



Blue Plains Advanced  
Wastewater Treatment Plant



# APPROVED FY 2019 BUDGETS

**ADOPTED MARCH 1, 2018**

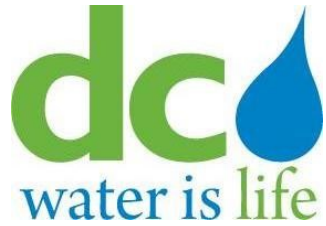
(Fiscal year starts on October 1)

Tommy Wells, Board Chairman

Henderson J. Brown, IV, Interim CEO and General Manager

Matthew T. Brown, Chief Financial Officer

**Optimization, Accountability, and Transparency**



## Blue Horizon 2020 Strategic Plan

The DC Water Blue Horizon 2020 Strategic Plan, adopted by the Board of Directors in March 2013 and revised in 2015, serves as a blueprint for achieving a vision to be a world-class water utility. Three focus areas – leadership, value and innovation – serve as key drivers in achieving the goals and objectives of the plan. By laying out a course of action, Blue Horizon represents a disciplined process for making fundamental decisions and shaping DC Water’s future, including the appropriate allocation of funding.

### FOCUS AREAS

**Leadership:** DC Water will advocate and lead local, regional, and national collaborations, while internally developing the workforce of the future.

**Value:** DC Water will be recognized for the value it delivers by protecting public health and the environment, supporting community sustainability, and providing for economic vitality.

**Innovation:** DC Water will achieve international prominence in development and adoption of science, technology, and processes in support of a culture of innovation.

### VISION

To be a world-class utility.

### VALUES

**Respectful:** Serve with a positive attitude, courtesy, and respect that engender collaboration and trust.

**Ethical:** Maintain high ethical standards, accountability, and honesty as we advance the greater good.

**Vigilant:** Attend to public health, the environment, quality, efficiency, and sustainability of our enterprise.

**Accountable:** Address challenges promptly, implement effective solutions, and provide excellent service as a committed team.

### MISSION

Exceed expectations by providing high quality water services in a safe, environmentally friendly, and efficient manner.

### GOALS

The goals in our strategic plan framework represent the core strategies that DC Water will pursue. The Board and Executive Management believe that they are essential to the achievement of the mission and to becoming a world-class water utility.

### OBJECTIVES

Objectives are the strategic measures that will enable the Board and Executive Management to evaluate achievement of the goals. Some of the specific measures will need to be further researched and refined as the organization implements the plan and obtains additional insight and information.

### INITIATIVES

Initiatives are the allocation of resources (time and money) to achieve the objectives and the goals.

## BOARD OF DIRECTORS

### PRINCIPAL MEMBERS

**Tommy Wells, Chair**, District of Columbia  
**Ellen O. Boardman**, District of Columbia  
**Rachna Butani-Bhatt**, District of Columbia  
**David Franco**, District of Columbia  
**Emile Thompson**, District of Columbia  
**Vacant**, District of Columbia  
**Timothy L. Firestine**, Montgomery County, MD  
**Bonnie Kirkland**, Montgomery County, MD  
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**James Patteson**, Fairfax County, VA

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**Jed Ross**, District of Columbia  
**Kendrick Curry**, District of Columbia  
**Anthony Giancola**, District of Columbia  
**Ivan Frishberg**, District of Columbia  
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**Adam Ortiz**, Prince George's County, MD  
**Sarah Mostch**, Fairfax County, VA

## EXECUTIVE MANAGEMENT TEAM

### EXECUTIVE STAFF

**Henderson J. Brown, IV**, Interim, CEO and General Manager  
**Mustaafa Dozier, Esq.**, Chief of Staff  
**Biju George**, Chief Operating Officer  
**Meena Gowda**, Acting General Counsel

**Leonard R. Benson**, Chief Engineer  
**John Bosley**, Chief Procurement Officer  
**Alan Heymann**, Chief Marketing Officer  
**Matthew T. Brown**, Chief Financial Officer  
**Thomas Kuczynski**, Chief Information Officer  
**John Lisle**, Chief, External Affairs  
**Rosalind Inge**, Assistant General Manager, Support Services  
**Charles W. Kiely**, Assistant General Manager, Customer Care and Operations  
**Aklile Tesfaye**, Assistant General Manager, Blue Plains

## SENIOR MANAGEMENT TEAM

### OFFICE OF THE GENERAL MANAGER

**Ernest Jolly**, Energy Chief  
**Maureen Holman**, Sustainability Chief  
**Sudhir Murthy**, Innovations Chief  
**Sarah Neiderer**, Strategic Planning Officer  
**Tera Fong**, Program Manager, Strategy, Innovation and Metrics

### OFFICE OF THE SECRETARY (BOARD)

**Linda R. Manley**, Board Secretary

### CHIEF ENGINEER

**Craig Fricke**, Director, Engineering and Technical Services  
**Diala Dandach**, Director, Wastewater Engineering  
**Carlton Ray**, Director, DC Clean Rivers Project  
**Brian McDermott**, Director, Permit Operations

### WASTEWATER TREATMENT

**Christine DeBarbadillo**, Director, Clean Water and Technology  
**Salil Kharkar**, Director, Operations, Wastewater Treatment  
**Vacant**, Director, Maintenance Services  
**Nicholas Passarelli**, Director, Process Engineering  
**Chris Peot**, Director, Resource Recovery

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**Carolyn MacKool**, Director, Customer Services  
**Vacant**, Director, Water Quality and Technology  
**Jason Hughes**, Director, Utility Services - Water  
**Chuck Sweeney**, Director, Distribution and Conveyance Systems

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**Lola Oyeyemi**, Director, Budget  
**Val Blinkoff**, Manager, Financial Systems and Controls  
**Vacant**, Director, Finance  
**Syed Khalil**, Director, Revenues and Financial Planning  
**John Madrid**, Controller

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**Steve Caldwell**, Director, Security  
**Timothy Fitzgerald**, Director, Fleet Management  
**Roger E. Brown**, Director, Human Capital Management  
**Ayodele McClenney**, Director, Occupational Safety and Health  
**Johnnie Walker**, Director, Facilities Management

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**Scott Ellinwood**, Internal Communications Manager  
**Vincent Morris**, Manager, Communications & Government Relations  
**Tamara Stevenson**, Production Manager

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**Joseph M. Edwards**, Director, Infrastructure and Operations  
**Hari Kurup**, Director, Enterprise Applications

## ACKNOWLEDGEMENTS

*The office of the Chief Financial Officer would like to extend our appreciation to the Executive Team and Senior Management Staff for their strategic guidance and leadership.*

*In addition, we would like to acknowledge the following staff members from the departments of Finance, Accounting & Budget, Engineering & Technical Services and External Affairs for their hard work and dedication geared towards the publication of this document.*

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GOVERNMENT FINANCE OFFICERS ASSOCIATION

*Distinguished  
Budget Presentation  
Award*

PRESENTED TO

**District of Columbia Water & Sewer Authority**

**District of Columbia**

For the Fiscal Year Beginning

**October 1, 2017**

*Christopher P. Morill*

Executive Director



# APPROVED BUDGETS



DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

## Section I EXECUTIVE BUDGET SUMMARY

Advanced Treatment –  
Nitrification/Denitrification Process





# Executive Budget Summary

Approved FY 2019 • Adopted March 1, 2018  
(Fiscal year starting October 1)

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Tommy Wells, Chairman of the Board  
Henderson J. Brown, IV , Interim CEO and General Manager  
Matthew T. Brown, Chief Financial Officer

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY



DC Water Clean Rivers – Completed Anacostia River tunnel



# Executive Budget Summary

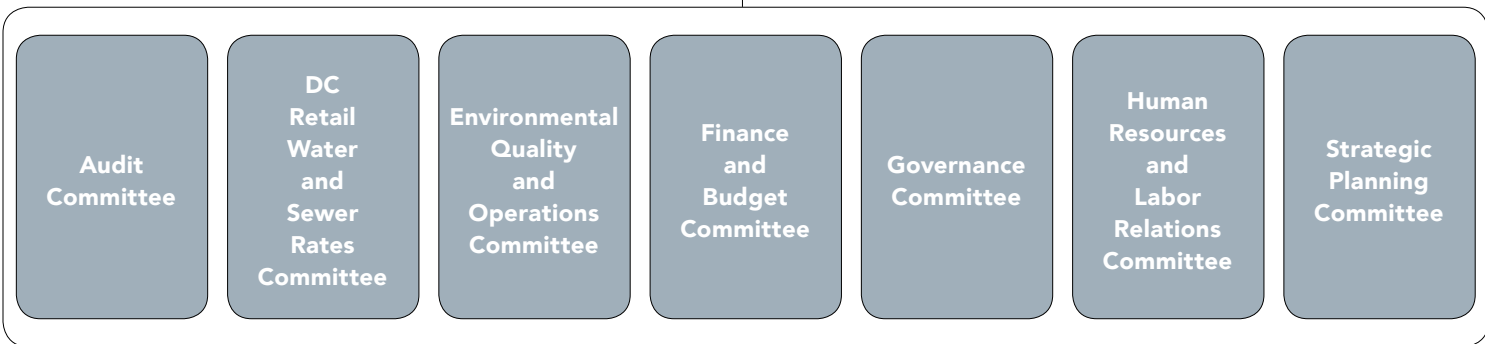
DC Water is an independent authority of the District of Columbia, established under District of Columbia and Federal law; governed by an 11-member Board of Directors.

It provides clean drinking water to residents of the District of Columbia and wastewater and stormwater conveyance, and treatment services to both residents of the District of Columbia and wholesale customers in Maryland and Virginia.

This standalone document is intended for our diverse stakeholders. Additional information on the operating and capital budgets can be found in the detailed budget book, and is also available online at [dcwater.com](http://dcwater.com).

DC Water’s Board of Directors and the Executive Management Team collaborated to assess key industry trends and the greatest challenges, and to identify the critical factors important to DC Water’s long term success. This led to the adoption of DC Water’s Blue Horizon 2020 strategic plan, adopted by the Board of Directors in March 2013 and revised in FY 2015. In FY 2018, DC Water will refresh its strategic plan to ensure it continues to focus on the priorities, trends and opportunities that will drive operational excellence.

Board of Directors



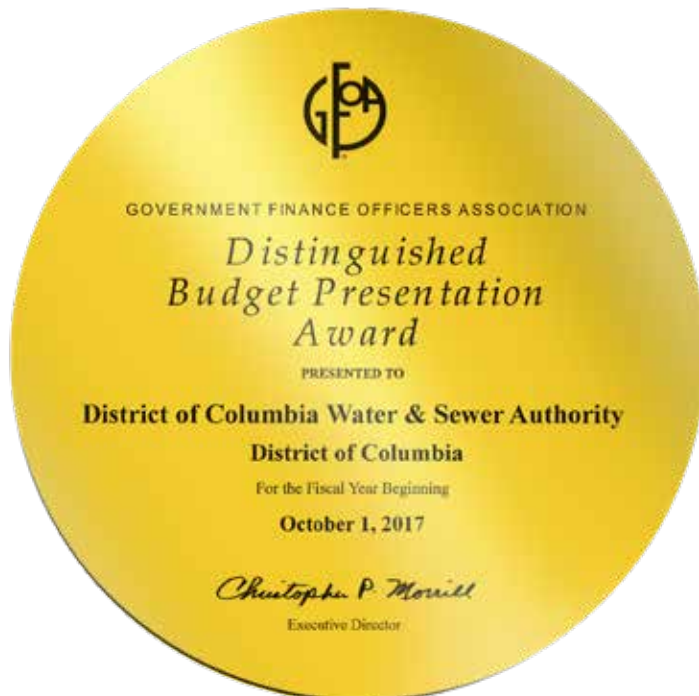
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The Strategic Plan provides the framework for the formulation, prioritization and monitoring of the (operating and capital) budgets and financial planning process. Below are the strategic plan goals.

**Strategic Plan (Blue Horizon 2020 Goals)**

1. Develop, Maintain, and Recruit a High Performing Workforce
2. Collaborate Locally, Regionally, Nationally and Internationally
3. Increase Board Focus on Strategic Direction
4. Enhance Customer and Public Confidence, Communications and Perception
5. Promote Financial Sustainability, Integrity and Responsible Resource Allocation
6. Assure Safety and Security
7. Maximize Water Quality Treatment, Compliance and Efficiency
8. Optimally Manage Infrastructure
9. Enhance Operating Excellence through Innovation, Sustainability, and Adoption of Best Practices



DC Water  
Truck Touch



the mission of DC Water. Matt Brown and his brilliant team crafted the FY 2019 Budget in record time, which culminated with adoption by the Board.

The Board-adopted FY 2019 budget addresses the themes that will shape our immediate future: Rate Affordability, Environmental Stewardship, Workforce Development, Occupational Safety, Rehabilitation and Replacement of Aging Infrastructure, and Excellent Customer Service. These critical themes will be discussed during the 2018 Town Hall Meetings and provide the opportunity to evaluate and advance more efficient ways to accomplish our responsibilities to our customers. Every potential idea is worthy of consideration.

Our Board, stakeholders, and customers have challenged the team to explore all possibilities to lessen the burden of current and projected future rate increases on our ratepayers, and concurrently improve outcomes on each of the critical themes described above. The Board has declared that developing plans to preserve, repair, and rehabilitate aging underground and above ground water and sewer system assets and addressing customer affordability will be the emphasis for the Authority. During 2018, the Board, under the savvy leadership of Chairperson Wells, will begin work on the next version of our Strategic Plan and implementing these viable infrastructure plans will be a priority for the Authority.

Whenever I am asked to describe the men and women who comprise Team Blue, my answer is the same: we are a diverse group of people who have come together as one team to improve the environment, protect the public health and safety, and deliver exceptional service to our local and regional customers. As a world class organization, the challenge of finding more efficient ways to deliver exceptional customer service is one that we accept gladly.

In closing, many thanks to the DC Water Board for providing clear direction and oversight, our regional partners and Team Blue for developing programs that advance the organizational priorities to serve our valuable customers today and tomorrow.

Greetings Everyone,

Since the FY 2018 Budget Book was published about a year ago, there have been significant changes in leadership at DC Water. In the summer of 2017, Matt Brown, the former Chairman of the Board of Directors decided to become our new CFO. Shortly thereafter, sitting board member Tommy Wells, Director of the District's Department of Energy and the Environment was sworn in as the new DC Water Board Chairman. In October of 2017, our former CEO/General Manager, George Hawkins, announced his plan to retire from that position to pursue other, perhaps more challenging opportunities after having served with distinction for eight of the most significant years in our history. Effective December 29, 2017, the Board of Directors honored me with the opportunity to serve as Interim CEO/General Manager, pending appointment of a permanent successor.

In the wake of these significant organizational changes, I am happy to report that almost every member of Team Blue whom I have talked with since I stepped into the interim role, has expressed unwavering support for

In my first year serving as the Chief Financial Officer for DC Water, I am optimistic that the Board-adopted FY 2019 budget reflects financial discipline, is sustainable, and aligns with DC Water's Strategic Plan. Our operating and ten-year capital budgets are centered on the three core elements of our budget theme for this planning process - optimization, accountability and transparency.

## Optimization

Every day we work to improve the environment, provide drinking water to our customers, and treat water that our customers return to us. And every day we work to optimize the work that we are doing, bringing efficiencies that result in better service to our customers.

DC Water is challenged by an aging infrastructure, and committed to employing Asset Management strategies to better identify, prioritize and schedule maintenance and replacement of our assets using a risk-based approach.

We are also working to reduce the cost growth. Our wastewater-to-energy project, commissioned two years ago, provides one-third of the energy needs at the Blue Plains Advanced Wastewater Treatment Facility, while reducing millions in biosolids hauling cost. The Authority is well on its way to achieving the third payback from this project by producing and marketing soil amendments from the class A biosolids (BLOOM) left at the end of the process. Other ongoing initiatives include a large-scale solar project that will further diversify our renewable energy portfolio and reduce energy costs, and a pilot program for the Anammox treatment process at the Blue Plains Plant, that would help to further reduce chemical and energy costs.

## Accountability

We strive every day to be accountable to our customers, and provide them with the best customer service. Recently, we began a large-scale meter replacement program and completed the implementation of a new Customer Information System (eCIS). Together, these projects will help ensure accurate and timely billing for our customers, while also providing easy access to their accounts using the mobile app services and creating efficiencies for DC Water employees.

Our customers and the affordability of our rates remain foremost in our minds. We continue to seek alternative revenue sources to alleviate the burden and support developments in the District. These initiatives include marketing of BLOOM and consulting services through Blue Drop, a subsidiary of DC Water and, evaluation of strategic opportunities to commercialize and market intellectual property (IP).



## Transparency

Every time we propose an increase in rates, we have town hall meetings in all eight wards of the District. We speak directly with our ratepayers about the services that we provide and the work that we do, all in an effort to hear directly from them about their concerns.

We are fully committed to being transparent to our customers on how we are spending each dollar received to improve the environment, provide drinking water to homes and businesses, and treat wastewater.

Before taking the helm as DC Water's Chief Financial Officer in the summer of 2017, I was proud to have served as Chairman of the Board for DC Water and as the Director of the Office of Budget and Finance of the District of Columbia. As the CFO, I am enthusiastic and optimistic about the future of DC Water as we continue our environmental stewardship and explore ways to provide sustainable services that impact our customers, the District of Columbia, and our environment.

