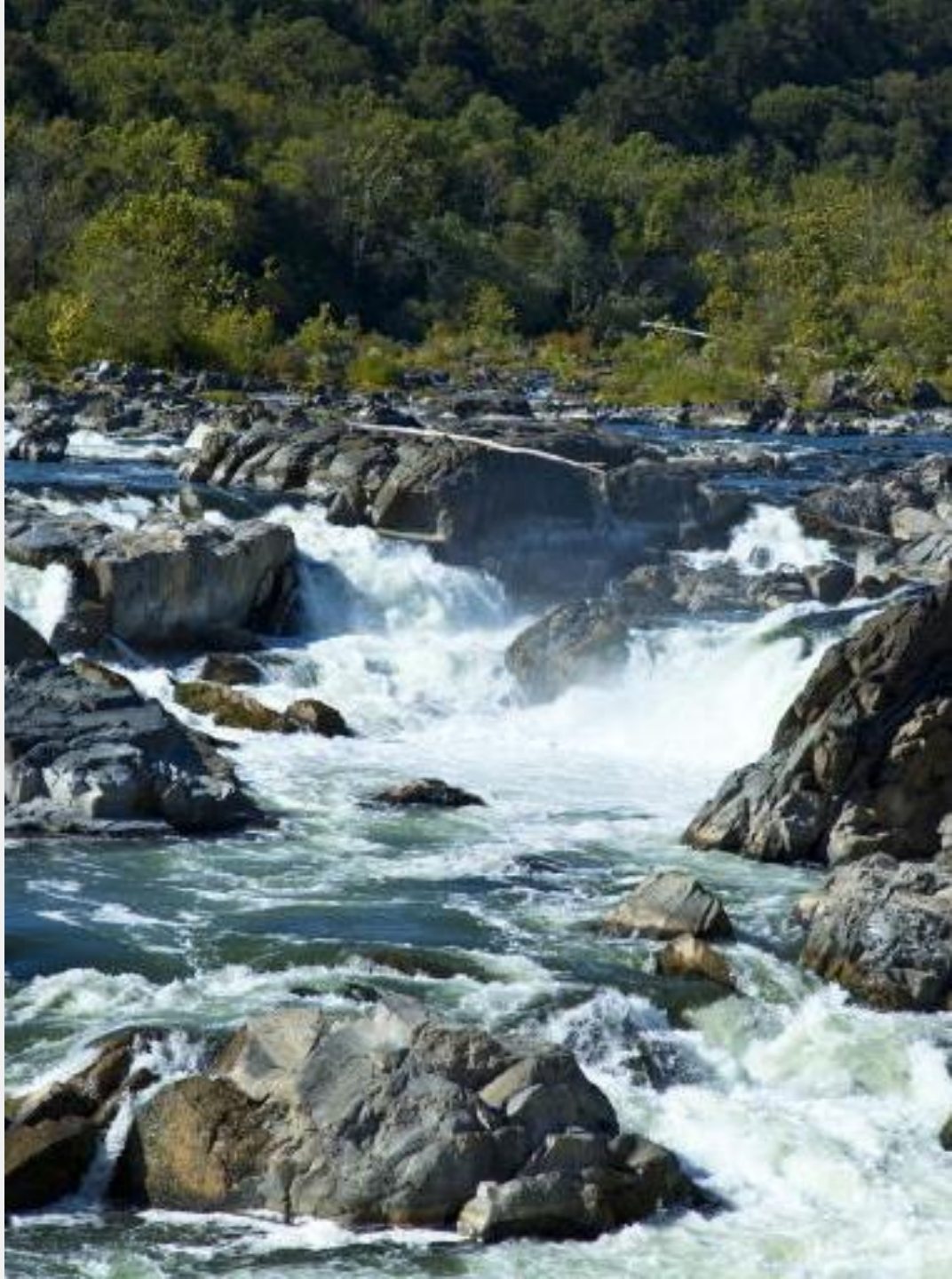


DC Water

Cost of Service Study Overview

January 25, 2022





Agenda

1. Background
2. Revenue Sufficiency Analysis
3. Cost of Service Analysis
4. Next Steps

Background



Background

DC Water conducts a Cost of Service Study every two years in conjunction with adoption of retail rates. Raftelis has performed the last three studies in 2015, 2018, and 2020.

