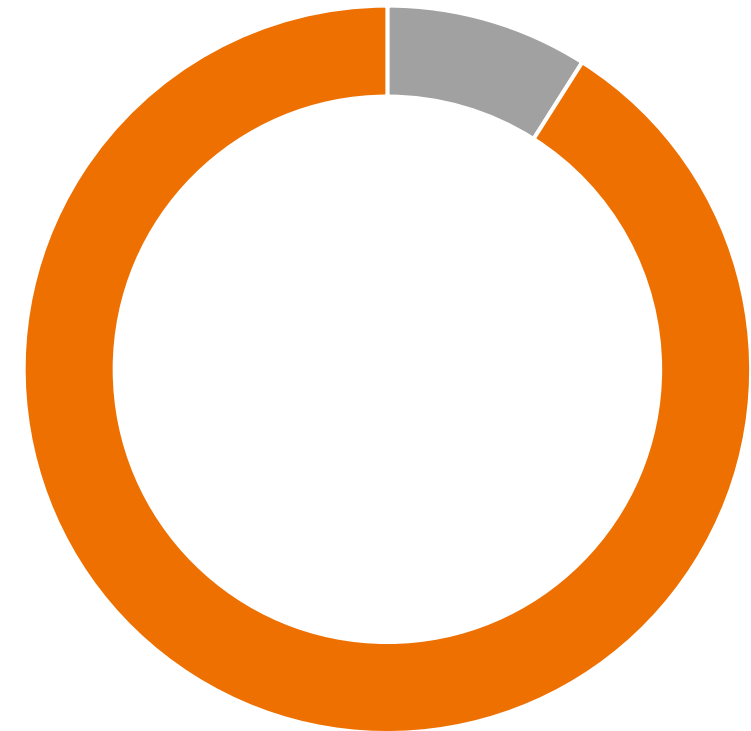


# How Many Customers We Have – Reclaimed Water

DRAFT – FOR DISCUSSION PURPOSES

Service Class		Number of Accounts	Account Make-Up by Service Class
Residential	Residential	9	8%
Non-Residential	Commercial	55	52%
	Municipality	30	28%
	Institutional	7	7%
	Off Peak	2	2%
	Manufacturing	1	1%
	Standpipe	1	1%
	Pine Canyon	1	1%
<b>Total</b>		<b>106</b>	