## DC WATER FINANCIAL INFORMATION (\$ Millions)

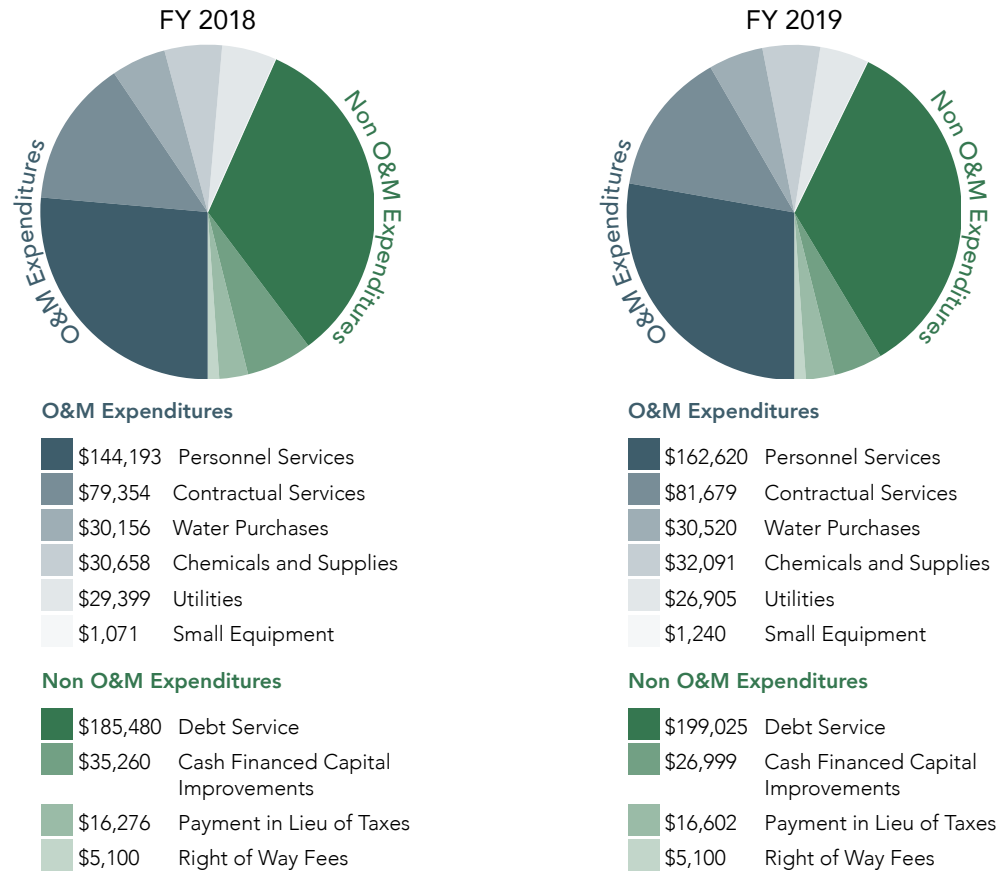
Bond Rating: AAA/Aa1/AA	FY 2018	FY 2019
Revenue (Cash Receipts)	\$620.5	\$649.5
Operating Budget	\$561.9	\$582.8
Capital Disbursements Budget	\$450.0	\$439.1

## A Budget that focuses on: Optimization, Accountability, and Transparency

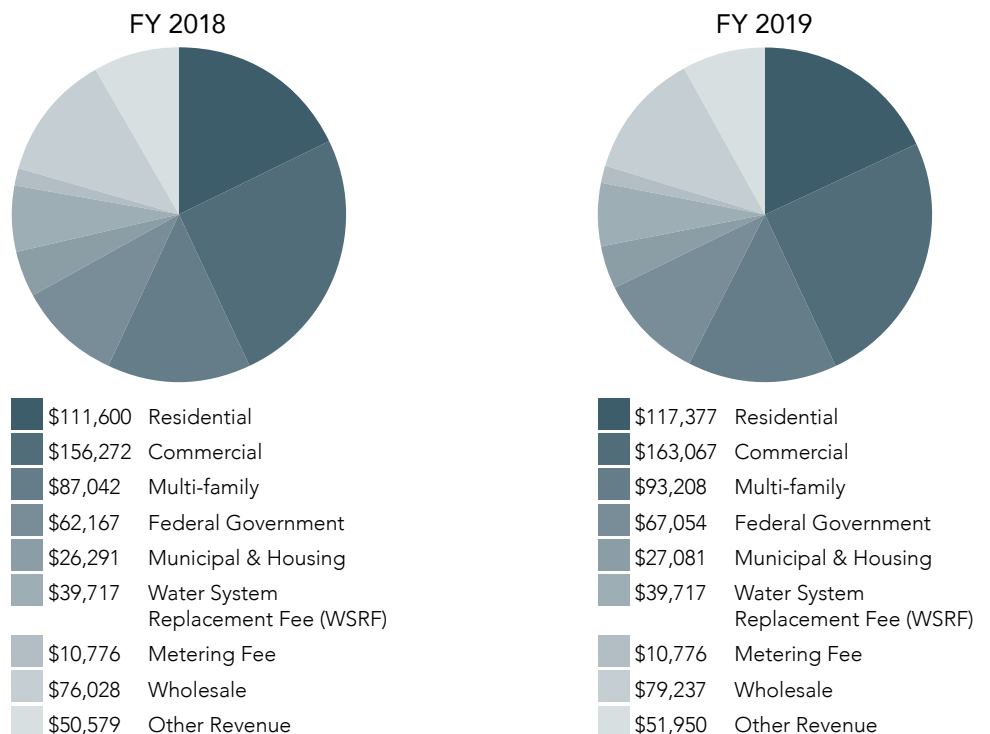
The approved budget focuses on controlling both operating and capital expenditures while maintaining the Authority's high level of customer service. It provides the necessary resources to balance the need to maintain DC Water's critical infrastructure with rates that are reasonable, fair and affordable.

The following charts highlight the FY 2018/2019 operating and capital budgets. Detailed descriptions can be found in the budget book available online at [dcwater.com](http://dcwater.com)

## Operating Expenditures (\$ Thousands)

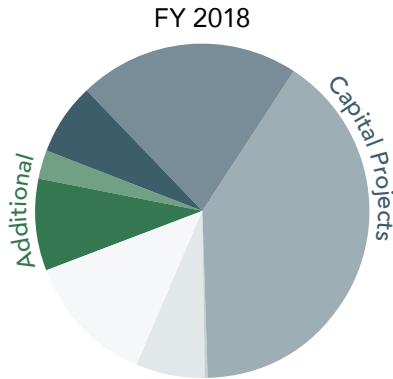


## Operating Revenues (\$ Thousands)



Saint Elizabeth Water Tower

## Capital Improvement Program (\$ Thousands)

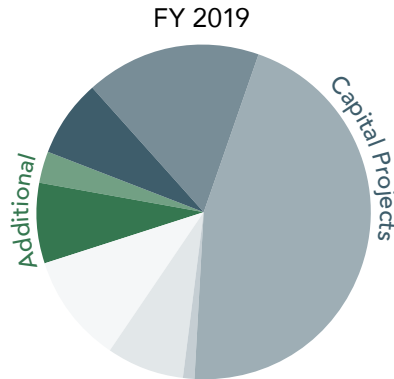


### Capital Projects

\$32,194	Non Process Facilities
\$95,485	Wastewater Treatment
\$181,816	Combined Sewer Overflow
\$945	Stormwater
\$29,802	Sanitary Sewer
\$58,044	Water

### Additional Capital Projects

\$39,898	Capital Equipment
\$11,768	Washington Aqueduct



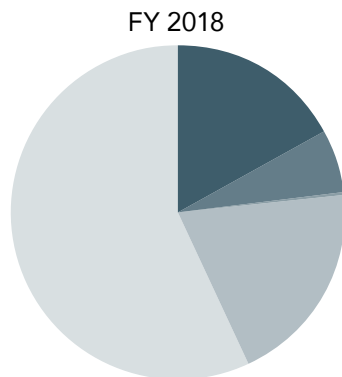
### Capital Projects

\$33,107	Non Process Facilities
\$74,617	Wastewater Treatment
\$200,343	Combined Sewer Overflow
\$4,909	Stormwater
\$32,947	Sanitary Sewer
\$45,747	Water

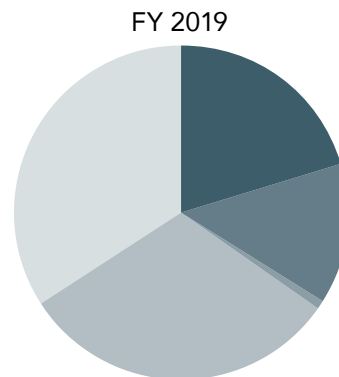
### Additional Capital Projects

\$34,518	Capital Equipment
\$12,930	Washington Aqueduct

## Capital Revenues (\$ Thousands)



\$90,214	Wholesale Capital Payments
\$32,120	EPA Grants & CSO Appropriations
\$1,549	Interest Income on Bond Proceeds
\$103,242	Pay-Go Financing
\$300,000	Debt Financing & Proceeds from Commercial Paper/Extendable Municipal Commercial Paper/Treasury Notes



\$65,851	Wholesale Capital Payments
\$44,339	EPA Grants & CSO Appropriations
\$2,981	Interest Income on Bond Proceeds
\$100,623	Pay-Go Financing
\$110,000	Debt Financing & Proceeds from Commercial Paper/Extendable Municipal Commercial Paper/Treasury Notes



## Strategy & Performance Management

DC Water maintains a strong focus on strategic planning and performance management. By laying out a course of action, strategy represents a disciplined process for making fundamental decisions and shaping DC Water's future, including the appropriate allocation of funding.

DC Water has operated based on the strategies set forth in the Blue Horizon 2020 Strategic Plan, adopted by the Board of Directors in March 2013 and revised in 2015. This plan has served as a blueprint for achieving a vision to be a world-class water utility. In FY 2018, DC Water will refresh its strategic plan to ensure it continues to focus on the priorities, trends and opportunities that will drive operational excellence.

To achieve its strategic goals, DC Water embraces a culture premised on strategy and performance. Performance management - based upon the Authority's strategic goals - is cascaded to ensure alignment at the enterprise, business unit and individual levels. Ultimately, strategy driven enterprise performance is used to focus business unit priorities and inform individual performance goals.

DC Water also participates in national and international benchmarking surveys. While performance management ensures DC Water is accomplishing enterprise strategies, benchmarking studies enable the Authority to define its performance compared to peer utilities. Essentially, performance management is an internal compass and benchmarking serves as an external compass to guide DC Water in achieving its vision of becoming a world-class water utility.

### The Path to a World-Class Water Utility

#### OUR STRATEGY

CUSTOMER PERSPECTIVE  
**EXCELLENT CUSTOMER EXPERIENCE**

Workforce Perspective  
**Engaged and High Performing Workforce**

Operations Perspective  
**Optimize and Innovate Operations**

FINANCIAL PERSPECTIVE  
**DEMONSTRATE SUSTAINABILITY & COMPLIANCE**

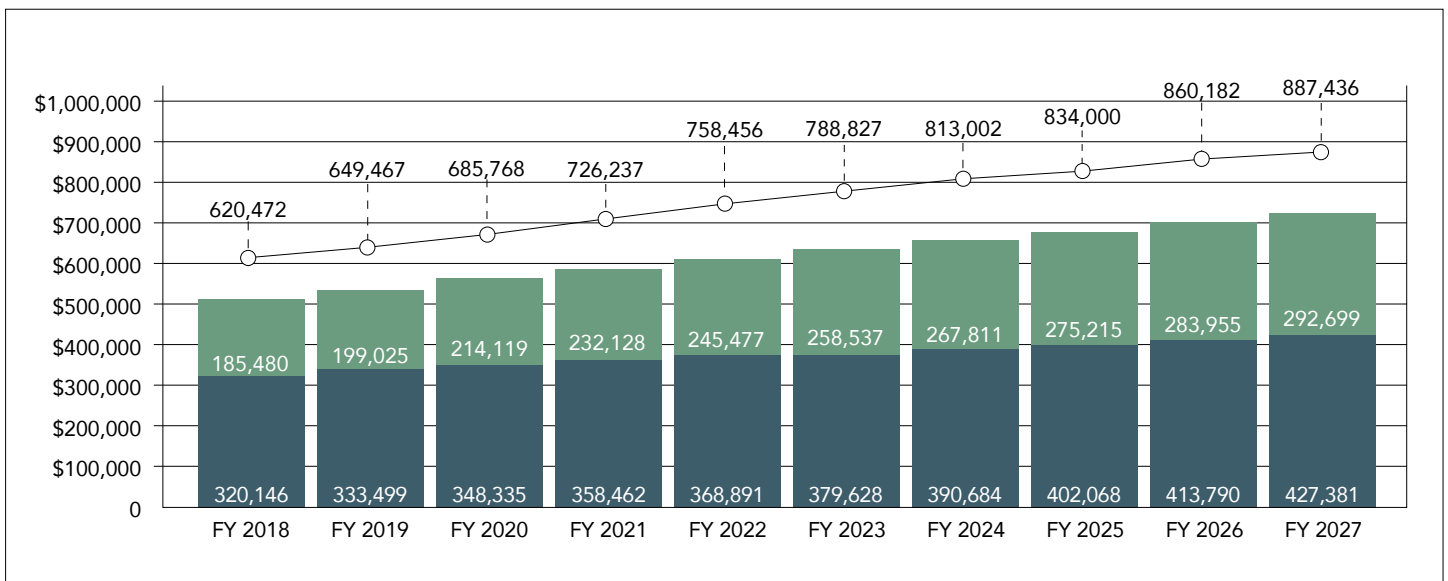




## Ten-Year Financial Plan

DC Water's ten year financial plan provides a strong financial framework to support implementation of the Board strategic plan, policies, priorities and guidance in several key financial areas. This financial plan serves as one of management's key tools to monitor progress in meeting financial goals and to proactively address future financial and operational issues. Given DC Water's substantial borrowing needs over the next ten years, adherence to these Board policies is crucial in order to cost-effectively access the capital markets and retain our credibility with customers and regulators. The ten-year financial plan encompasses annual projected revenue requirements, operating expenditures, debt service costs, coverage ratios for indenture requirements, and sufficiency liquidity to meet all the Authority's financial obligations.

**FY 2018 - FY 2027 FINANCIAL PLAN (\$ Thousands)**



■ O&M Expenses   ■ Debt Service   ○ Operating Revenues

Detailed description of the ten-year Financial Plan is available within the Approved FY 2019 budget book online at [dcwater.com](http://dcwater.com).





# Operating Budget

DC Water’s annual operating budgets provide the resources necessary to sustain a multi-billion dollar water treatment and distribution and sewage collection and treatment system. The Authority continues to deliver clean water, collect and treat the sewage before returning clean water to the local waterways and repair main and sewer breaks as needed. DC Water’s FY 2019 approved budget reflects management’s focus on optimization, accountability, transparency while maintaining our high level of customer service.

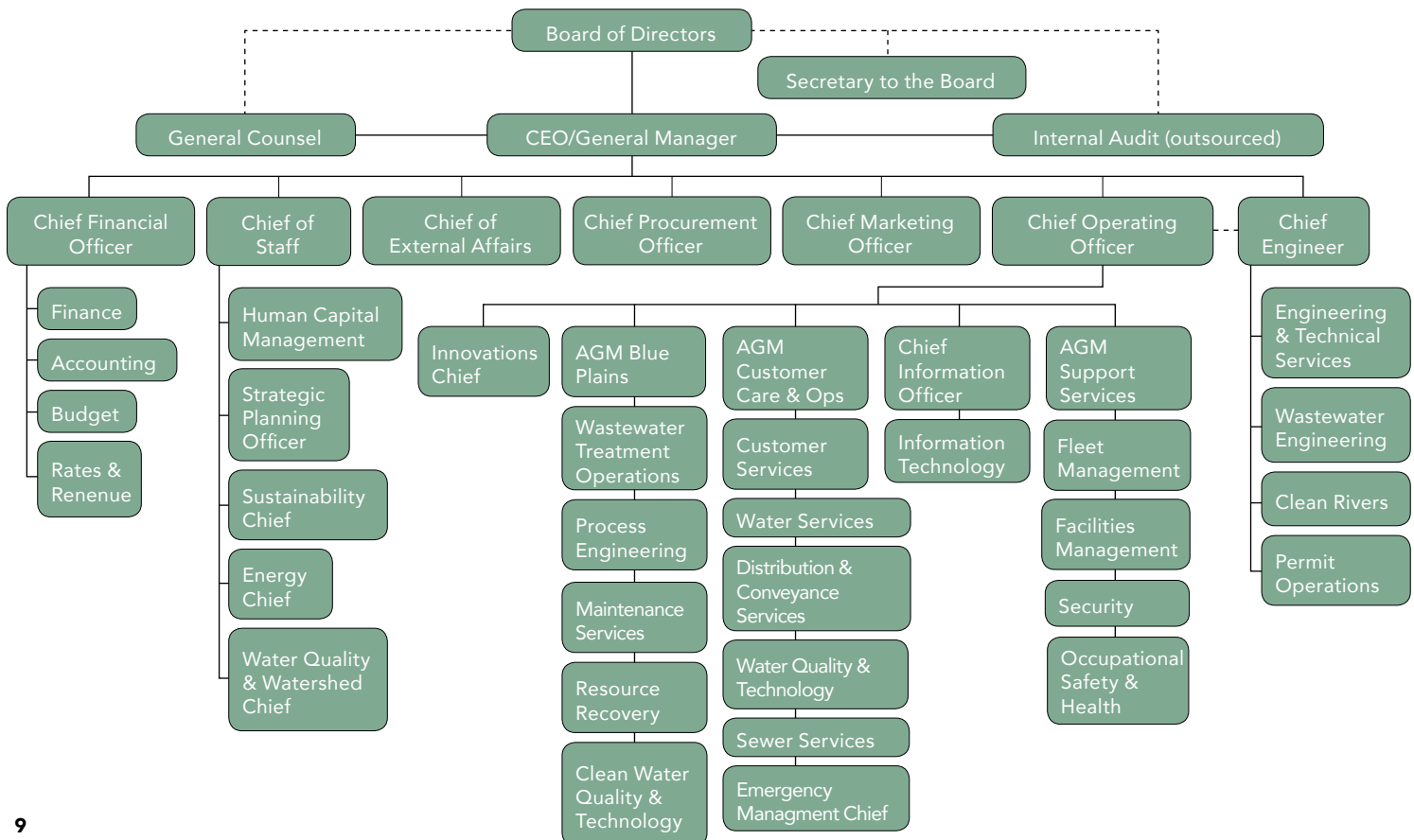
The approved FY 2019 budget totals \$582.8 million, an increase of \$20.8 million or approximately 4 percent above the FY 2018 budget, which is mainly due to an increase in the Operations & Maintenance (O&M) costs and debt service necessary to finance the Authority’s Capital Improvement Program. The O&M budget includes materialized savings from reduced biosolids hauling costs and on-site electricity generation.