Study Components

- Revenue Sufficiency Analysis – Do the proposed rates recover adequate revenue to meet expenditures?
- Cost of Service Analysis / Rate Equity – Are proposed rates equitably recovering the costs of providing service?
- Alternative Rate Structure Analysis – Are there alternative rate structures that may more effectively meet DC Water’s highest priority objectives?

Objectives of the COS Study

DC Water consistently prioritizes the following pricing objectives:

Study Components

- Revenue Sufficiency – Rates should recover revenue necessary to operate and maintain the utility in perpetuity and meet all legal, regulatory, and permitting requirements
- Cost of Service Recovery – Rates should be supported by industry practice and ensure that customers pay their fair share
- Simplicity – Rates and charges should be easy for customers to understand
- Affordability – DC Water should minimize customer bills without sacrificing reliable, clean, and safe service

Revenue Sufficiency Analysis



Cost Drivers & Trends

- Capital costs are increasing primarily due to lead removal and water and sewer infrastructure rehabilitation
- DC Water has continued to make attempts to lower Operating and Maintenance expense increases to keep rates as low as possible for customers
- Per capita consumption has continued to decrease, causing overall billable consumption to decline
- COVID-19 has contributed to redistribution of consumption among customer classes

Revenue Sufficiency Findings

- Raftelis projects revenue based on rates and units of service
 - › Number of accounts, billed consumption, and impervious Equivalent Residential Units (ERUs)
- Revenues under proposed rate increases are sufficient to fund utility cash requirements in FY23-FY24
- Reserve funds can be maintained at target levels
- Debt service coverage is adequate to meet required bond covenants

Comparison of Revenues and Expenses

FY 2023	Financial Plan	Raftelis Model	Delta
Revenue			
Operating (1)	\$752,744,272	\$750,111,139	\$(2,633,133)
Non-Operating	\$47,248,509	\$47,248,509	\$ -
<i>Total: Revenue</i>	<i>\$799,992,781</i>	<i>\$797,359,648</i>	<i>\$(2,633,133) (0.3%)</i>
Expenses			
Operating	\$374,597,251	\$374,597,251	\$ -
Debt Service & Paygo (2)	\$283,825,238	\$283,872,750	\$47,512
<i>Total: Expenses</i>	<i>\$658,422,489</i>	<i>\$658,470,002</i>	<i>\$47,513 0.0%</i>
Net Cash Available for PAYGO Capital & Other Cash Needs	\$141,570,292	\$138,889,646	\$(2,680,645)

1) Raftelis' revenue estimate includes slightly different usage and customer number assumptions; the Raftelis residential and commercial estimate is based on adjusting usage for CAP accounts, which receive a discount, while metering fee revenues are based on updated meter counts provided through DC Water's billing system.

2) DC Water's Financial Plan initially showed a historical estimate for EMCP and Commercial Paper Debt, which was subsequently adjusted to reflect the most recent estimates from PFM. The remaining difference reflects updated estimates for future debt.