2023 Accounts by Type



■ Residential ■ Non-Residential



# FY 2023 Inside-City Reclaimed Water Consumption & Current Rates

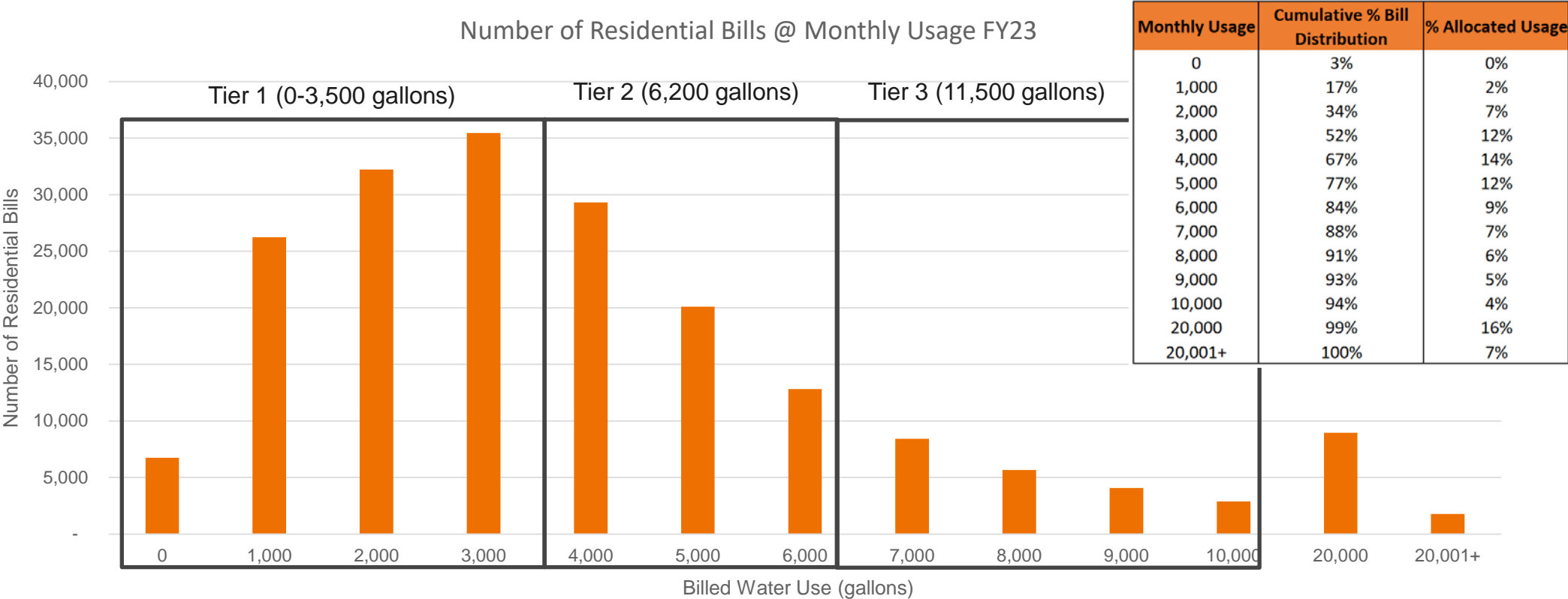
## Reclaimed Water

Residential Service Class	Usage (1,000 gallons)	% of Usage	Current Rate
<b>Single-Family Block</b>	<b>365</b>	<b>0.09%</b>	
<i>Tier 1 (0 - 3,500 gallons)</i>	118	0.03%	\$1.64
<i>Tier 2 (3,501 - 6,200 gallons)</i>	58	0.01%	\$1.99
<i>Tier 3 (6,201 - 11,500 gallons)</i>	73	0.02%	\$2.84
<i>Tier 4 (11,501+ gallons)</i>	116	0.03%	\$5.24
Off Peak	150,539	35.60%	\$1.81
Commercial	127,179	30.07%	\$2.08
Institutional	60,009	14.19%	\$1.94
Municipality	41,340	9.78%	\$2.08
Pine Canyon	25,979	6.14%	\$1.81
Standpipe	12,879	3.05%	\$4.79
Manufacturing	4,260	1.01%	\$2.05
<b>Total</b>	<b>422,915</b>	<b>100%</b>	



# Historical Number of Residential Water Bills per 1,000 Gallons

FY	2020	2021	2022	2023
Average usage per bill (gal)	4,480	4,787	4,132	3,824
Median usage per bill (gal)	between 2,000-3,000	between 2,000-3,000	between 2,000-3,000	between 2,000-3,000