**Comparative Operating Budgets by Category** (\$ Thousands)

	<b>FY 2018 Approved</b>	<b>FY 2019 Approved</b>
Personnel Services	\$149,193	\$162,620
Contractual Services	79,354	81,679
Water Purchases	30,156	30,520
Chemicals and Supplies	30,658	32,091
Utilities	29,399	26,905
Small Equipment	1,071	1,240
<b>Subtotal O&amp;M Expenditures</b>	<b>\$319,831</b>	<b>\$335,055</b>
Debt Service	185,480	199,025
Cash Financed Capital Improvements	35,260	26,999
Payment in Lieu of Taxes	16,276	16,6026
Right of Way Fees	5,100	5,100
<b>Total Operating Expenditures</b>	<b>\$561,947</b>	<b>\$582,781</b>

Detailed descriptions of the approved FY 2018 and FY 2019 operating budgets are available online at [dcwater.com](http://dcwater.com).

## DC Water Organizational Chart



DC Water's organizational structure is a key tool for ensuring that the organizational mission is achieved. The structure consists of twenty-six departments that are defined primarily along functional roles and further grouped along service lines (Operational or Administrative) or reporting lines (cluster groups) of authority.

### Operating Expenditures By Department (\$ Thousands)

	FY 2018 APPROVED	FY 2019 APPROVED
<b>Blue Plains</b>	<b>\$101,917</b>	<b>\$101,869</b>
Wastewater Treatment - Operations	74,678	75,115
Maintenance Services	19,558	19,567
Wastewater Treatment - Process Engineering	7,673	7,187
<b>Chief Engineer</b>	<b>\$32,018</b>	<b>\$33,661</b>
DC Water Clean Rivers	2,995	3,046
Engineering & Technical Services	26,728	24,790
Wastewater Engineering		3,064
Permit Operations	2,295	2,760
<b>Chief Financial Officer</b>	<b>\$15,299</b>	<b>\$16,341</b>
Finance, Accounting & Budget	15,299	16,341
<b>Customer Care and Operations</b>	<b>\$106,180</b>	<b>\$114,791</b>
Customer Services	19,281	20,340
Sewer Services	14,315	14,342
Water Services	23,619	25,079
Water Quality and Technology	475	3,419
Distribution & Conveyance System	48,490	51,611
<b>Independent Offices</b>	<b>\$40,480</b>	<b>\$42,374</b>
Board Secretary	599	599
External Affairs	2,531	2,470
General Counsel	7,332	8,557
General Manager	4,138	4,301
Information Technology	11,315	11,541
Internal Audit	907	940
Procurement	5,672	5,685
Human Capital Management	7,986	8,281
<b>Support Services</b>	<b>\$23,936</b>	<b>\$26,020</b>
Assistant General Manager - Support Services	513	578
Fleet Management	5,321	5,773
Occupational Safety & Health	1,871	2,247
Facilities Management	8,695	9,615
Security	7,536	7,807
<b>Subtotal O &amp; M Expenditures</b>	<b>\$319,831</b>	<b>\$335,055</b>
Debt Service	185,480	199,025
Cash Financed Capital Improvements	35,260	26,999
Payment in Lieu of Taxes	16,276	16,602
Right of Way Fees	5,100	5,100
<b>Total Operating Expenditures</b>	<b>\$561,947</b>	<b>\$582,781</b>
Personnel Services charged to Capital Projects	(21,061)	(18,259)
<b>Total Net Operating Expenditures</b>	<b>\$540,886</b>	<b>\$546,522</b>
Full Time Positions	1,260	1,274

The cost of financing DC Water’s 10-year \$4.0 billion CIP (cash disbursement basis) continues to be the fastest growing line item of the operating budget. Debt management consists of managing funds borrowed through revenue bonds, commercial paper, and other short-term notes. Currently, debt financing represents approximately 39 percent of the funding in the ten-year financial plan and 34 percent of the FY 2019 operating budget. The Authority’s long term debt, including current maturities total \$3.1 billion as of the end of FY 2017.

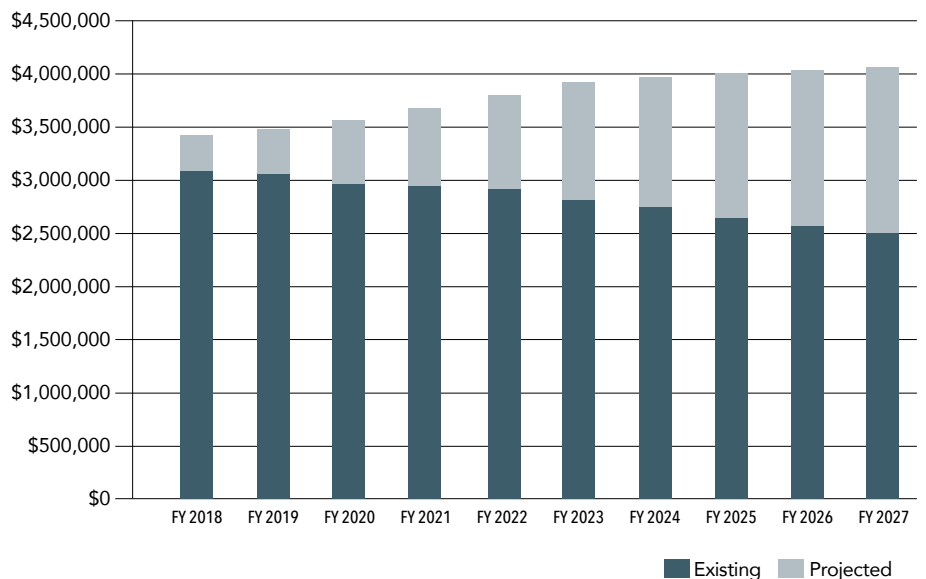
During fiscal year 2017, the Authority issued a \$300 million (Series 2017A/B) bond to finance the Capital Improvement Program. \$100 million was issued for the 2017 Series A bonds, which are considered “Green Bonds”, and used for the Clean Rivers project. The 2017 Series B bond proceeds of \$200 million were used for general capital improvement projects.

DC Water’s strong financial performance and its success in achieving and maintaining strong bond ratings has been primarily due to the annual development of and adherence to a ten-year strategic financial plan. DC Water’s credit ratings on its senior lien bonds remain strong at AAA, Aa1, and AA ratings by Standard and Poor’s Ratings Services, Moody’s Investors Service and Fitch Ratings, respectively. These notable results are due to the Authority’s solid financing team and strong financial performance, diligent planning and market favorability.

Furthermore, as new issuances are planned, internet road shows for domestic and international investors are provided, giving pertinent information on the Authority’s strong management, capital improvement activities and financial forecasts. DC Water provides information for current and future investors on its website, [dcwater.com](http://dcwater.com).



**FY 2018 - FY 2027 Debt Outstanding (\$ Thousands)**



# Capital Improvement Program (CIP)

DC Water's ten-year CIP provides a framework for the development, prioritization, implementation and measurement of the capital projects undertaken. The approved FY 2018 – FY 2027 Capital Improvement Program (CIP) disbursement budget increased by \$250.5 million over the FY 2017 – FY 2026 CIP mainly due to Clean Rivers Project and other water & sewer infrastructure projects.

The FY 2018 and FY 2019 capital budgets total \$450.0 million and \$439.1 million, respectively (cash disbursement basis), while the ten-year disbursement plan totals \$4.00 billion and lifetime budget is \$11.13 billion (total commitments for active projects prior to, during, and beyond the ten-year window).

Detailed description of major CIP changes and program details can be found in Section V – Capital Improvement Program of the budget book and online at [dcwater.com](http://dcwater.com).

## FY 2018 – FY 2027 Capital Improvement Program (\$ Thousands)

FY 2018 Revised	FY 2019 Approved	Service Area	Ten-Year Disbursement Plan	Total Lifetime Budget
\$32,194	\$33,107	Non Process Facilities	\$108,032	\$169,147
95,485	74,617	Wastewater Treatment	855,948	3,551,799
181,816	200,343	Combined Sewer Overflow	1,432,348	3,151,920
945	4,909	Stormwater	24,452	81,392
29,802	32,947	Sanitary Sewer	532,490	1,530,036
58,044	45,747	Water	730,672	1,939,272
<b>\$398,285</b>	<b>\$391,670</b>	<b>Capital Projects</b>	<b>\$3,683,941</b>	<b>\$10,423,566</b>
39,898	34,518	Capital Equipment	198,133	198,133
11,768	12,930	Washington Aqueduct	120,052	120,052
<b>\$51,665</b>	<b>\$47,448</b>	<b>Additional Capital Programs</b>	<b>\$318,185</b>	<b>\$318,185</b>
		Labor		390,145
<b>\$449,950</b>	<b>\$439,118</b>	<b>Total Capital Budgets</b>	<b>\$4,002,125</b>	<b>\$11,131,895</b>

## Measure of Priority (\$ Thousands)

	Mandates Agreements, Regulatory standards, Court orders, Issues and Permits requirements, Stipulated Agreements, Etc.	Health and Safety Required to address Public Safety	Board Policy Undertaken as a result of the Board's commitment to outside agencies	Potential Failure Related to Facilities in danger of failing, or critical to meeting permit requirements	High Profile / Good Neighbor Address Public Concern	Good Engineering / High Payback Need to fulfill Mission and upgrade Facilities	Good Engineering / Lower Payback Lower priority projects	Total
FY 2018	\$220,594	\$10,328	\$32,116	\$36,138	\$5,812	\$92,413	\$52,549	<b>\$449,950</b>
FY 2019	206,711	7,019	43,217	47,806	3,663	76,930	53,771	<b>439,118</b>
FY 2020	152,280	7,041	63,657	57,981	4,152	87,635	47,595	<b>420,342</b>
FY 2021	142,424	11,344	37,695	37,540	1,122	119,039	53,517	<b>402,681</b>
FY 2022	197,784	9,496	10,087	38,155	165	133,632	56,328	<b>445,647</b>
FY 2023	154,862	4,883	19,363	39,348	303	122,177	44,377	<b>385,312</b>
FY 2024	63,987	7,251	38,615	30,456	2,206	129,966	53,803	<b>326,284</b>
FY 2025	54,461	1,296	60,417	33,961	389	121,212	46,624	<b>318,360</b>
FY 2026	132,361	1,503	61,314	34,272	-	116,760	93,218	<b>439,427</b>
FY 2027	89,417	1,021	47,707	15,336	-	85,510	136,013	<b>375,004</b>
<b>TOTAL</b>	<b>\$1,414,882</b>	<b>\$61,181</b>	<b>\$414,188</b>	<b>\$370,993</b>	<b>\$17,812</b>	<b>\$1,085,274</b>	<b>\$637,796</b>	<b>\$4,002,125</b>
% of Total	35%	1.5%	10.3%	9.3%	0.4%	27%	16%	<b>100%</b>

## Operational Impact of Major Capital Investments

DC Water’s Capital Improvement Program (CIP) includes operational impacts of significant capital investments on several large projects such as the Biosolids Management Plan (BMP), DC Clean Rivers (DCCR) and Blue Plains Total Nitrogen Program (BTN). Below is a list of pertinent information on current and future operational impacts for these non-routine capital investments.

**Biosolids Management Program:** The Walter F. Bailey Bioenergy Facility, which is now operational, significantly reduces DC Water’s carbon footprint. The innovative CAMBI® thermal hydrolysis process uses intense heat and pressure to treat wastewater solids producing a much cleaner biosolids and onsite generation of up to one third of Blue Plains’ electricity needs. This process has resulted in operational efficiencies in electricity, biosolids hauling and chemicals costs.

**DC Water Clean Rivers** – This project aims to control Combined Sewer Overflow’s (CSO) to the Anacostia and Potomac Rivers and Rock Creek to meet the District’s water quality standards, while improving the health of the

Chesapeake Bay. This ongoing project includes green infrastructure initiatives that will divert stormwater runoff prior to entering the sewer system. The Anacostia River Tunnel System, between Blue Plains and CSO-019 has been completed. All structures south of RFK stadium will be operational by March 23, 2018. The tunnel system will improve operational flexibility by providing alternate means of transferring flow to Blue Plains, thereby allowing temporary diversion of flows to the tunnel to facilitate operation, maintenance and rehabilitation.

**Tunnel Dewatering Pump Station (TDPS)/Enhanced Clarification Facility (ECF):** This facility will de-water the new tunnels being constructed under the DC Water Clean Rivers program. It will evacuate the Stormwater gathered by Tunnels. The TDPS will deliver the Stormwater to the ECF, for treatment and is on schedule to be placed into operations in March, 2018, consistent with the Consent Decree requirement of the Clean Rivers project.

**Filtrate Treatment Facility** – Also known as Centrate Treatment Facility, is part of the Total Nitrogen Removal



CAMBI® thermal hydrolysis



Clean Rivers Anacostia River tunnel shaft

Wet Weather plan. The project assists in nitrogen removal from the water processed. This new facility uses six sequencing batch reactors to treat a nitrogen-rich stream from the Final Dewatering Facility's belt filter presses. The de-ammonification process represents a major breakthrough in nitrogen removal, which lowers the use of methanol. It also has approximately 60 percent lower energy demand than the mainstream treatment and lowers greenhouse gas (GHG) emissions. This project is anticipated to be fully operational in late 2018.

**Water Services:** During FY 2017, the Authority continued to replace small diameter water mains in accordance with DC Water Board's 1 percent renewal goal. Other major replacements and upgrades to reservoirs and pumping stations would result in increased operational flexibility and reduction in long term maintenance costs.

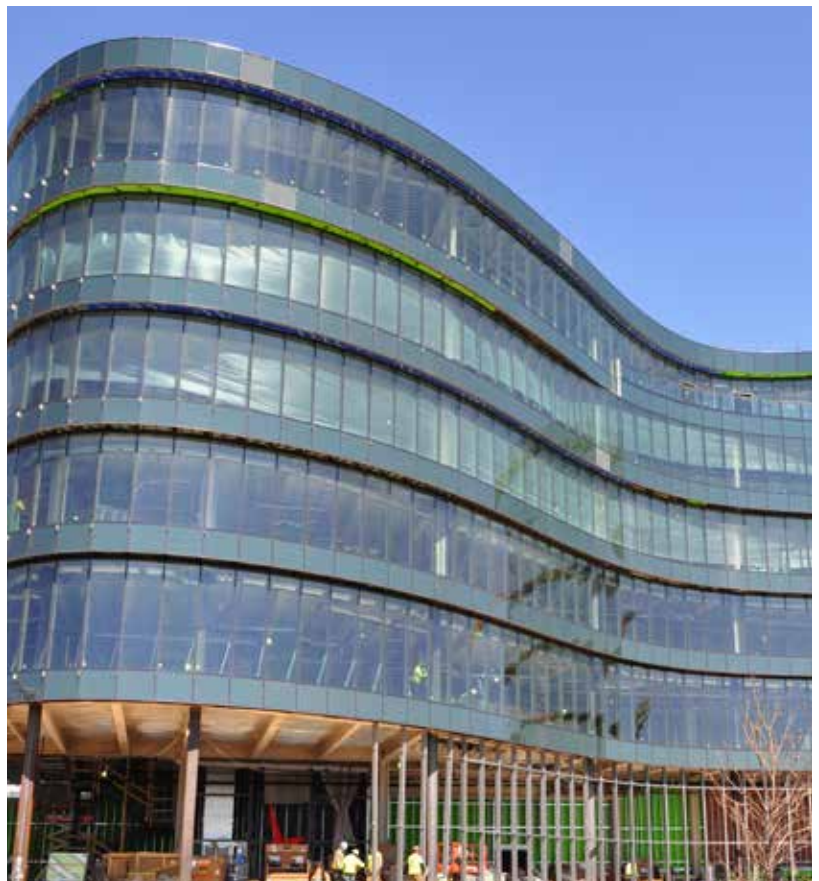
**Automated Meter Reading (AMR) Replacement Program:** This program aims to replace approximately 90,000 small water meters throughout the city. It was

started in FY 2017 and is expected to be completed in 2018. Data received from the water meters will better serve DC Water customers by providing them with timely and accurate meter reads for billing information.

**New Administrative Headquarters Building:** This facility will anchor DC Water's new publicly-accessible campus along the Anacostia River. By relocating nonessential personnel from the Blue Plains campus, the Authority will preserve all valuable remaining space at Blue Plains AWWTP for future process improvements. This new building will be LEED® Platinum Class A certified, and incorporate environmentally sustainable features that will be used to capture rainfall onsite for irrigation and non-potable water needs inside the facility. Additionally, alternative energy will be supplied by an innovative sewer heat recovery system that will lower operating cost. This project is anticipated to be completed with full occupancy in 2018.



Water main replacement



New Administrative Building Under Construction on SE Waterfront



## Operating Revenues

To provide continuous delivery of water and wastewater services, it is vital that DC water has a consistent revenue stream to cover operating and maintenance (O&M) costs, debt service, and other liquidity requirements. DC Water has a diverse customer base and receives revenues from a variety of sources. Retail rates are charges for water, sewer and other services to DC Water's customers. Wholesale revenues are received from suburban water and sewer authorities for their share of the O&M costs of the Blue Plains Advanced Wastewater Treatment Plant.

Based on the analysis of the peak demand of different customer classes as well as affordability considerations, DC Water adopted several changes to its existing retail rate structure in FY 2016. These changes are designed to better align the Authority's revenues and expenditures by establishing customer class-based volumetric water rates based upon peaking factors, to create a more progressive rate structure for its residential customers by establishing lifeline water rates, which discount core consumption. The Board approved establishing class-based water volumetric rates for Residential, Multi-family and Non-residential customers effective October 1, 2015.

Starting FY 2016, DC Water modified its existing rate structure and implemented a new meter-based **Water System Replacement Fee (WSRF)** in order to recover the cost of the 1 percent renewal and replacement program for water service lines. It is anticipated that the new Water System Replacement Fee (WSRF) will generate approximately \$39.7 million per year from fiscal years 2018 through 2027. The fee is based upon meter size and average flow. DC Water's low income CAP customers receive a 100 percent credit for this fee.