Comparison of Revenues and Expenses

FY 2024	Financial Plan	Raftelis Model	Delta
Revenue			
Operating (1)	\$778,520,598	\$775,002,667	\$(3,517,931)
Non-Operating	\$49,184,029	\$49,184,029	\$ -
<i>Total: Revenue</i>	<i>\$827,704,627</i>	<i>\$824,186,696</i>	<i>\$(3,517,931) (0.4%)</i>
Expenses			
Operating	\$386,093,987	\$386,093,987	\$ -
Debt Service & Paygo (2)	\$296,193,480	\$296,349,597	\$156,117
<i>Total: Expenses</i>	<i>\$682,287,467</i>	<i>\$682,443,584</i>	<i>\$156,117 0.0%</i>
Net Cash Available for PAYGO Capital & Other Cash Needs	\$145,417,159	\$141,743,112	\$(3,674,047)

- 1) Raftelis' revenue estimate includes slightly different usage and customer number assumptions; the Raftelis residential and commercial estimate is based on adjusting usage for CAP accounts, which receive a discount, while metering fee revenues are based on updated meter counts provided through DC Water's billing system.
- 2) DC Water's Financial Plan initially showed a historical estimate for EMCP and Commercial Paper Debt, which was subsequently adjusted to reflect the most recent estimates from PFM. The remaining difference reflects updated estimates for future debt.

Cost of Service Analysis



Cost of Service Definition

- Cost of service is a principle of setting rates to recover precisely the cost of serving specific customers, based on the demands they place on the water and wastewater systems
- Cost of service-based user charges are not a tax, but rather a way to recover the costs of providing water and sewer service
- Maintains equity while accounting for affordability
 - › CAP provides discounted service for low-income customers
 - › Affordability is a Board rate setting policy objective and essential for maintaining public health