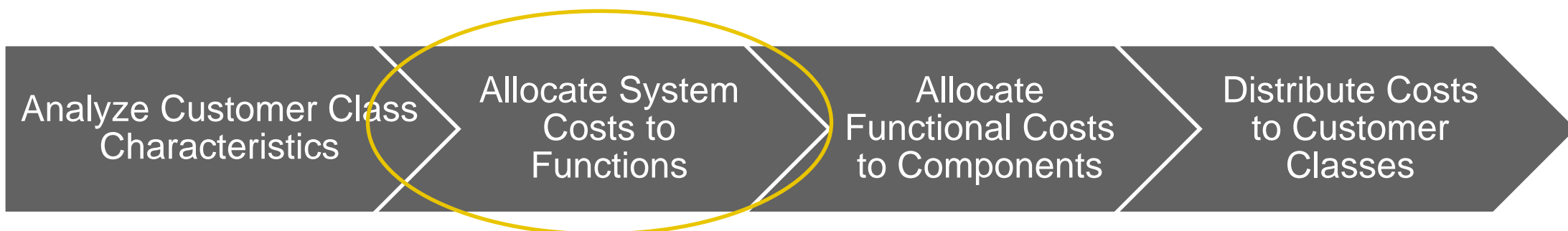


# Cost-of-Service Analysis: Overview

## Task 3

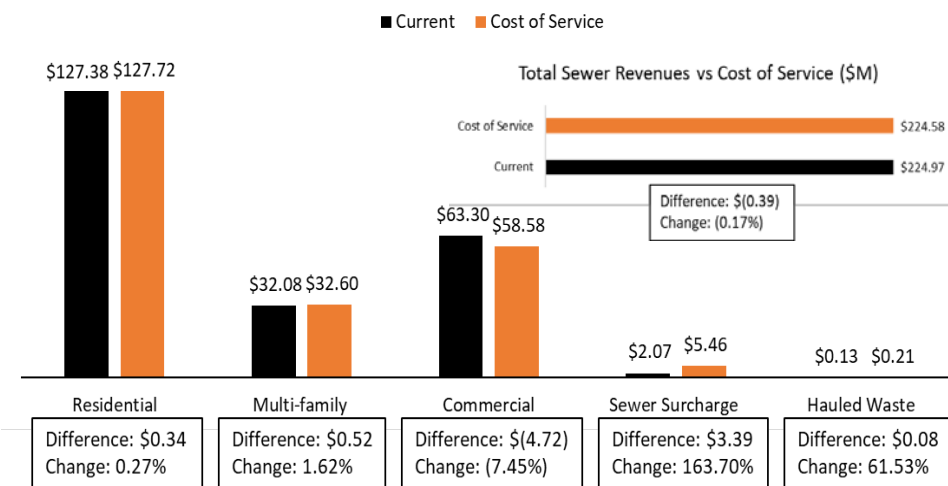
Allocate revenue requirements to system, function, and customer class based on test year revenue requirement, system characteristics, and customer usage characteristics.

## Approach



## Outcomes / Benefits

- Equitable and justifiable allocation of system costs to customer classes based on customer characteristics
- Basis for potential changes to rates and fees