DC Water's Board approved a new **System Availability Fee (SAF)** to be effective June 1, 2018. SAF is a one-time fee assessed to a property owner of any premises, building or structure to recover the cost of system capacity serving all metered water service and sanitary sewer connections and renovation or redevelopment projects that require an upsized meter service connection to the District's potable water system. The fee is assessed based on the peak water demand, excluding fire demand, for new meter water service connection and renovation or redevelopment projects that increase the peak water demand and associated SAF meter size for the property. On March 1, 2018, DC Water's Board approved substantive provisions of the SAF regulations to accommodate impacts on projects with significant

affordable housing components and/or other concerns to be effective June 1, 2018.

**Multi-Year Rates:** DC Water Board approved its second multi-year rate proposal in FY 2018 covering the period FY 2019 and FY 2020. The Board approved proposal of an overall revenue increase of about 4.7% necessary to fund operations and capital needs for FY 2019. This includes water and sewer volumetric rate increase of about 13%, no increase in other components of the customers' monthly bill (Metering Fee and Water System Replacement Fee), and a decrease in the Clean Rivers Impervious Area charge of 8.7%. The Board also approved the proposed overall revenue increase of 5.6% for FY 2020, which includes water and sewer volumetric rate increase of 5%.

The benefits of multi-year rates include:

- Greater revenue certainty
- Increased budget discipline
- Better alignment between revenues and expenditures



## Clean Rivers Impervious Area Charge (CRIAC)

The CRIAC is a separate sewer service fee established in FY 2009 to recover the \$2.7 billion cost of implementing the DC Water Clean Rivers Project (the District's CSO-Long Term Control Program). The proposed monthly CRIAC ranges from \$23.00 per ERU (Equivalent Residential Unit) in FY 2019 to \$36.46 per ERU in FY 2027. The twenty-five year federal mandated CRIAC project is primarily driven by anticipated debt service costs to support the \$2.7 billion CSO Long Term Control Plan and is based on the amount of impervious surface on each individual property which impacts wet weather runoff that must be treated at the Blue Plains Wastewater Treatment Plant. The ten-year plan assumes no external funding beyond the special Congressional appropriation. DC Water has received \$238.8 million through Federal appropriations as of September 30, 2017.



The FY 2018 revised revenue budget totals \$620.5 million and is projected to increase to \$649.5 million in FY 2019 and \$685.8 million in FY 2020.

#### FY 2018 - FY 2020 Operating Revenues (\$ Thousands)

	FY 2018 Revised	FY 2019 Proposed	FY 2020 Proposed
Residential	\$111,600	\$117,377	\$125,342
Commercial	\$156,272	\$163,067	\$175,349
Multi-family	\$87,042	\$93,208	\$98,780
Federal Government	\$62,167	\$67,054	\$70,176
Municipal & Housing	\$26,291	\$27,081	\$28,859
Water System Replacement Fee (WSRF)	\$39,717	\$39,717	\$39,717
Metering Fee	\$10,776	\$10,776	\$10,776
Wholesale	\$76,028	\$79,237	\$81,614
Other Revenue	\$50,579	\$51,950	\$55,154
<b>Total</b>	<b>\$620,472</b>	<b>\$649,467</b>	<b>\$685,768</b>

#### FY 2018 - FY 2020 Retail Rates and Fees

	Units	FY 2018 Approved	FY 2019 Proposed	FY 2020 Proposed	FY 2019 Increase/Decrease		FY 2020 Increase/Decrease	
					\$	%	\$	%
DC Water Retail Rates – Water								
• Residential 0-4 Ccf (Lifeline) <sup>2</sup>	Ccf	\$3.39	\$2.91	\$3.06	(\$0.48)	-14.2%	\$0.15	5.2%
• Residential – > 4 Ccf <sup>2</sup>	Ccf	\$4.26	\$3.90	\$4.10	(\$0.36)	-8.5%	\$0.20	5.1%
• Multi-family / DC Housing <sup>2</sup>	Ccf	\$3.80	\$3.37	\$3.54	(\$0.43)	-11.3%	\$0.17	5.0%
• Non-Residential	Ccf	\$4.40	\$4.05	\$4.25	(\$0.35)	-8.0%	\$0.20	4.9%
DC Water Retail Rates – Sewer	Ccf	\$6.00	\$7.75	\$8.14	\$1.75	29.2%	\$0.39	5.0%
DC Water Clean Rivers IAC	ERU	\$25.18	\$23.00	\$25.58	(\$2.18)	-8.7%	\$2.58	11.2%
DC Water Customer Metering Fee	5/8"	\$3.86	\$3.86	\$3.86	\$0.00	0.0%	\$0.00	0.0%
DC Water System Replacement Fee <sup>1</sup>	5/8"	\$6.30	\$6.30	\$6.30	\$0.00	0.0%	\$0.00	0.0%
District of Columbia PILOT Fee	Ccf	\$0.49	\$0.50	\$0.51	\$0.01	2.0%	\$0.01	2.0%
District of Columbia Right-of-Way Fee	Ccf	\$0.18	\$0.18	\$0.19	\$0.00	0.0%	\$0.01	5.5%
District of Columbia Stormwater Fee	ERU	\$2.67	\$2.67	\$2.67	\$0.00	0.0%	\$0.00	0.0%

(1) DC WATER WSRF of \$6.30 effective October 1, 2015  
(2) Approved Class-Based rates



## Customer Affordability

In the District of Columbia, one-fourth of the residents live below the poverty line, thus rate affordability is of utmost concern in the planning process. DC Water seeks to balance its operating and financial needs with consideration to the financial impact upon its customers. EPA guidelines suggest that fees and charges should be within 4 percent of the median household income to be considered affordable (2 percent for water and 2 percent for sewer). Using the last available census data (2016), DC Water's rates are well under that target and they are comparable with similar water and wastewater utilities.

DC Water sponsors two programs to assist low income customers in paying their water bills.

**Customer Assistance Program (CAP):** The Authority implemented the CAP in 2001 providing a discount of 4 Ccf per month of water service for single family residential homeowners that meet income eligibility guidelines. In FY 2004, the Authority expanded the CAP to include tenants who meet the financial eligibility requirements and whose primary residence is separately metered by the Authority. In January 2009, the Authority further expanded the CAP to provide a discount of 4 Ccf per month of sewer services to eligible customers. In FY 2011, the discount was expanded to the first 4 Ccf associated with the PILOT/ROW fee in addition to the current discount provided on water and sewer services. In FY 2016, the CAP discount was expanded to include a 100 percent credit/discount for the Water System Replacement Fee (WSRF). In FY 2017, Management recommended, and the Board approved, expansion of the Customer Assistant Program (CAP) to low-income customers to include Clean Rivers Impervious Surface Area Charge (CRIAC) credit in their monthly bills. Effective May 1, 2017 (FY 2017), DC Water expanded CAP program to include 50% CRIAC discount to low-income CAP customers. In FY 2017, CAP assisted over 4,244 customers and provided \$1,135,297 in discounts to low-income customers

## Serving People by Lending a Supporting Hand

**(SPLASH):** The SPLASH program was implemented in FY 2001. Through the SPLASH program, DC Water offers assistance to families in need so that they can maintain critical water and sewer services until they get back on their feet. The program is administered by the Greater Washington Urban League. Every dollar received by DC Water is distributed to eligible customers. In FY 2017, SPLASH assisted 331 households and provided \$103,283 in contributions to low-income customers

## Regional Demographics

At DC Water, identifying and understanding customer requirements are key components of our strategic planning process. We must be sensitive to the local economy including sociopolitical and macro-economic trends. DC Water's retail customer classes include: Residential Single-Family, Multi-Family, Commercial (which is the largest consumer of water), the Federal Government, DC Government, and the DC Housing Authority. The commercial and government customer classes accommodate not only the residents but also the over 400,000 commuters that routinely travel to the District and the over 22 million tourists that visit Washington, DC each year. DC Water provides wastewater treatment services on a wholesale basis to portions of Montgomery County and Prince George's County in Maryland and Fairfax and Loudon Counties in Virginia, serving about 1.6 million people.

In 2017, there were over 681,000 residents in the District of Columbia living in nearly 314,000 households; it is reported that the District population has now grown to more than 700,000. All classes of customers require safe and reliable drinking water, the collection of wastewater and stormwater and clean rivers and waterfronts. Ensuring that local water mains and sewers can handle the capacity required by development and redevelopment that is supporting economic growth is but one of the challenges. Another is that despite increasing population and visitors, water consumption is declining through improved fixture efficiency and conservation. Reduced usage is excellent for the environment but places more of a strain on the 134,000 retail customers with the responsibility to pay for the majority of operations, maintenance and replacement of the water and sewer infrastructure throughout Washington, DC. Wholesale customers pay a relatively modest portion of the total cost of service.

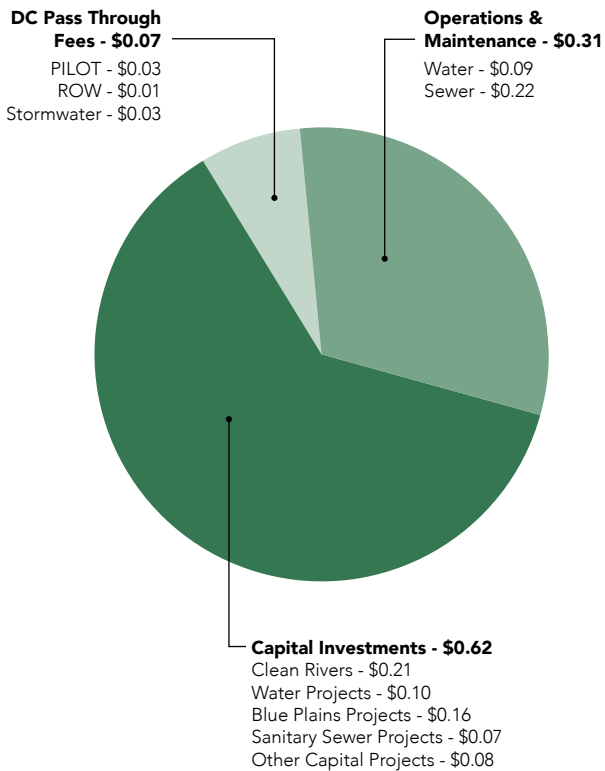
The FY 2019 budget incorporates trends and statistics impacting DC and the region. It also highlights how the diversity of the DC Water revenue stream is helping to address the need for continuous improvement in the water, wastewater and stormwater system.

## FY 2018 - FY 2020 Average Residential Customer Monthly Bill

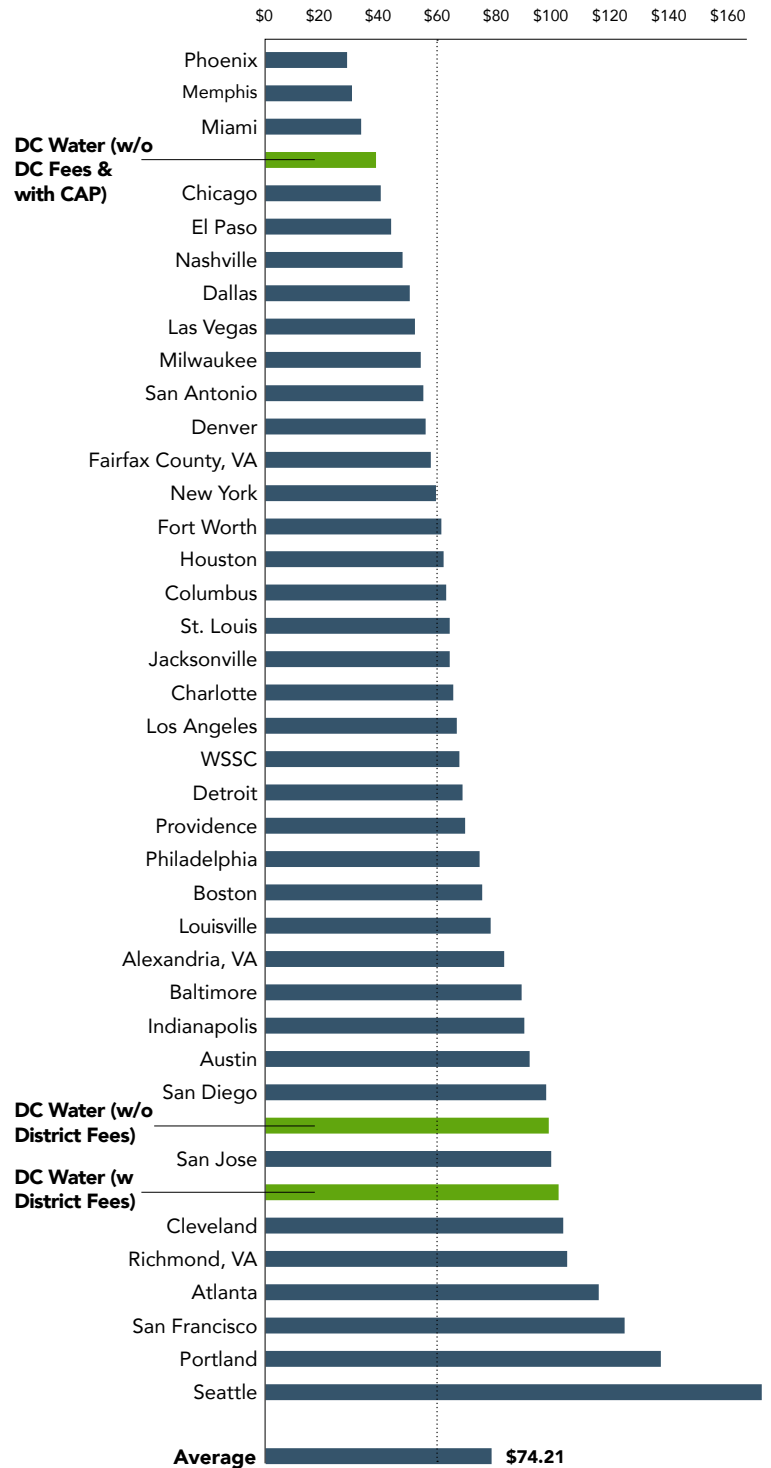
dc	Approved (FY 2018)	Proposed (FY 2019)	Proposed (FY 2020)
<b>DC WATER RATES AND FEES</b>			
Water / Sewer Retail Rates	\$60.13	\$68.27	\$71.73
Clean Rivers IAC	\$25.18	\$23.00	\$25.58
Customer Metering Fee	\$3.86	\$3.86	\$3.86
Water System Replacement Fee	\$6.30	\$6.30	\$6.30
<b>DC Water Subtotal</b>	<b>\$95.47</b>	<b>\$101.43</b>	<b>\$107.47</b>
<b>DISTRICT OF COLUMBIA CHARGES</b>			
PILOT	\$3.04	\$3.10	\$3.16
Right-of-Way Fee	\$1.12	\$1.12	\$1.18
Stormwater Fee	\$2.67	\$2.67	\$2.67
<b>District Subtotal</b>	<b>\$6.83</b>	<b>\$6.89</b>	<b>\$7.01</b>
<b>Total Bill</b>	<b>\$102.30</b>	<b>\$108.32</b>	<b>\$114.48</b>
(% Increase)	6.2%	5.9%	5.7%

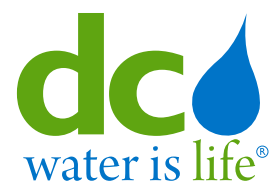
## FY 2019: Where Does Your Money Go?

How does DC Water spend each \$1.00 received from the average residential customer?



## DC Water Retail Rates Compared to other Large Utilities





[dcwater.com](http://dcwater.com)



# APPROVED BUDGETS



DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

## Section II OVERVIEW

**History:** In 1996, the District of Columbia Water and Sewer Authority was created by District law, with the approval of the United States Congress, as an independent authority of the District Government with a separate legal existence.

**Age of Pipes:** The median age of District water main pipes is over 77 years old, with approximately 9 percent of pipes installed in the 1900s and 2 percent dating back to the 1860s before the Civil War.

**Service Area:** Providing more than 681,000 residents and 21.3 million annual visitors in the District of Columbia with retail water and wastewater (sewer) service, DC Water has a total service area of approximately 725 square miles. In addition, DC Water treats wastewater for approximately 1.6 million people in neighboring jurisdictions, including Montgomery and Prince George's Counties in Maryland and Fairfax and Loudoun Counties in Virginia.

**Employees:** Approximately 1,100 people are employed by DC Water and work at various facilities across the District.

**Drinking Water Quality:** With a strong emphasis on water quality, DC Water maintains an annual flushing program, regulatory and voluntary water quality testing and ongoing system upgrades. In partnership with the U.S. Army Corps of Engineers Washington Aqueduct, DC Water ensures a high quality treatment process for delivering outstanding drinking water throughout the year.

**Pumped and Treated Water Storage:** During Fiscal Year 2017, DC Water pumped an average of 98.2 million gallons of water per day. In addition, DC Water stores 61 million gallons of treated water at its eight facilities. The Washington Aqueduct which treats drinking water; stores an additional 49 million gallons.

**Water Distribution System:** DC Water delivers water through 1,310 miles of interconnected pipes, four pumping stations, five reservoirs, three water tanks, 43,860 valves, and 9,510 fire hydrants.

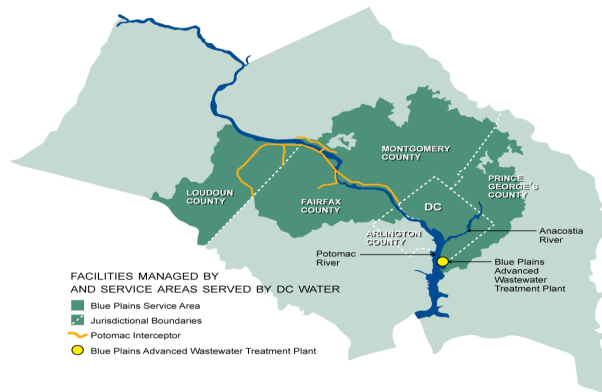
**Blue Plains Advanced Wastewater Treatment Plant:** Blue Plains, located at the southernmost tip of the District, is the largest advanced wastewater treatment facility in the world, covering 150 acres along the Potomac River.