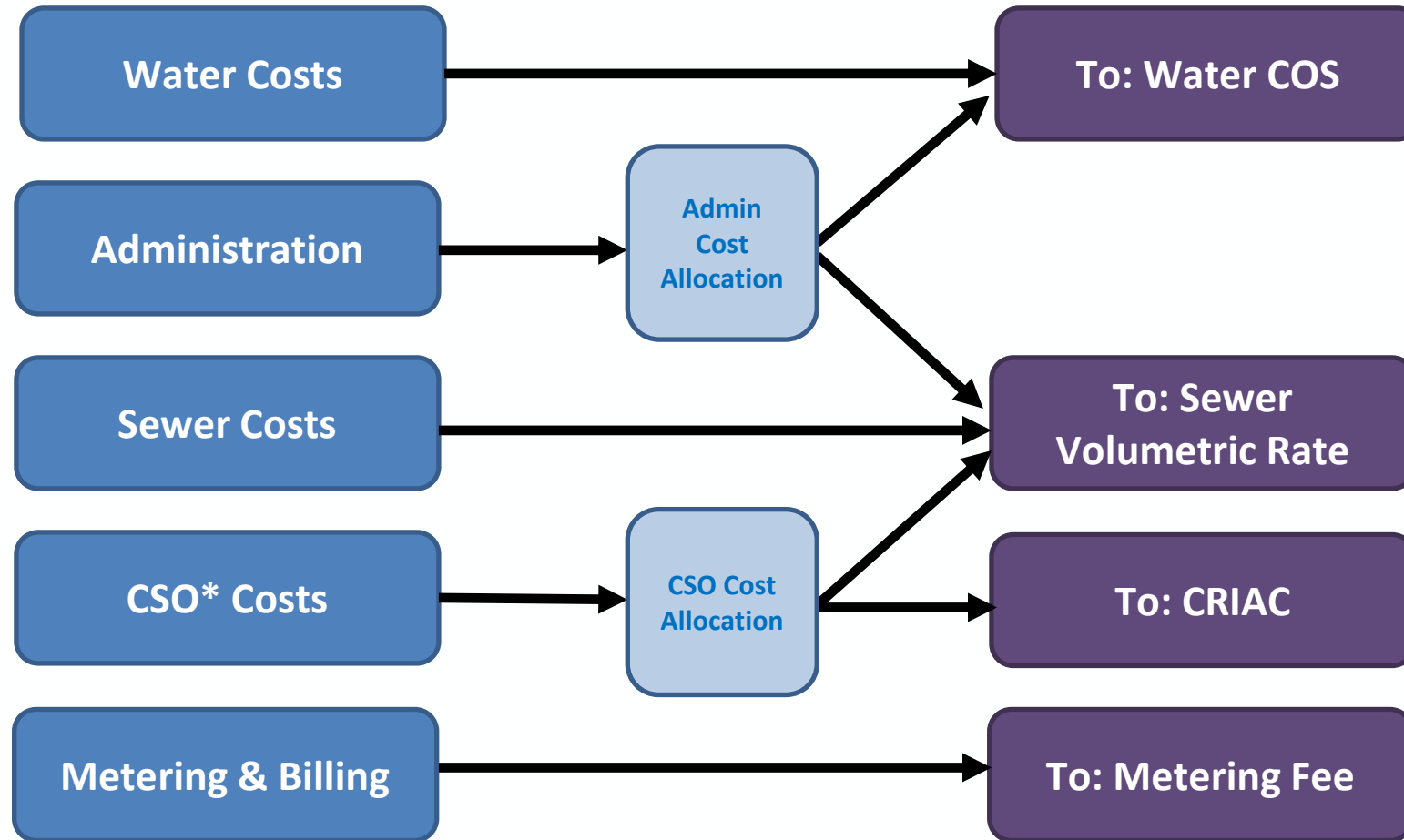
Cost of Service Initiatives

- Fully phased in reallocation of some costs associated with the Clean Rivers Impervious Area Charge (CRIAC) to the Sewer Volumetric Rate
 - › 37% reallocated to sewer based on an engineering assessment
- The revenue collected from the ongoing Water System Replacement Fee, designed to fund the annual costs of 1% of DC Water's water renewal and replacement program, has been used in its entirety to offset the Water utility's revenue requirements, resulting in a decrease to all water volumetric charges
- Cost of service update of the Groundwater Charge (enacted in 2018) and the Washington Aqueduct Discharge Rate (enacted in 2022)

Clean Rivers Allocation

- Historically, all Clean Rivers capital costs were recovered by the CRIAC
- DC Water implemented a change to bring additional equity to the Clean Rivers program. Funding for Clean Rivers is now allocated between the CRIAC (to address stormwater contributions) and the sewer volumetric rate (to address wastewater contributions).
- DC Water Engineering CRIAC allocation: 63% stormwater, 37% wastewater (fully phased in for the FY 2022 rates)

Cost of Service Allocations



* Combined Sewer Overflow

Retail Rate Development Summary, FY23

FY 2023 Unit Costs	Revenue Requirement	Units of Service	Unit Cost
Metering Fee	\$ 24,088,233	258,970 EMUs	\$ 93.02/yr
Water Volumetric Rate	\$ 162,396,157	30,534,000 Ccf	\$ 5.32/Ccf
Sewer Volumetric Rate	\$ 329,633,511	29,279,333 Ccf	\$ 11.26/Ccf
Clean Rivers IAC	\$ 91,384,596	420,000 ERUs	\$ 217.58/ERU
Water System Replacement Fee	\$ 40,000,000	529,100 EUUs	\$ 75.60/yr
Total Revenue Requirements	\$ 607,502,497		

EMUs – Equivalent Metering Units (based on a residential meter)

ERUs – Equivalent Residential Units (based on tier 1 residential sq footage)

EUUs – Equivalent Usage Units (based on average usage by meter size)

Assumes water conservation of 1.0% in FY 2023 and 2024 based on actual usage trends

Retail Rate Development Summary, FY24

FY 2024 Unit Costs	Revenue Requirement	Units of Service	Unit Cost
Metering Fee	\$ 24,092,187	258,970 EMUs	\$ 93.03/yr
Water Volumetric Rate	\$ 164,159,626	30,226,000 Ccf	\$ 5.43/Ccf
Sewer Volumetric Rate	\$ 338,754,805	28,971,416 Ccf	\$ 11.69/Ccf
Clean Rivers IAC	\$ 110,133,229	420,000 ERUs	\$ 262.22/ERU
Water System Replacement Fee	\$ 40,000,000	529,100 EUUs	\$ 75.60/yr
Total Revenue Requirements	\$ 637,139,846		