# Cost Allocation Factors

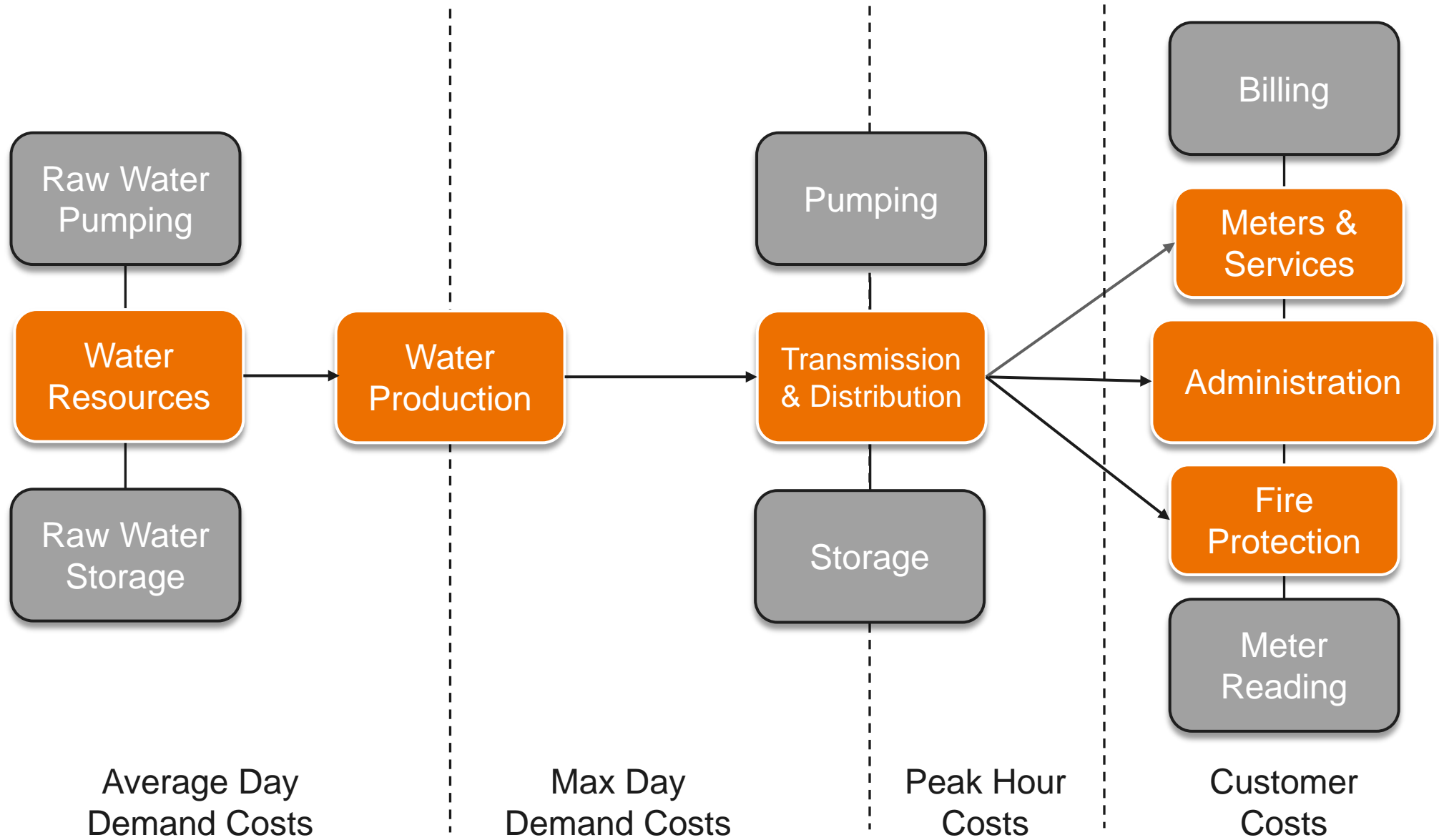
## *What is functionalization?*

Process of assigning costs to components of the water and wastewater systems based on operational activity

- **Direct Allocations**
  - cost-causative factor is a distinct purpose – one or more functions
- **Indirect Allocations**
  - allocated proportionally across all functions or subset of functions based on the direct allocations to those functions