**Wastewater Treatment Capacity:** Blue Plains treats an annual average of 290 million gallons per day (MGD) and has a design capacity of 384 MGD, with a peak design capacity to treat more than one billion gallons per day.

**Sewer System:** DC Water operates 1,900 miles of combined, separate, and stormwater sewers; 50,000 manholes and 25,000 catch basins; 9 wastewater pumping stations; 16 stormwater pumping stations; 12 inflatable dams; and a combined sewer swirl facility.

**Financial Performance:** During fiscal year 2017, DC Water maintained its three bond ratings for senior lien revenue bonds. The ratings from Standard and Poor’s Investors Service, Moody’s Investors Service, and Fitch Ratings remained as AAA, Aa1, and AA, respectively. DC Water also received its 20th consecutive unqualified audit opinion of its financial statements.

**DC WATER SERVICE AREA**



**Customer Service:** DC Water communicates valuable customer-related information through bill inserts, monthly newsletters, its website, and social media to include Facebook, YouTube, Flickr, Twitter and Instagram. Using an interactive voice recognition system, DC Water makes information readily available in more than 150 languages.

A 24-hour Emergency Command Center, at (202) 612-3400, operates as the centralized communication facility for receiving and responding to a variety of emergency calls from customers and the public.

DC Water’s new Customer Information System (CIS) provides an integrated environment that enrolls new customers, generates billings, manages credit and collections, tracks water consumption, tracks and manages me-

ters, handles customer inquiries, complaints, and service orders as well as provides call center support.

**Community Service:** Donating their time and resources, DC Water employees actively support a variety of charitable projects and community services. DC Water also invests in the community by conducting science laboratory exercises in District high schools and engaging the public through tours of the Blue Plains Plant.

**Community Outreach:** Maintaining an active presence in the community through sharing time and resources is a core value at DC Water. Whether attending meetings and community events throughout the District or inviting the public into its doors at the Blue Plains Advanced Wastewater Treatment Plant, DC Water seeks to educate and support its customers as stewards of the environment.

**Governance:** DC Water’s Board of Directors establishes policies and guides the strategic planning process. The Board is composed of 22 members, representing the District, Montgomery and Prince George’s Counties in Maryland and Fairfax County in Virginia. The District members set rates, charges and policies for District services. The entire Board votes and establishes policies for joint-use services. The Chief Executive Officer and General Manager reports to the Board and manages operations and performance of the enterprise.

DC Water Financial Information (\$ in millions)		
	FY 2018	FY 2019
Bond Rating: AAA/Aa1/AA		
Revenue (Cash Receipts)	\$620.5	\$649.5
Operating Budget	\$561.9	\$582.8
Capital Disbursements Budget	\$450.0	\$439.1

# Budget Summary

Description	Unit of Measurement	FY 2018	FY 2019	Increase/ (Decrease)
Operating Budget	\$ in thousands	\$561,947	\$582,781	\$20,834
Ten-Year CIP (Cash Disbursements)	\$ in billions	\$3.75	\$4.00	\$0.25
Total Revenue	\$ in thousands	\$620,472	\$649,467	\$28,995
Wholesale Operating Revenues	\$ in thousands	\$76,028	\$79,237	\$3,209
Water Residential – 0 – 4 Ccf	Ccf	\$3.39	\$2.91	(\$0.48)
Water Residential - > 4 Ccf	Ccf	\$4.26	\$3.90	(\$0.36)
Water Multi-family	Ccf	\$3.80	\$3.37	(\$0.43)
Water Non-residential	Ccf	\$4.40	\$4.05	(\$0.35)
Sewer	Ccf	\$6.00	\$7.75	\$1.75
Monthly Clean Rivers IAC	ERU	\$25.18	\$23.00	(\$2.18)
Water System Replacement Fee	5/8"	\$6.30	\$6.30	\$0
PILOT Fee	Ccf	\$0.49	\$0.50	\$0.01
ROW Fee	Ccf	\$0.18	\$0.18	\$0.00

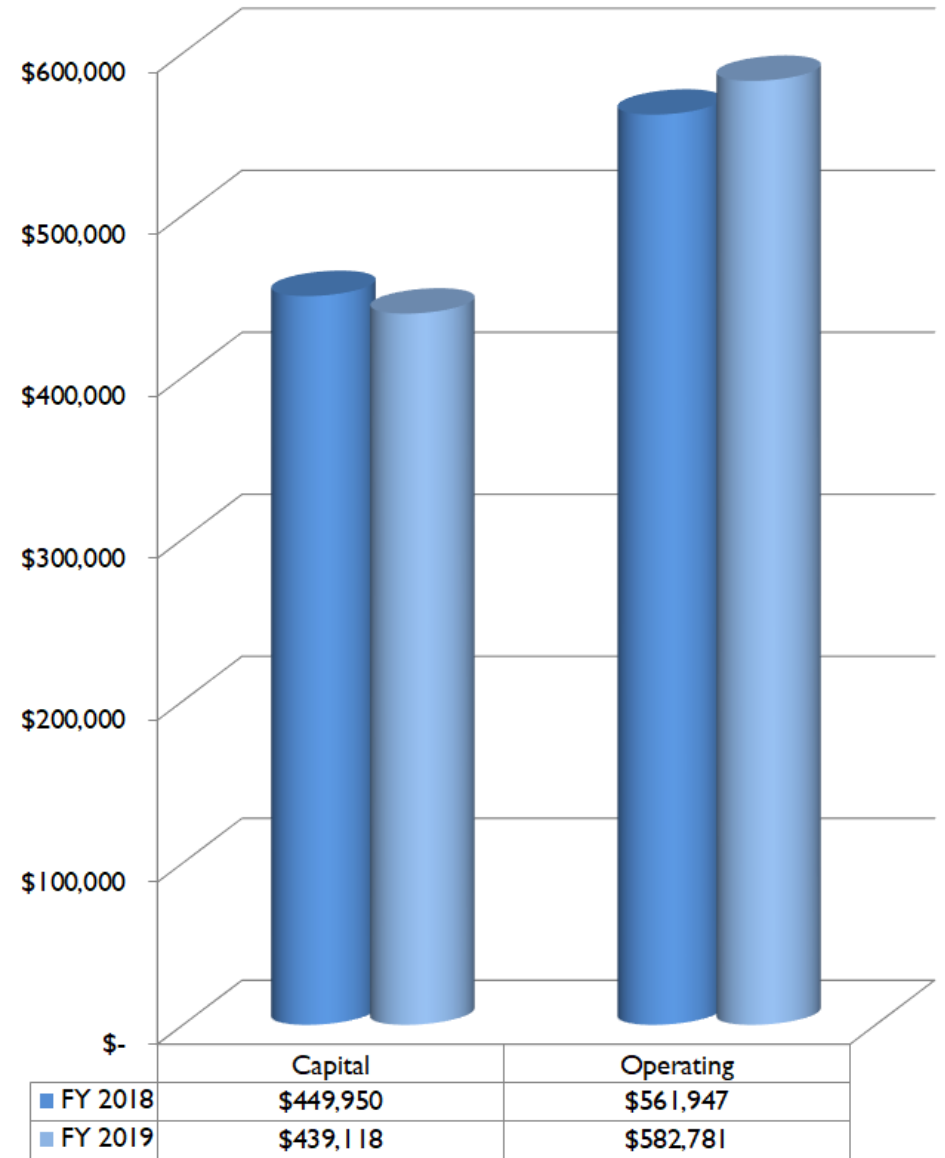


\$ in thousands

## CAPITAL AND OPERATING BUDGETS ENSURE SERVICE NEEDS AND STRATEGIC OBJECTIVES ARE MET

	APPROVED FY 2018	APPROVED FY 2019
<b>CAPITAL (Cash Disbursements Basis)*</b>		
Wastewater Treatment	\$ 95,485	\$ 74,617
Sanitary Sewer	29,802	32,947
Combined Sewer Overflow	181,816	200,343
Stormwater	945	4,909
Water	58,043	45,747
Washington Aqueduct	11,768	12,930
Capital Equipment	39,898	34,518
Non Process Facilities	32,193	33,107
<b>Total Capital</b>	<b>\$ 449,950</b>	<b>\$ 439,118</b>
<b>OPERATING</b>		
Personnel Services	149,193	162,620
Contractual Services	79,353	81,679
Water Purchases	30,156	30,520
Chemicals and Supplies	30,659	32,092
Utilities	29,399	26,905
Small Equipment	1,071	1,240
<b>Total O&amp;M</b>	<b>319,831</b>	<b>335,055</b>
Debt Service	185,480	199,025
Cash Financed Capital Improvements	35,260	26,999
Payment in Lieu of Taxes	16,276	16,602
Right of Way Fees	5,100	5,100
Subtotal Operating	561,947	582,781
Personnel Services charged to Capital Projects	(21,061)	(18,259)
<b>Net Operating</b>	<b>\$ 540,886</b>	<b>\$ 564,522</b>

\* Reflects revised FY 2018 capital disbursements budget

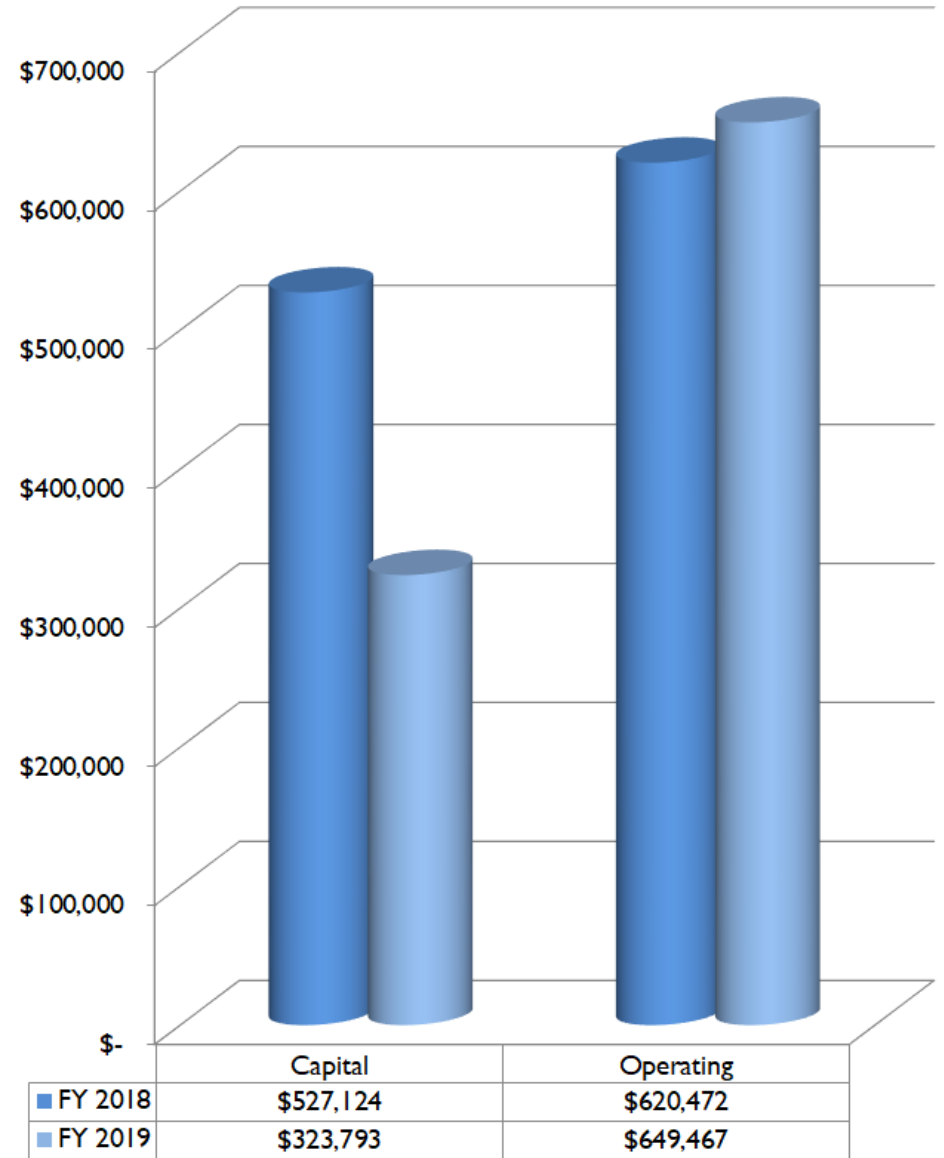


\$ in thousands

## CAPITAL AND OPERATING BUDGETS ENSURE REVENUE SUFFICIENCY TO MAINTAIN SERVICE LEVELS

	APPROVED FY 2018	PROPOSED FY 2019
<b>CAPITAL</b>		
Wholesale Capital Payments	\$ 90,214	\$ 65,851
EPA Grants & CSO Appropriations	32,120	44,339
Interest Income on Bond Proceeds	1,549	2,981
Pay-Go-Financing	103,242	100,623
Revenue Bonds/Commercial paper/EMCP*	300,000	110,000
<b>Total Capital Revenue</b>	<b>\$ 527,124</b>	<b>\$ 323,793</b>
<b>OPERATING</b>		
Residential	111,600	117,377
Commercial	156,272	163,067
Multi-Family	87,042	93,208
Federal Government	62,167	67,054
Municipal & Housing	26,291	27,081
Water System Replacement Fee (WSRF)	39,717	39,717
Metering Fee	10,776	10,776
Wholesale	76,028	79,237
Other Revenue	50,579	51,950
<b>Total Operating Revenue</b>	<b>\$ 620,472</b>	<b>\$ 649,467</b>

\* Extendable Municipal Commercial Paper



- Water and Sewer volumetric rates are listed below:
  - Residential customers: “Consumption of 0 – 4 Ccf” water rate increase of \$0.16 per Ccf to \$3.39 per Ccf, {increase of \$0.21 to \$4.53 per 1,000 gallons}
  - Residential customers: “Consumption greater than 4 Ccf” water rate increase of \$0.20 per Ccf to \$4.26 per Ccf, {increase of \$0.27 to \$5.70 per 1,000 gallons}
  - Multi-family customers: water rate increase of \$0.18 per Ccf to \$3.80 per Ccf, {increase of \$0.24 to \$5.08 per 1,000 gallons}
  - Non-residential customers: water rate increase of \$0.21 per Ccf to \$4.40 per Ccf, {increase of \$0.28 to \$5.88 per 1,000 gallons}
- Sewer rate increase of \$0.29 per Ccf to \$6.00 per Ccf, {increase of \$0.39 to \$8.02 per 1,000 gallons}
- Monthly Clean Rivers Impervious Area Charge increase of \$2.94 to \$25.18 per ERU to recover the costs of the DC Clean Rivers Project
- Water System Replacement Fee (WSRF) of \$6.30 for 5/8” meter size will remain the same. This fee varies with meter size. The WSRF is to recover the costs of 1 % renewal and replacement program for water service lines
- PILOT fee increase of \$0.01 per Ccf to \$0.49 per Ccf {increase of \$0.01 to \$0.65 per 1,000 gallons}
- ROW fee increase of \$0.01 per Ccf to \$0.18 per Ccf {increase of \$0.01 to \$0.24 per 1,000 gallons}

- Water and Sewer volumetric rates are listed below:
  - Residential customers: “Consumption of 0 – 4 Ccf” water rate decrease of \$0.48 per Ccf to \$2.91 per Ccf, {decrease of \$0.64 to \$3.89 per 1,000 gallons}
  - Residential customers: “Consumption greater than 4 Ccf” water rate decrease of \$0.36 per Ccf to \$3.90 per Ccf, {decrease of \$0.49 to \$5.21 per 1,000 gallons}
  - Multi-family customers: water rate decrease of \$0.43 per Ccf to \$3.37 per Ccf, {decrease of \$0.57 to \$4.51 per 1,000 gallons}
  - Non-residential customers: water rate decrease of \$0.35 per Ccf to \$4.05 per Ccf, {decrease of \$0.46 to \$5.42 per 1,000 gallons}
- Sewer rate increase of \$1.75 per Ccf to \$7.75 per Ccf, {increase of \$2.34 to \$10.36 per 1,000 gallons}
- Monthly Clean Rivers Impervious Area Charge decrease of \$2.18 to \$23.00 per ERU to recover the costs of the DC Clean Rivers Project
- Water System Replacement Fee (VSRF) of \$6.30 for 5/8” meter size will remain the same. This fee varies with meter size. The VSRF is to recover the costs of 1 % renewal and replacement program for water service lines
- PILOT fee increase of \$0.01 per Ccf to \$0.50 per Ccf {increase of \$0.01 to \$0.67 per 1,000 gallons}
- No increase in ROW fee, which remains the same at \$0.18 per Ccf {\$0.24 per 1,000 gallons}

- Water and Sewer volumetric rates are listed below:
  - Residential customers: “Consumption of 0 – 4 Ccf” water rate increase of \$0.15 per Ccf to \$3.06 per Ccf, {increase of \$0.20 to \$4.09 per 1,000 gallons}
  - Residential customers: “Consumption greater than 4 Ccf” water rate increase of \$0.20 per Ccf to \$4.10 per Ccf, {increase of \$0.27 to \$5.48 per 1,000 gallons}
  - Multi-family customers: water rate increase of \$0.17 per Ccf to \$3.54 per Ccf, {increase of \$0.22 to \$4.73 per 1,000 gallons}
  - Non-residential customers: water rate increase of \$0.20 per Ccf to \$4.25 per Ccf, {increase of \$0.26 to \$5.68 per 1,000 gallons}
- Sewer rate increase of \$0.39 per Ccf to \$8.14 per Ccf, {increase of \$0.52 to \$10.88 per 1,000 gallons}
- Monthly Clean Rivers Impervious Area Charge increase of \$2.58 to \$25.58 per ERU to recover the costs of the DC Clean Rivers Project
- Water System Replacement Fee (WSRF) of \$6.30 for 5/8” meter size will remain the same. This fee varies with meter size. The WSRF is to recover the costs of 1 % renewal and replacement program for water service lines
- PILOT fee increase of \$0.01 per Ccf to \$0.51 per Ccf {increase of \$0.01 to \$0.68 per 1,000 gallons}
- ROW fee increase of \$0.01 per Ccf to \$0.19 per Ccf {increase of \$0.01 to \$0.25 per 1,000 gallons}