EMUs – Equivalent Metering Units (based on a residential meter)

ERUs – Equivalent Residential Units (based on tier 1 residential sq footage)

EUUs – Equivalent Usage Units (based on average usage by meter size)

Assumes water conservation of 1.0% in FY 2023 and 2024 based on actual usage trends

Existing & Proposed Rates

Rate Component	FY 2022 (Existing)	FY 2023 (Proposed)	FY 2024 (Proposed)	FY 2023		FY 2024	
				% Difference	\$ Difference	% Difference	\$ Difference
Water Volumetric – Residential – Tier 1	\$ 3.63	\$ 4.28	\$ 4.38	17.9%	\$ 0.65	2.3%	\$ 0.10
Water Volumetric – Residential – Tier 2	\$ 4.74	\$ 5.58	\$ 5.70	17.7%	\$ 0.84	2.2%	\$ 0.12
Water Volumetric – Multi-Family	\$ 4.15	\$ 4.90	\$ 5.00	18.1%	\$ 0.75	2.0%	\$ 0.10
Water Volumetric – Non-Residential	\$ 4.91	\$ 5.78	\$ 5.89	17.7%	\$ 0.87	1.9%	\$ 0.11
Sewer Volumetric	\$ 10.64	\$ 11.26	\$ 11.70	5.8%	\$ 0.62	3.9%	\$ 0.44
Metering Fee	\$ 7.75	\$ 7.75	\$ 7.75	0.0%	\$ -	0.0%	\$ -
Clean Rivers IAC	\$ 18.40	\$ 18.14	\$ 21.86	(1.4%)	(\$ 0.26)	20.5%	\$ 3.72
WSRF	\$ 6.30	\$ 6.30	\$ 6.30	0.0%	\$ -	0.0%	\$ -
WAD Rate	\$ 3.03	\$ 3.21	\$ 3.30	6.0%	\$ 0.18	2.7%	\$ 0.09
Groundwater Fee	\$ 2.83	\$ 3.42	\$ 3.50	21.0%	\$ 0.59	2.3%	\$ 0.08

Cost of Service Allocations

Rate Component	FY 2022	FY 2023	FY 2024
Water	23.0%	25.1%	24.3%
Sewer	51.8%	50.9%	50.0%
Meter	3.9%	3.7%	3.6%
CRIAC	14.9%	14.1%	16.3%
WSRF	6.4%	6.1%	5.9%

Water & Sewer Only	FY 2022	FY 2023	FY 2024
Water	30.8%	33.0%	32.6%
Sewer	69.2%	67.0%	67.4%

Observations

- Cost recovery shifted slightly from sewer to water from FY 2022 to FY 2023 due to some operational reorganization
 - › Engineering costs increased
 - › Pumping Operations shifted more costs to water
- Meter and WSRF remained fixed over the forecast period
- CRIAC charge increased from FY 2023 to FY 2024, due to changes in debt assumptions for bond refinancing

Cost of Service Findings

- Overall bill increases for FY 2023 are driven primarily by volumetric rates for water and sewer
- Bill increases for FY 2024 are primarily due to increased CRIAC borrowing as volumetric rate increases moderate
- Revenue collected from the Water System Replacement Fee, originally designed to fund the annual costs of 1% of DC Water's water renewal and replacement program, used to offset the Water revenue requirements, and decrease Water volumetric rates
- PILOT District Charge on the DC Water bill is increasing
- Average customer usage is currently at 5.42 Ccf/month

Next Steps

- Board will be asked to approve publication of proposed rates at March 3, 2022 meeting
- DC Act 23-577 signed on January 13, 2021 requires DC Water to transmit this Cost of Service Study and the Independent Review of the Proposed Rates Report to the Mayor and the Council of the District of Columbia at least 45 days before the public hearing
- The public hearing will take place on May 11, 2022
- This report will be transmitted to the Mayor and Council on February 25, 2022