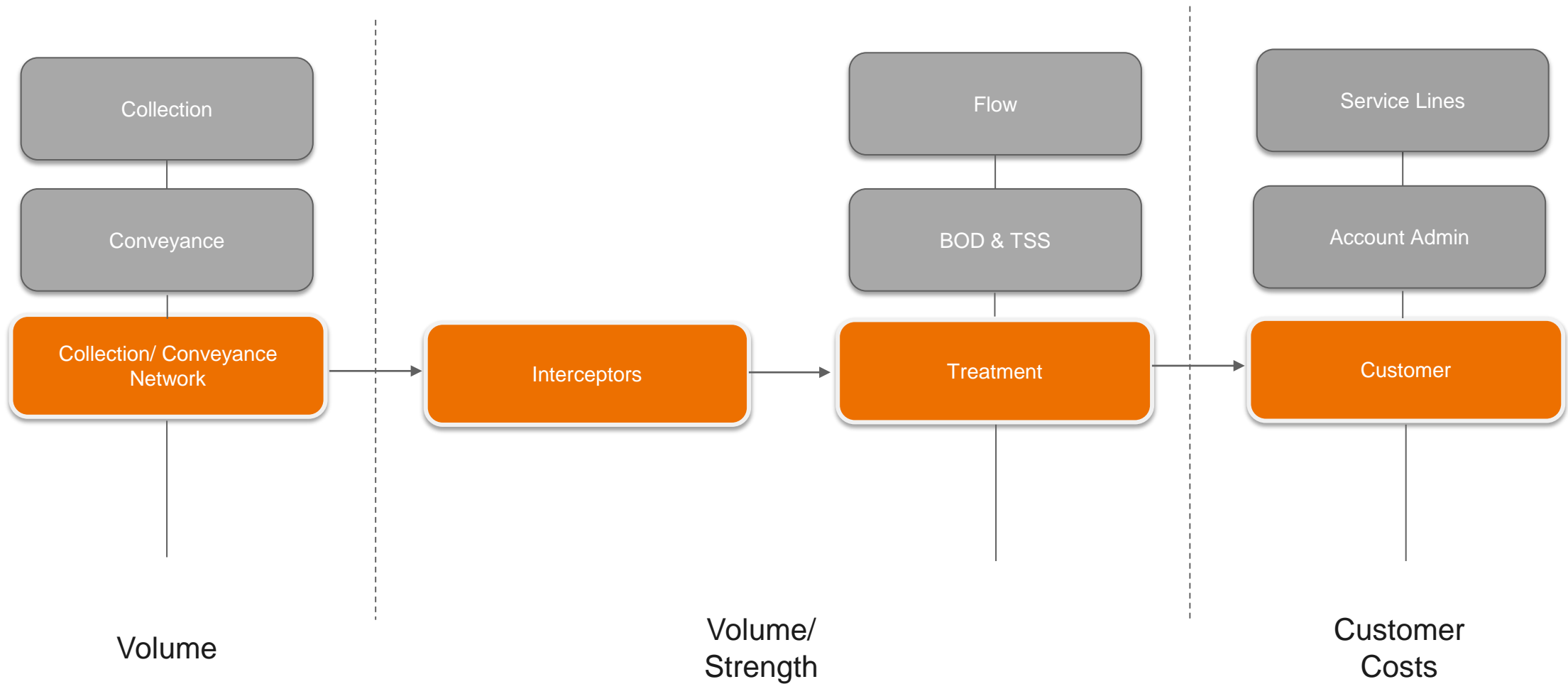


# Allocate Water System Costs to Functions





# Allocate Wastewater System Costs to Functions





# Treatment Process Flow – Wildcat Hill

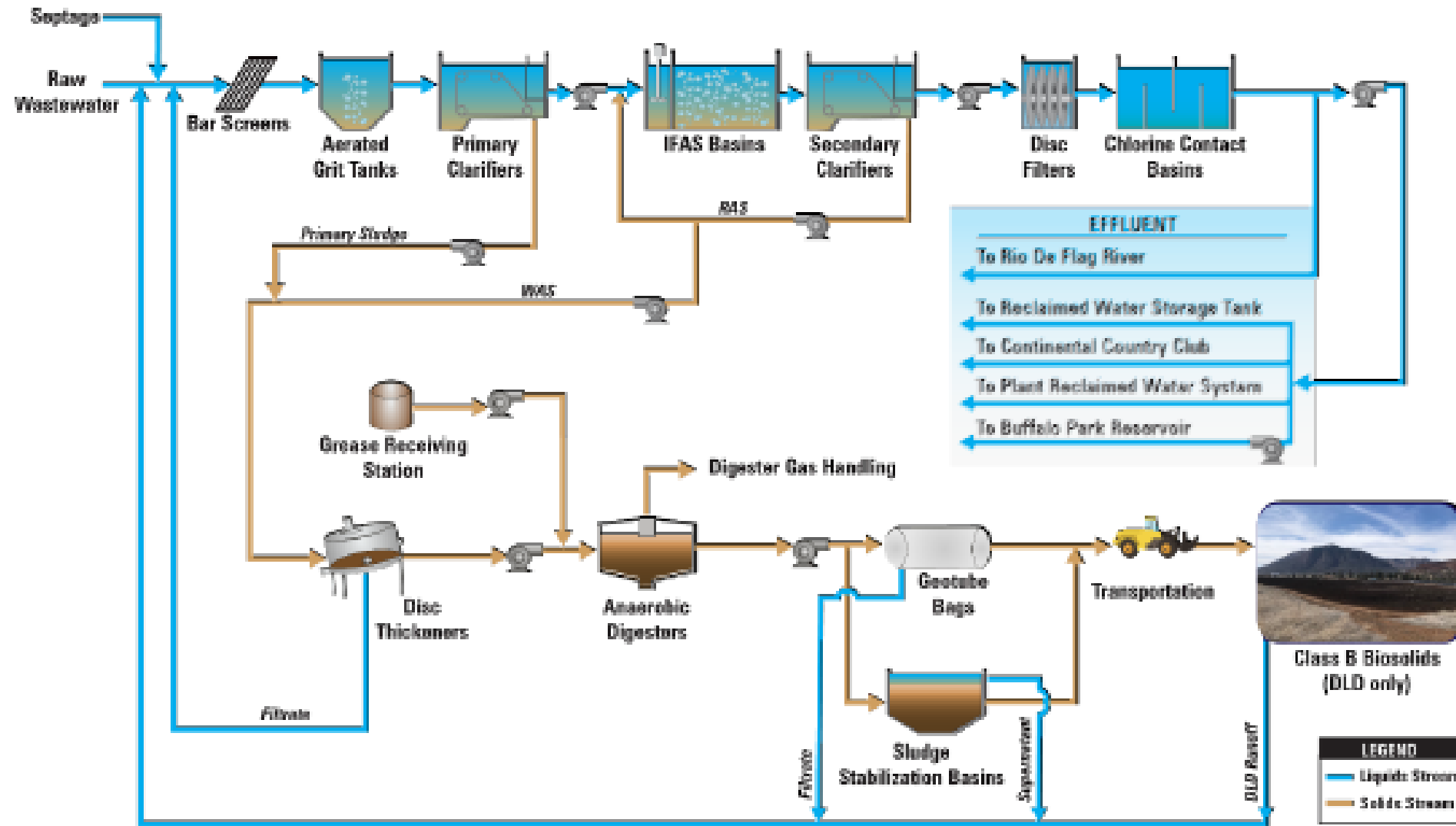


Figure 1.4 WHWRP Existing Facilities Process Flow Schematic



# Discussion



# Next Steps

- December 14, 2023 Water Commission - rate study technical analysis to date
- January 19, 2024 Water Commission - preview capacity fee options and rate design alternatives
- January 23, 2024 City Council - selects capacity fee options and reviews rate design alternatives



# Thank You!

*Feedback/Questions?*