# Cash Flow Summary

\$ in thousands

	FY 2017 Actual	FY 2018 Approved	FY 2018 Revised	FY 2019 Approved
<b>OPERATING BUDGET</b>				
<b>Operating Revenue</b>				
Residential, Commercial & Multi-Family	\$ 255,971	\$ 268,331	\$ 268,463	\$ 299,927
Federal	36,925	39,620	39,619	41,525
Municipal	9,431	8,247	8,122	9,082
D.C. Housing Authority	7,171	7,311	7,428	8,303
Groundwater	-	5	5	5
Water System Replacement Fee (WSRF)	40,522	39,717	39,717	39,717
Metering Fee	11,566	10,776	10,776	10,776
Payment in Lieu of Taxes / Right of Way Fee	20,777	21,511	21,601	21,701
Clean Rivers IAC Revenue	112,875	115,577	119,733	108,945
Sub-total Retail	495,238	511,428	515,466	539,981
Wholesale	81,136	76,028	76,028	79,236
Interest Earnings	1,537	2,097	1,986	2,547
Other Operating Rev. <sup>(1)</sup>	38,966	27,155	26,652	27,279
<b>Total Operating Revenue <sup>(1)</sup></b>	<b>616,877</b>	<b>616,707</b>	<b>620,132</b>	<b>649,043</b>
<b>Operating Expenditures</b>				
Personnel Services	129,512	128,132	128,132	144,361
Contractual Services	78,444	79,353	79,353	81,679
Chemicals & Supplies	34,313	30,156	30,659	32,082
Utilities & Rent	22,695	30,659	29,399	26,915
Water Purchases	26,954	29,399	30,156	30,520
Small Equipment	895	1,074	1,071	1,240
Subtotal - Operating Expenditures	292,813	298,770	298,770	316,797
Payment in Lieu of Taxes / Right of Way Fee	21,057	21,376	21,376	21,702
Debt Service	161,208	185,480	184,278	199,025
Cash Financed Capital Improvements/Defeasance	24,199	35,260	35,259	26,999
<b>Total Operating Disbursements</b>	<b>499,276</b>	<b>540,886</b>	<b>539,683</b>	<b>564,523</b>
<b>Operating Surplus <sup>(1)</sup></b>	<b>177,600</b>	<b>75,821</b>	<b>80,449</b>	<b>84,520</b>
<b>CAPITAL Disbursements (See Section VI for more details)</b>				
Sources of Capital Funds	611,963	354,953	527,124	323,793
Uses of Capital Funds	545,315	387,307	449,952	439,118
<b>Capital Disbursements Overage / (Shortage)</b>	<b>(66,648)</b>	<b>(32,354)</b>	<b>(77,172)</b>	<b>115,325</b>
<b>CASH RESERVES</b>				
<b>Beginning O&amp;M Reserve Balance (Net of Rate Stabilization Fund)</b>	<b>162,652</b>	<b>162,652</b>	<b>147,212</b>	<b>140,000</b>
Operating Surplus	117,600	82,660	80,449	84,520
Wholesale Customer Refunds/Payments for Prior Years	(10,906)	(10,000)	(11,000)	(5,500)
Transfer to Rate Stabilization Fund	(10,000)	-	-	-
Federal Customer Refund/Payments for Prior Years	(19,200)	(19,201)	(9,019)	(5,821)
Interest Earned from Bond Reserve	140	323	340	424
Pay-As-You-Go Capital Financing	(93,073)	(76,434)	(67,982)	(73,624)
<b>Ending O&amp;M Reserve Balance (Net of Rate Stabilization Fund)</b>	<b>147,212</b>	<b>140,000</b>	<b>140,000</b>	<b>140,000</b>
<b>Rate Stabilization Fund</b>	<b>\$ 61,450</b>	<b>\$ 51,450</b>	<b>\$ 61,450</b>	<b>\$ 61,450</b>

(1) Does not include interest earned from the debt service reserve fund

The District of Columbia Water and Sewer Authority (DC Water) was created in April 1996 and began operating October 1, 1996 under and pursuant to an act of the Council of the District of Columbia and an act of the United States Congress. Previously, the Water and Sewer Utility Administration, a division of the District's Department of Public Works, performed DC Water's operations. In the aftermath of the District's financial crisis in the 1990s, Congress created an independent utility agency governed by a Board of Directors consisting of eleven principal and eleven alternate members who represent the District of Columbia, Montgomery and Prince George's Counties in Maryland and Fairfax County in Virginia to govern DC Water. The Mayor of the District of Columbia appoints, and the Council confirms, all District Board members, including the Chairperson. In addition, the Mayor appoints the five principal and five alternate members who represent the surrounding jurisdictions based on submissions from those jurisdictions. All members serve four-year terms. The existence of a quorum and an affirmative vote of a majority of the members present, who are permitted to participate in the matter under consideration, shall be required to approve any Board action; except, that 7 affirmative votes shall be required for approval of the Authority's budget and 8 affirmative votes shall be required for the selection or relieving of the CEO/General Manager. All Board members participate in decisions directly affecting the general management of joint-use facilities (such as projects at the Blue Plains Advanced Wastewater Treatment Plant), and only the District of Columbia members participate in decisions for those matters that affect only District ratepayers. Rate setting authority resides solely with the Board of Directors, and is a non-joint use matter.

At its inception, DC Water faced a cash shortage and projected multi-million dollar deficit. The newly established utility was also burdened with a barely functional fleet, poorly maintained infrastructure, an antiquated billing system, and a number of operating weakness. Through the leadership of an active Board of Directors and strong management staff, a line of credit was obtained, municipal bonds were issued and new strategic goals, business processes and technologies were developed. DC Water made tremendous strides in its prudent financial management and

cutting-edge technology, customer service improvements, extensive capital investment, environmental stewardship, peer-reviewed research and establishment of an award winning fleet. Our credit rating since 1996 has gone from no credit to AAA.

Over the years, we have developed strong partnerships with the District government, Congress, suburban jurisdictions, federal regulators and environmental advocates. We are continuing to strengthen our existing partnerships while reaching out to establish new relationships. Our success has been acknowledged through many awards as well as positive financial results and audits over the years. Since 1996, the Authority has met its mission of providing clean drinking water to residents of the District of Columbia and wastewater conveyance and treatment services to both residents of the District and wholesale customers in Maryland and Virginia.

At DC Water, we focus all of our technology initiatives on improving both the quality of services we provide to our customers and organizational effectiveness. We were one of the first utilities to automate our meter reading program (AMR) which has been heralded as a best practice in the industry. The automated meters use radio frequency and cell phone technology to send daily water usage information from the meter to DC Water. This tool analyzes daily water consumption and provides monthly and yearly averages on an account so a customer can monitor their own water use. In addition, we developed a powerful application in-house called the High Use Notification Application (HUNA). This tool alerts customers of unusually high amounts of water delivered to their meter so they can check for leaks and avoid a high bill. Over the last 10 years that we have offered the service, 33% of all customers have received at least one alert. We anticipate reaching a total of 120,000 alerts sent to customers in 2018.

## Basis of Accounting

DC Water is a single enterprise fund and maintains accounting records using the accrual basis of accounting in accordance with Generally Accepted Accounting Principles (GAAP). Under this basis of accounting, revenues are recorded when earned, and expenses are recorded when incurred. DC Water's expenditure budget is prepared on a comparable basis to GAAP, with the exception of debt service (including principal and interest) that is budgeted in full when due. Depreciation and interest expense are recorded as expenses for financial statement purposes. (Depreciation is not budgeted.)

## Annual Budget Process

As a first step in the budget development process, the Finance, Accounting & Budget Department updates DC Water's ten-year financial plan to reflect any revisions to the capital improvement program and any other major revenue or operating budget issues, and analyzes the potential impact of these items on rates. In addition to these items, the ten-year plan is also developed based on the financial and rate-setting policies adopted by the Board as well as the Board's Strategic Plan.

## Approval Process

In June, departments submit their initial budget requests for management review. DC Water's strategic and operational priorities are included in each department's work plan and performance agreements, as appropriate. During the month of June and in early July, departments complete budget reviews with budget staff, and in July and August, reviews are held with the Executive Team and with the CEO & General Manager in tandem.

Typically in November of each year, management presents the operating budget, ten-year capital improvement program and ten-year financial plan to the Board's Environmental Quality and Operations Services, DC Water Retail Water and Sewer Rates and Finance and Budget Committees for

their review. This budget is proposed for the following fiscal year (e.g. beginning October 1, 2018). The Committees review the budget documents in November through December and submit budget recommendations to the full Board in December. Typically, decisions are finalized and Board action on the budget is taken between December and January.

Upon budget adoption, the Budget Department publishes and distributes the approved budget book and ensures that DC Water's budget is included in the District of Columbia's budget submission, which is transmitted to the U.S. Congress for approval. Once approved by Congress, the budget is effective October 1 of each year.

## Budgetary Control

After the U.S. Congress approves the budget, the operating and capital budgets are loaded into the DC Water's financial management system, which prevents overspending without appropriate approvals. The Department of Finance, Accounting and Budget prepares monthly management reports for each operating unit, management staff, the Board of Directors and its various committees. The reports are consistently reviewed each month to ensure that DC Water complies with its authorized budget levels.

## Amendment Process

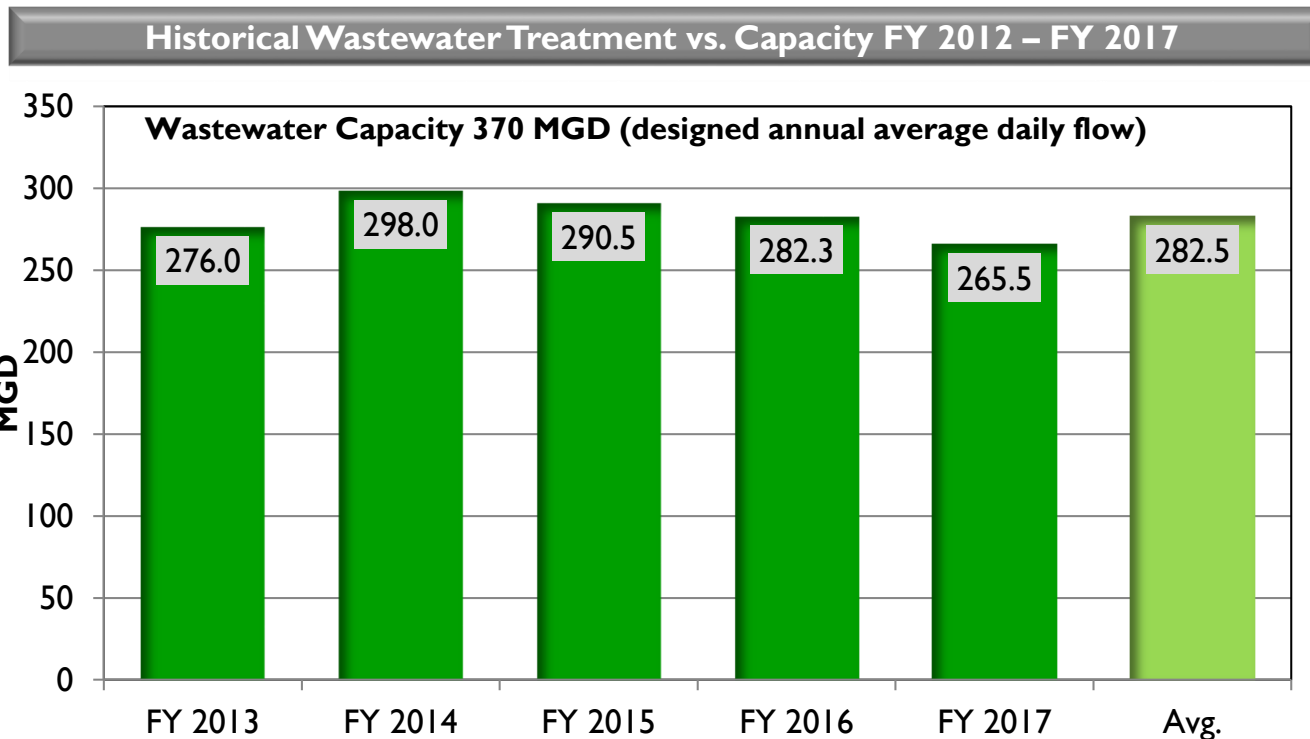
The CEO & GM has control over the budget as approved by the U.S. Congress, at the appropriation level. Therefore, the CEO & GM has the authority to approve budget reprogramming between departments. However, additional budget spending authority is requested through the U.S. Congress for approval.



Month	Event
May 5	Distribution of budget manual and budget templates
May 30	Chief Executive Officer (CEO) & General Manager's Budget Kickoff Meeting
May 31	Budget Boot Camp
June 23	Departmental O&M and Capital Equipment submission to Office of Chief Operating Officer (OCCO)
July 21	FY 2019 Operating and Ten-Year Capital Budget requests submitted to Finance, Accounting and Budget department (Team FAB)
August	Evaluation of departmental FY 2019 budget requests by Budget Department Begin Preliminary Ten-Year Financial Plan update (Submit IMA, CSO and EPA grants)
Oct - Nov	Departmental FY 2019 Operating and Capital Budget Reviews with Team FAB, Office of General Manager, Information Technology (IT), Engineering & Technical Services and Support Services
November	Completion of Final FY 2019 Operating and Ten-Year Capital Budget Decisions Process CEO & GM and Executive Team's briefing of Operating and Ten-year CIP
December	Finalize Ten-Year Financial Plan (Operating, Capital Improvement Program, Revenues, Rates & Fees) Transmittal of CEO & GM's final budget proposal to Assistant General Managers & Department Heads Budget Book Preparation and Production
January 4	Budget Workshop – Board Briefing of the CEO & GM's Proposed FY 2019 Budgets and FY 2019 & FY 2020 Retail Rates & Fees Proposal
January 5	Wholesale Customer Briefing
January	Committees conduct in-depth review of budget proposal
February	Committees forward recommendations to full Board for deliberation/action
March 1	Board Adoption
March	Submission to the District of Columbia

## WASTEWATER SYSTEM CAPACITY ENSURES SERVICE AREA MEETS NEEDS THROUGH 2040

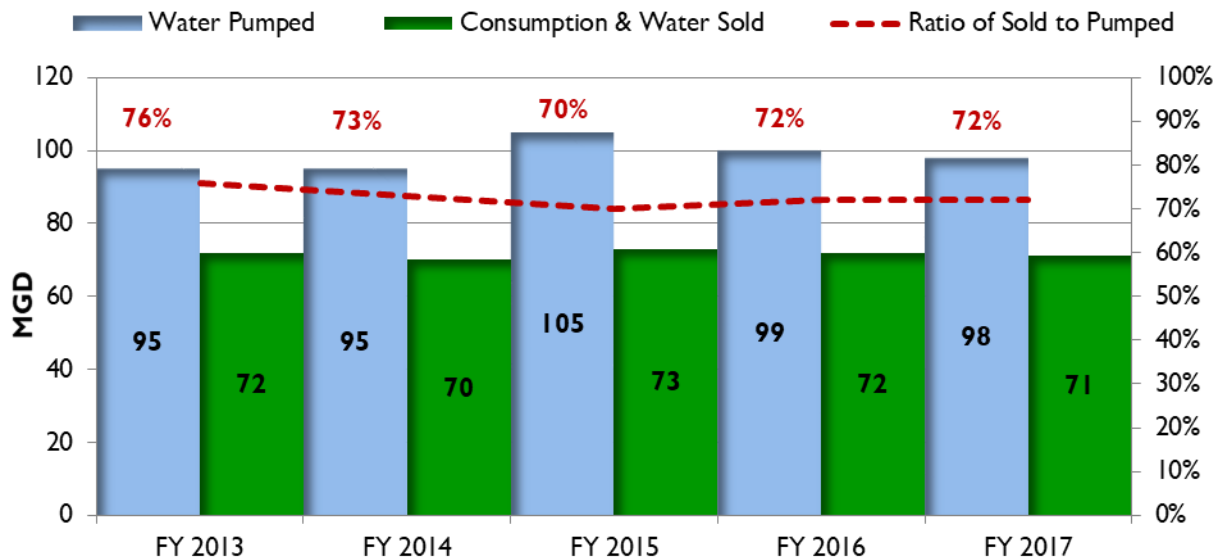
- Blue Plains is the world’s largest advanced wastewater treatment plant
  - Treats an average of approximately 300 million gallons per day (MGD) annually
  - Designed for average daily flow of 384 MGD and peak wet weather capacity of 1,076 MGD
- System comprises 1,800 miles of sanitary, stormwater and combined sewers; 125,000 building sewer lateral; 22 flow-metering stations; 9 off-site wastewater pumping stations; and 16 stormwater pumping stations



**WATER SYSTEM CAPACITY MEETS SERVICE AREA NEEDS**

- Water purchased from the Washington Aqueduct, owned and operated by U.S.Army Corps of Engineers
- Total treatment capacity of 384 MGD exceeds average daily and peak requirements in service areas
- Four pumping stations with adequate capacity to meet peak demand
  - Bryant Street, New Fort Reno, I 6th and Alaska, Anacostia
- One Washington Aqueduct pumping station with capacity sufficient to take over for Bryant Street pumping station
- 1,310 miles of interconnected pipes

**Volume of Water Pumped versus Sold FY 2013 – FY 2017**



**Infrastructure Index Leakage (ILI) :**  
 FY 2013 – 6.89  
 FY 2014 – 7.49  
 FY 2015 – 9.94  
 FY 2016 – 7.84  
 FY 2017 – 9.00

Strong financial planning requires careful monitoring and analysis of various trends and factors that may influence the market place. In this case, the market place for DC Water is the District of Columbia and its surrounding region. DC Water monitors consumption and wastewater flow trends within the customer base, weather patterns, regional income changes, population trends, federal activity in the region, housing starts, office vacancy rates and employment trends. A review of experiences from similar national systems is a useful benchmark assessment. While there are no crystal balls in the area of forecasting water demand, monitoring such data can provide insight into customer behavior and anticipated service demands.