Residential Customer Monthly Bill (5/8” / 5.42 Ccf)

	Current (FY 2022)	Calculated (FY 2023)	Calculated (FY 2024)	FY 2023		FY 2024	
				\$ Change	% Change	\$ Change	% Change
DC Water and Sewer Retail Rates	\$ 78.92	\$ 86.07	\$ 89.03	\$ 7.15	9.1%	\$ 2.96	3.4%
DC Water Clean Rivers IAC	18.40	18.14	21.86	(0.26)	-1.4%	3.72	20.5%
DC Water Customer Metering Fee	7.75	7.75	7.75	-	0.0%	-	0.0%
DC Water Water System Replacement Fee	6.30	6.30	6.30	-	0.0%	-	0.0%
Subtotal: DC Water Rates & Charges	\$ 111.37	\$ 118.26	\$ 124.94	\$ 6.89	6.2%	\$ 6.68	5.6%
District of Columbia PILOT	\$ 3.04	\$ 3.20	\$ 3.31	\$ 0.16	5.3%	0.11	3.4%
District of Columbia Right of Way Fee	1.03	1.03	1.03	-	0.0%	-	0.0%
District of Columbia Stormwater Fee	2.67	2.67	2.67	-	0.0%	-	0.0%
Subtotal District of Columbia Charges	\$ 6.74	\$ 6.90	\$ 7.01	\$ 0.16	2.4%	\$ 0.11	1.6%
Total Amount Appearing on DC Water Bill	\$ 118.11	\$ 125.16	\$ 131.95	\$ 7.05	6.0%	\$ 6.79	5.4%

Residential CAP Customer Monthly Bill (5/8" / 5.42 Ccf)

	Current		Calculated		Calculated		FY 2023		FY 2024	
	(FY 2022)		(FY 2023)		(FY 2024)	\$ Change	% Change	\$ Change	% Change	
DC Water and Sewer Retail Rates	\$	78.92	\$	86.07	\$	89.03	\$ 7.15	9.1%	\$ 2.96	3.4%
DC Water Clean Rivers IAC		18.40		18.14		21.86	(0.26)	-1.4%	3.72	20.5%
DC Water Customer Metering Fee		7.75		7.75		7.75	-	0.0%	-	0.0%
DC Water Water System Replacement Fee		6.30		6.30		6.30	-	0.0%	-	0.0%
Subtotal: DC Water Rates & Charges	\$	111.37	\$	118.26	\$	124.94	\$ 6.89	6.2%	\$ 6.68	5.6%
District of Columbia PILOT	\$	3.04	\$	3.20	\$	3.31	\$ 0.16	5.3%	\$ 0.11	3.4%
District of Columbia Right of Way Fee		1.03		1.03		1.03	-	0.0%	-	0.0%
District of Columbia Stormwater Fee		2.67		2.67		2.67	-	0.0%	-	0.0%
Subtotal District of Columbia Charges	\$	6.74	\$	6.90	\$	7.01	\$ 0.16	2.4%	\$ 0.11	1.6%
Less: CAP Discount - 4 Ccf per Month	\$	(60.08)	\$	(65.28)	\$	(67.52)	\$ (5.20)	8.7%	\$ (2.24)	3.4%
Less: CAP Discount - % of CRIAC		(9.20)		(13.61)		(16.40)	(4.41)	47.9%	(2.79)	20.5%
Less: CAP Discount - WSRF		(6.30)		(6.30)		(6.30)	-	-	-	0.0%
Subtotal: CAP Discount	\$	(75.58)	\$	(85.19)	\$	(90.22)	\$ (9.61)	12.7%	\$ (5.03)	5.9%
Total Amount Appearing on DC Water Bill with CAP Discount	\$	42.53	\$	39.97	\$	41.73	\$ (2.55)	-6.0%	\$ 1.76	4.4%

Q&A



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Thank you!

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