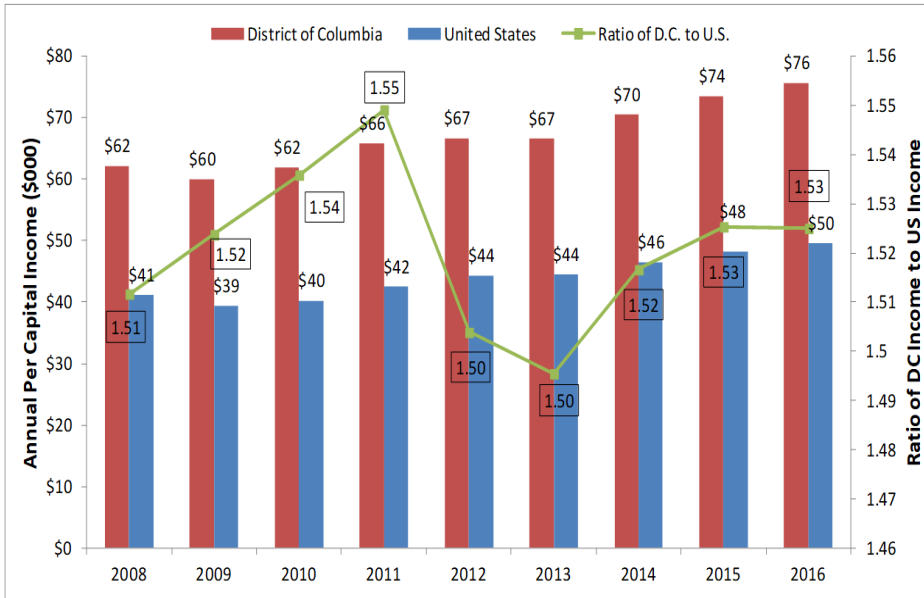
## *Regional Economy*

DC Water's service area has weathered the past national recession well. The regional unemployment rates remain relatively low and the regional per capita incomes remain higher than the U.S. average. Office vacancy rates have increased slightly in recent years while retail vacancy rates remain low. A major local employer, the federal government, remains relatively stable for this employment sector. Select demographic charts following support the generally positive outlook for the Washington Metropolitan region and its economy.

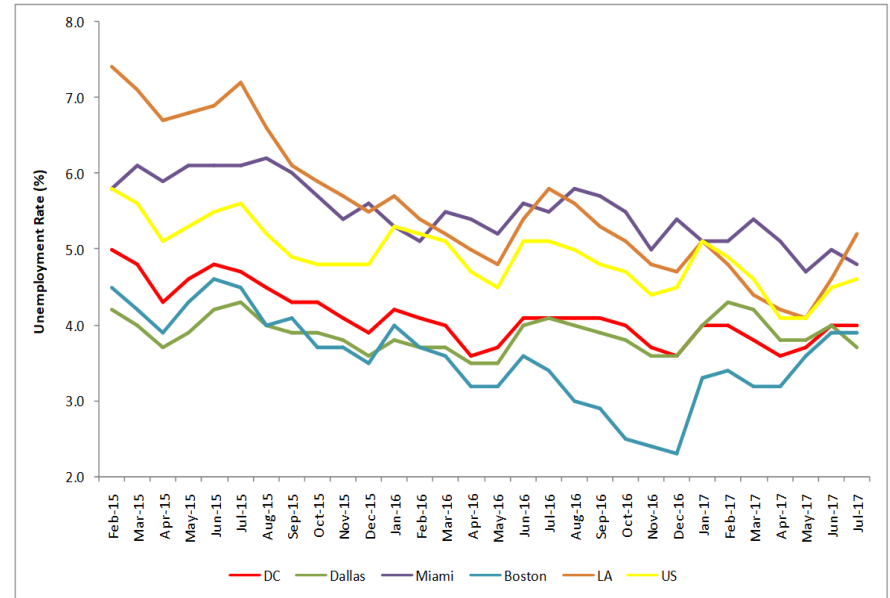
As the largest job center in the DC Metropolitan region, DC can be impacted by economic declines. However, impacts are tempered by the relatively stable federal employment enjoyed by the nation's capital.

## DC Per Capita Income is Higher than U.S.Average

## DC Unemployment Rate Remains Relatively Low



Source: Bureau of Economic Analysis



Source: Bureau of Labor Statistics

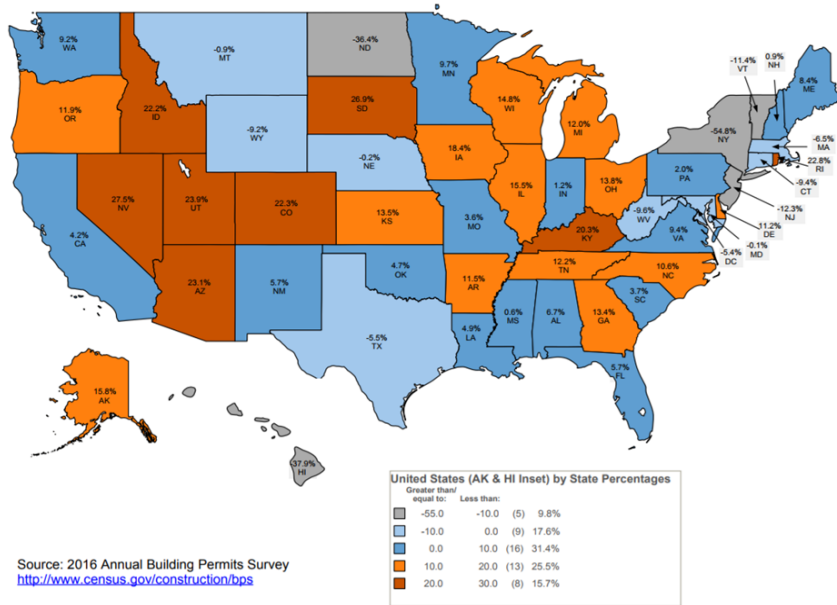
- The scale on the left side of the chart shows personal income per capita which applies to the columns in each year for DC and the U.S.
- The scale on the right side of the chart shows the ratio of DC income to U.S. income which is reflected by the line in the chart.

Low commercial office vacancy rates and growth in housing permits throughout the region provide positives signs for the regional economy.

## 2015 – 2016 DC Growth in Housing-Permit Issuance at Par with the Rest of U.S.

## DC Office Vacancy Rates Lower Than the Region

Percent Change from 2015-2016 of New Privately-Owned Housing Units Authorized by State

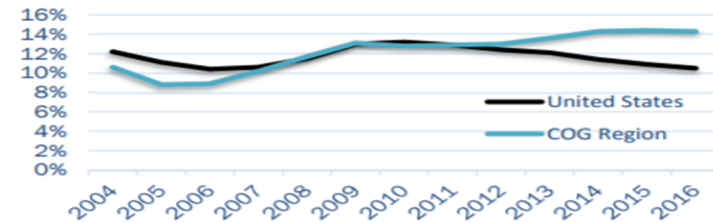


Source: 2016 Annual Building Permits Survey  
<http://www.census.gov/construction/bps>

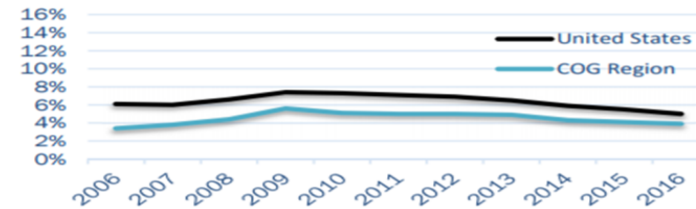
Source: US Census Bureau

- DC's performance is driven by federal government growth and associated industries, supporting regional growth and diversification

Vacancy Rate for Office Space  
2004 - 2016



Vacancy Rate for Retail Space  
2006 - 2016



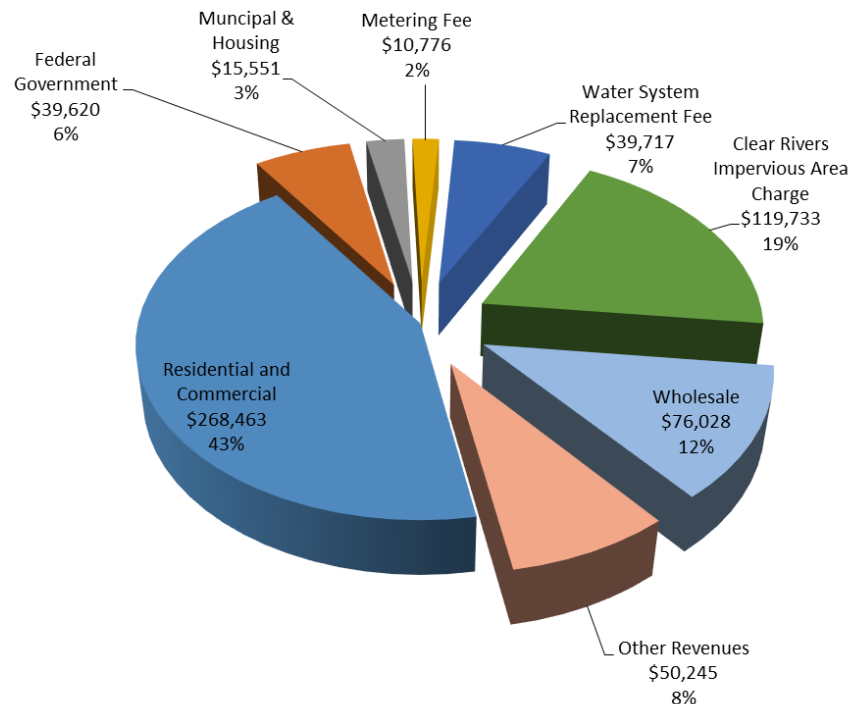
Source: District of Columbia Office of Chief Financial Officer and Delta Associates

- Source: Metropolitan Washington Council of Governments (COG)
- Note: COG region includes District of Columbia, Northern Virginia, and Suburban Maryland

The regional economic indicators are positive with strong incomes and unemployment below the national level. These factors coupled with stable consumption and the financial strength of some of the major AAA rated customers helps to ensure the financial success of DC Water.

## The DC Water service area includes highly-rated customers

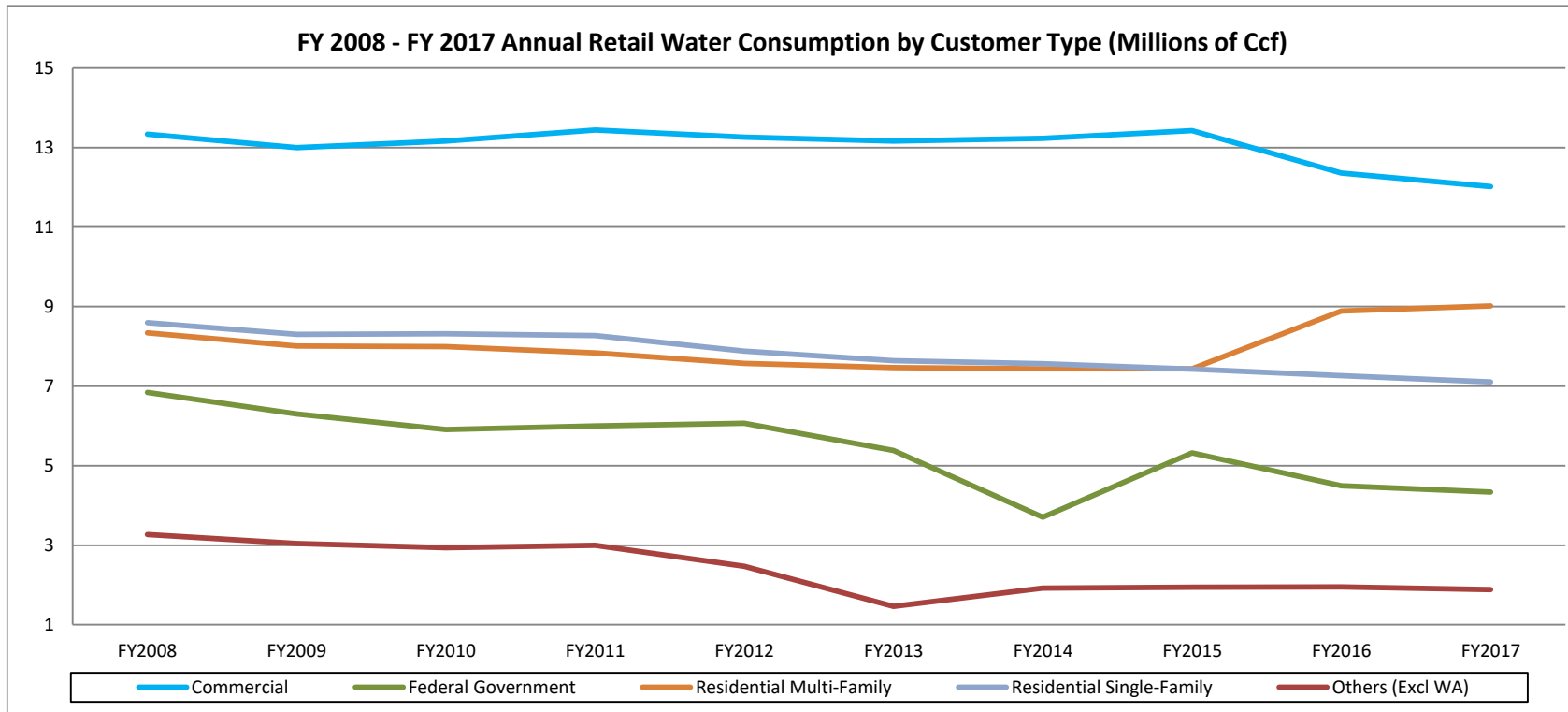
- ❑ About 18.6% of the projected FY 2018 revenues come from “AAA” rated entities and are received in advance of service:
  - Federal Government
  - Fairfax County
  - Washington Suburban Sanitary Commission
  - Loudon County Sanitation Authority
- ❑ An additional 2.5% of revenues came from the District of Columbia which is rated “AA”



## Media reports reference the service area's economic strength

- ❑ “The District has the fifth-best economy in the U.S., according to a new analysis from WalletHub ... because of its strong economic activity, economic health and innovation potential.” Washington Business Journal, June 6, 2017
- ❑ “The Washington-area housing market enjoyed a strong year in 2016 ... D.C. continues to show the strongest price gains in the region ...” The Washington Post, February 9, 2017
- ❑ “Census estimates released Tuesday show D.C.’s population is ... the highest in about four decades... The Census Bureau said the largest factor in D.C.’s population growth was migration – people moving to the city from elsewhere.” The Washington Post, December 20, 2016
- ❑ “Cities where tech jobs are a smaller fraction of the economy have seen slower, but still steady, economic growth. Washington, D.C., has the second-highest median income in America at almost \$96,000 a year...” The Hill, September 15, 2017

**Customer Demand:** A reasonable degree of accuracy in forecasting water demand is important for sound financial planning and rate-setting. The FY 2008 - 2017 actual average decline in usage is 1.8% annually, excluding the Washington Aqueduct. FY 2008 – FY 2017 average annual rate of change in demand for the customer classes: Commercial -1.2%; Federal Government: -4.9%; Single Family: -2.1%; and Other (include Exempt, DC Housing Authority, DC Municipal Government, and DC Water): -5.9%. Multi-Family increased by 0.9% annually.



Water demand shows a decline relatively consistent with historic 1% decline assumption

- FY 2017 consumption decreased 1.7%, mostly due to decreases in consumption for Federal Government, Single Family and Commercial accounts, offset somewhat by the increase in consumption in Multi-Family accounts.
- DC Water has typically assumed an annual reduction in water demand of 1.0% in line with historic averages. The Financial Plan assumes an annual retail water consumption decline of 1.0%. We believe that this estimate is prudent, consistent with peers such as New York and Boston and assures revenue sufficiency for the Authority.





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# APPROVED BUDGETS



DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

## Section III FINANCIAL PLAN

DC Water Clean Rivers  
Anacostia River Tunnel Shaft

## THE DC WATER TEN-YEAR FINANCIAL PLAN PROVIDES A STRONG FINANCIAL FRAMEWORK TO SUPPORT IMPLEMENTATION OF THE BOARD STRATEGIC PLAN

### Vision

To be a world-class water utility

### Mission

Exceed expectations by providing high quality water services in a safe, environmentally friendly, and efficient manner.

### Values

- Respectful, serve with a positive attitude, courtesy, and respect that engender collaboration and trust
- Ethical, maintain high ethical standards, accountability, and honesty as we advance the greater good
- Vigilant, attend to public health, the environment, quality, efficiency, and sustainability of our enterprise
- Accountable, address challenges promptly, implement effective solutions, and provide excellent service as a committed team

### Goals

The goals represent the core strategies that DC Water will pursue. The Board and Executive Management believe that they are essential to the achievement of the mission to become a world-class water utility

- Develop, maintain and recruit a high performing workforce
- Collaborate locally, regionally, and nationally
- Increase Board focus on strategic direction
- Enhance customer/stakeholder confidence, communications, and perception
- Assure financial sustainability and integrity
- Assure safety and security
- Consider DC Water role in drinking Water Treatment
- Optimally manage infrastructure
- Enhance operating excellence through innovation and adoption of best practices



Note: DC Water Strategic Plan adopted by the DC Water Board of Directors on March 7, 2013.

## BLUE HORIZON 2020

Blue Horizon **2020** serves as a blueprint for future decision-making and provides a structure through which annual reviews can be accomplished to assure that the goals and objectives retain their relevance over time. By laying out a course of action, this plan represents a disciplined process for making fundamental decisions and shaping DC Water's future.

The plan represents the collaboration of the Board of Directors, Executive Management, and the management team, as well as input from key external stakeholders. The plan is designed to be a lasting framework, although updates should be made to goals, objectives, and initiatives as the organization moves forward and circumstances change.

This plan contains the DC Water vision, mission statement, values, goals, objectives, and initiatives. It addresses DC Water's current challenges and helps ensure continued success in operations and management of resources and assets.

DC Water's vision describes the desired future state and guides the organization toward the future, while the mission of the utility describes the purpose of the organization and its role within the service area. Values articulate the deeply-held beliefs, norms, and qualities of the utility, and are the basis from which each DC Water staff member should operate.

## FOCUS AREAS

The strategic plan, and the accompanying strategic framework, is the direct result of evaluation and analysis of the elements of the environmental scan and the needs of key stakeholders represented by the DC Water Board. Early in the process, three key themes emerged, which are embodied in Blue Horizon **2020**. These have been called focus areas and are:

 <p><b>LEADERSHIP</b> DC Water will advocate and lead local, regional, and national collaborations, while internally developing the workforce of the future.</p>	 <p><b>VALUE</b> DC Water will be recognized for the value it delivers by protecting public health and the environment, supporting community sustainability, and providing for economic vitality.</p>	 <p><b>INNOVATION</b> DC Water will achieve international prominence in development and adoption of science, technology and processes in support of a culture of innovation.</p>
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## Overview

DC Water's strong financial performance and its success in achieving and maintaining strong bond ratings have been primarily due to the annual development of and adherence to a ten-year strategic financial plan. During FY 2017, Standard and Poor, Moody's and Fitch reaffirmed DC Water's ratings to AAA, Aa1 and AA respectively. This financial plan serves as one of management's key tools to monitor progress in meeting financial goals and to proactively address future financial and operational issues. During FY 2017, DC Water met or exceeded the goals set by Board policy and the FY 2017 – FY 2026 ten-year plan. This budget includes DC Water's eighteenth comprehensive ten-year financial plan, covering FY 2018 – FY 2027.

The necessity of a ten-year financial plan is clear:

1. DC Water operates under a regulatory and capital project-driven environment that requires a longer term ten-year planning horizon. In order to provide our customers with the best service possible and with gradual and predictable rate increases, DC Water must plan for all projects on a long-term and integrated basis, including both capital and operating requirements. A five- year, capital-only financial plan would insufficiently prepare DC Water to address the major regulatory, operational and capital project issues that will impact service, operations, and rates over the next five to ten years.
2. In accordance with Board policy, DC Water sets rates so that each customer is charged for the actual cost to provide each service, rate increases are implemented transparently and predictably, utilizing all available options to mitigate future customer impacts. Since proposed future rate increases are primarily driven by financing of DC Water's capital program and full utilization of the rate stabilization fund, the development of a ten-year financial plan allows DC Water to meet these key goals.
3. The Board has directed DC Water management to undertake internal improvements and investments that will significantly lower operating costs over a ten-year period. A ten-year plan is required to bridge current operations and related capital and operating budgets with these longer term cost reduction goals.

Board policies, strategic plan, priorities and guidance in several key financial areas drive the development of the FY 2018 – FY 2027 financial plan. Given DC Water's substantial borrowing needs over the next ten years, adherence to these Board policies is crucial in order to cost-effectively access the capital markets and retain our credibility with customers and regulators.

- **DEBT SERVICE COVERAGE** – DC Water will set rates and develop operating and capital budgets that ensure **senior debt service coverage of 140 percent**
  - This coverage level exceeds DC Water’s bond indenture requirement of 120 percent senior debt service coverage
- **CASH RESERVES** – DC Water will maintain **cash reserves equivalent to 120 days of budgeted operations and maintenance expenses with the objective of maintaining at least \$125.5 million** in operating reserves.
- **PAY-GO FINANCING OF CAPITAL** – DC Water will finance a portion of its capital program on a **pay-go basis from cash balances that exceed operations requirements or restricted use.**
- **RATE-SETTING POLICIES**
  - Rates that, together with other revenue sources, **cover current costs and meet or exceed all bond and other financial requirements** as well as goals set by the Board
  - Rates that yield a **reliable and predictable** stream of revenues, taking into account trends in costs and in units of service
  - Rates based on **annually updated forecasts of operating and capital budgets**
  - Rate structures that are **legally defensible**, based on objective criteria, **and transparently designed**
  - Rate structures **that customers can understand** and DC Water can **implement efficiently and efficaciously**
  - Rates increases, if required, are implemented **transparently and predictably.**

To the extent annual revenues exceed costs, the Board’s policy will continue to utilize all available options to mitigate future customer impacts and annual rate increases, including transferring some or all of such excess funds to the Rate Stabilization Fund.

- **RATE STABILIZATION FUND** - Once DC Water achieves its **required level of cash reserves**, a **rate stabilization fund** will be established to **avoid “rate shock.”** Based on favorable financial performance in FY 2017, the balance in the RSF was \$61.45 million.

## ***Financing and Reserve Policies***

In FY 2004, and again in FY 2008, the Board completed a review of its existing financing policies, reaffirming the core policies. Two modifications were made to the reserves policy: 1) Changing the timing of when DC Water is required to meet its overall operations and maintenance reserve requirement from September 1 to an average daily balance basis, resulting in a more conservative calculation; and 2) revising the indenture-required renewal and replacement reserve requirement from two percent of original plant in service to \$35 million, with a requirement to revisit this reserve level every five years in conjunction with the indenture-required system assessment prepared by DC Water’s independent rate consultants. The assessment was last performed in 2013.

In FY 2013, the Board adopted further revisions which modified the operating reserve policy and under Resolution #13-57 revised the DC Water's Statement of Financial Policies as follows:

1. DC Water will maintain financial practices and policies that result in high quality investment grade bond ratings so as to ensure the lowest practical cost of debt necessary to finance DC Water's long-term capital program.
2. DC Water will maintain strong levels of operating cash reserves, equivalent to 120 days of budgeted operations and maintenance costs, calculated on an average daily balance basis, with the objective of maintaining at least \$125.5 million in operating reserves. The annual reserve amount will be formally approved by the Board as part of its annual approval of the operating and capital budgets and ten-year plan. The operating reserve requirement will be evaluated every five years by DC Water's independent rate consultant in conjunction with the Indenture-required system assessment.
3. The operating reserve will, at a minimum, include any reserve requirements contained in DC Water's Master Indenture of Trust, ( the "Indenture"), excluding any debt service reserve funds and the rate stabilization fund, as follows:
  - *Operating Reserve* – equivalent to sixty days' operating costs
  - *Renewal & Replacement Reserve* - \$35 million. This reserve requirement will be in conjunction with the Indenture-required system assessment
4. DC Water will maintain senior debt service coverage of 140 percent, in excess of DC Water's indenture requirement of 120 percent. Senior debt service coverage will be calculated in accordance with DC Water's indenture.
5. In general, DC Water will utilize operating cash in excess of the Board's reserve requirement and any other significant one-time cash infusions for capital financing or for repayment of higher cost debt.
6. DC Water will whenever possible use the least costly type of financing for capital projects, based on a careful evaluation of DC Water's capital and operating requirements and financial position for each year.
7. DC Water will attempt to match the period of debt repayment, in total, with the lives of the assets financed by any such debt.

## ***Pay-As-You-Go Capital Financing Policy***

1. The CEO/General Manager will include in the annual ten-year financial plan, developed as part of the annual operating budget process, a separate schedule showing projected annual cash balances and planned annual pay-go financing of capital projects.
2. The planned annual pay-go financing will be formally approved by the Board of Directors as part of its annual approval of the ten-year financial plan, operating and capital budgets.
3. At any time during the fiscal year, the CEO & General Manager may use pay-go financing for capital projects, as approved by the Board of Directors.
4. During the fourth quarter of each fiscal year, the CEO & General Manager (or designee) will conduct an analysis of DC Water's financial performance.
5. The CEO & General Manager will report the results of this analysis and recommendations, including updated projected annual cash balances and annual pay-go financing, to the Finance and Budget Committee no later than its regularly scheduled meeting in July, for recommendation to the Board for action at its September meeting.

## **Cash Management and Investment Policies**

The Board has adopted a “Statement of Investment Policy”. This policy is designed to ensure the prudent management of Authority funds, the availability of operating and capital funds when needed, and an investment return competitive with comparable funds and financial market indices. The investment portfolio shall be managed to accomplish the following hierarchy of objectives:

1. Safety
2. Liquidity
3. Return on investment

The current Investment Policy is available on-line at [www.dcwater.com](http://www.dcwater.com).

## **Debt Policy and Guidelines**

*The purpose of DC Water’s Debt Policy and Guidelines (the “Debt Policy”) is to provide DC Water officials and staff a comprehensive guide to DC Water’s issuance and use of debt to fund capital projects or to refund/refinance/restructure outstanding debt. The advantages of adopting and adhering to a clear, concise and comprehensive debt policy are:*

- Enhancing the quality of decisions
- Documenting the decision-making process
- Identifying objectives clearly to facilitate staff implementation
- Demonstrating a commitment to Long-Term financial planning objectives that result in a sound financial position
- Enhancing the positive assessment of credit quality by the bond Rating Agencies in order to maintain and improve DC Water’s high credit ratings
- Integrating the Debt Policy with the operating and capital budgets, the multi-year Capital Improvement Program (CIP), multi-year Financial Plan
- and other financial policies

The financial policies outlined in this document, in most cases, impose higher standards than the legal requirements contained in DC Water’s Master Indenture of Trust dated as of April 1, 1998 as amended and supplemented from time to time (the “Indenture”) and other legal requirements.

The current Debt Policy and Guidelines is available on-line at [www.dcwater.com](http://www.dcwater.com)



During FY 2017, DC Water met or exceeded the financial goals set out by the Board and the FY 2017 – FY 2026 financial plan. Senior debt service coverage, reserve levels, and budget performance met or surpassed Board policies, as discussed in more detail below:

- DC Water Board policy requires senior debt service coverage of at least 140 percent; greater than the indenture requirement of 120 percent. **DC Water's senior debt service coverage in FY 2017 was at 547 percent**, while maintaining the Board's rate setting and financial policies. The senior debt service coverage is expected to increase to 624 percent by FY 2027 despite increase in capital spending and related debt issuance; the coverage is above the Board requirement of 140 percent. Subordinate debt service coverage, which includes DC Water's subordinated lien revenue bonds and Jennings Randolph Reservoir debt, was at 212 percent in FY 2017. DC Water is required to have 100 percent coverage of subordinate debt service. Combined debt service coverage was at 1.76 percent in FY 2017.
- In January 2017, DC Water issued Series 2017A Green Bonds for \$100 million to partially fund the Clean Rivers project. The Series 2017B were issued in the amount of \$200 million to finance capital improvement program. Both series were issued under the subordinate lien.
- **COMMERCIAL PAPER:** These notes issued are considered subordinate debt under the Master Indenture of Trust. DC Water's commercial paper is issued in increments with maturities less than 270 days. The Board approved the commercial paper program in early FY 2002; proceeds from the sale of the notes are used for interim bond financing, short-term financing for capital equipment and certain taxable costs for the Washington Aqueduct. Each new bond issuance is evaluated to determine the most cost effective way of reducing the amount of taxable commercial paper. Normal market conditions for commercial paper carry significantly lower interest rates than long-term debt. Two series of notes have been issued under the commercial paper program: the tax-exempt Series B CP Notes in an aggregate principal amount not to exceed \$100,000, and the taxable Series C CP Notes in an aggregate principal amount not to exceed \$50,000. To provide liquidity and credit support for the Commercial Paper Notes, the Authority obtained irrevocable, direct-pay letters of credit issued by Helaba-Landesbank Hessen-Thüringen Girozentrale, New York Branch which currently expires on May 15, 2020.
- **EXTENDABLE MUNICIPAL COMMERCIAL PAPER (EMCP):** The addition of the EMCP program in the amount of \$100 million provides diversification of the variable rate products available for interim financing needs. EMCP does not require a supporting bank letter of credit but relies on DC Water's liquidity to address any failed re-marketing of the EMCP. The initial placement is typically for 90 – 180 days and in the event of a failed re-marketing due to poor market conditions, DC Water has 3 – 6 months to address payment with a maximum number of days from the initial issuance of 270 days.
- **DC Water did not utilize rate stabilization fund (RSF) in FY 2017** but contributed \$10.0 million to RSF. The Rate Stabilization Fund's ending balance for FY 2017 was \$61.45 million.
- **DC Water continued its strong operating budget performance in FY 2017** – For FY 2017, actual cash receipt were higher than the revised budget by \$21.6 million, or 3.6 percent. Actual operating expenditures were \$23.0 million, or 4.3 percent lower than total operating budget. DC Water experienced lower O & M in various professional and maintenance contracts, including materialized savings from biosolids hauling costs, lower electricity cost from onsite power generation, lower unit prices for major chemicals used at the wastewater treatment plant, and lower than anticipated spending in water purchases based on DC Water's share of the Washington Aqueduct's budget. Underspending in debt service was attributable to lower interest rates,

refinancing and delayed issuances. Furthermore, due to favorable O&M position at 95% of budget, the Cash Financed Capital Improvements Fund was utilized for PAYGO financing.

- **The Clean Rivers Impervious Surface Area Charge (CRIAC) was implemented in May 2009** to recover the cost of the Combined Sewer Overflow Long-Term Control Plan (CSO LTCP), also known as the DC Clean Rivers Project. In FY 2011, a six-tiered rate structure was successfully implemented for all residential retail customers to better reflect the impacts of various size residential properties. The twenty-five year CSO LTCP, whose terms are outlined in a consent decree executed in March 2005, exclusive of the nine-minimum controls programs are projected to cost \$2.7 billion. See “Combined Sewer Overflow Long-Term Control Plan” in Section IV, Rates and Revenues for additional details on the projected rate impact of the plan.
- DC Water implemented a retail water and sewer rate increase of 5.0 percent in FY 2017 to recover increased retail water and sewer revenue requirements of \$11.4 million. No Rate Stabilization Fund (RSF) was utilized in FY 2017. If needed, the RSF helps to mitigate rate shock and reduces needed retail rate increases. In addition, there was a 2 percent increase in PILOT as per the PILOT MOU signed with the District on September 4, 2014. ROW fees remained same as in FY 2016. The changes in PILOT and ROW fee are made to recover the full costs of these fees charged to DC Water by the District of Columbia government. The rate changes are mainly due to the increase in debt service cost to finance the capital improvement program.
- **Water System Replacement Fee (WSRF) was implemented in FY 2016 becoming** effective from October 1, 2015 (FY 2016), WSRF recovers the costs of 1 percent renewal and replacement program for water service lines. WSRF varies with meter size. The WSRF for 5/8” meter size is \$6.30. Low income CAP customers get 100 percent discount for this fee.
- **Multi-Year Rates:** DC Water moved to a multi-year rate proposal in FY 2016 covering the period FY 2017 and FY 2018. This is the second time that DC Water has adopted a multi-year rate proposal in FY 2018 covering the period FY 2019 and FY 2020 and will become effective from October 1, 2018.

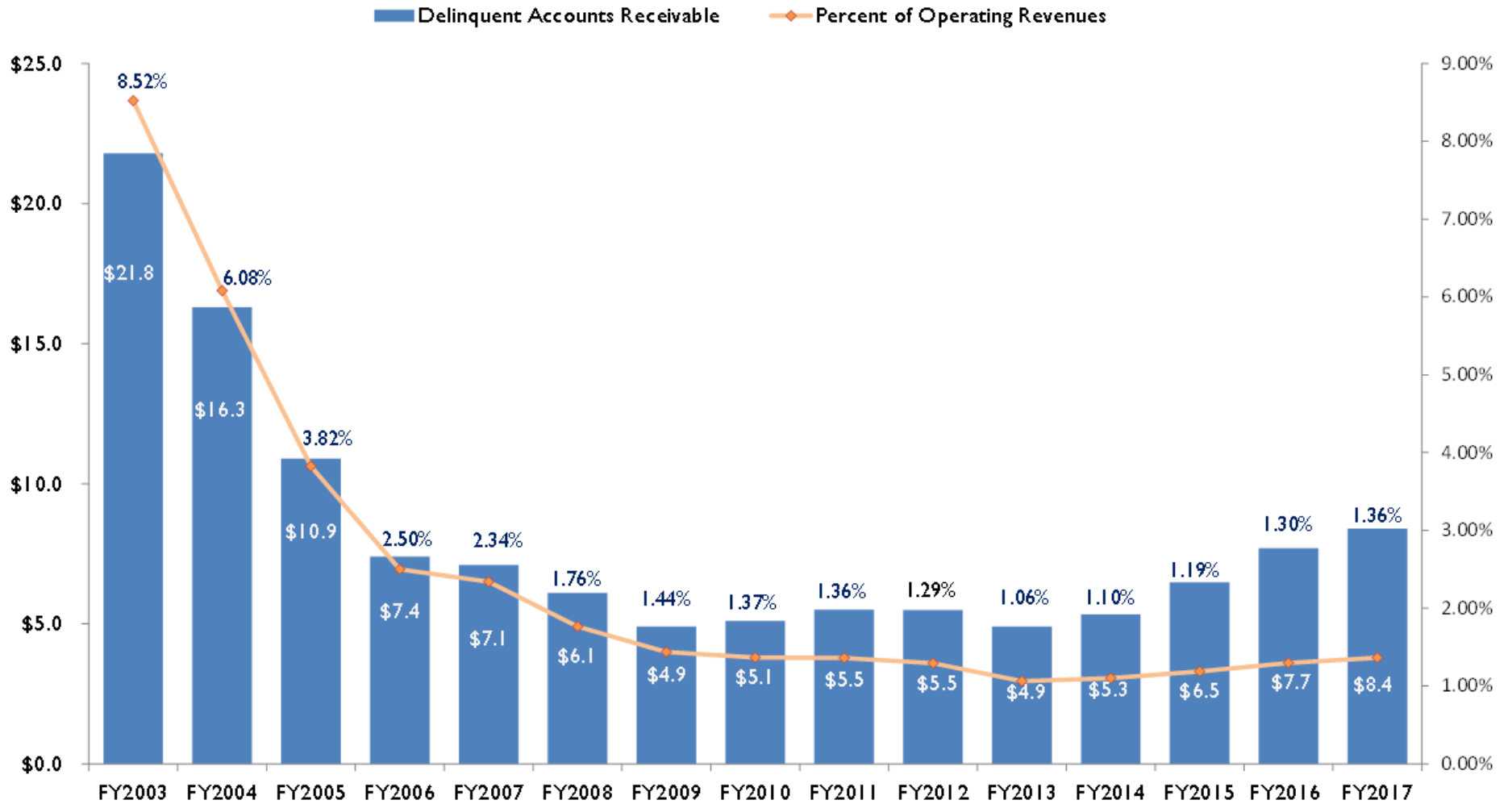
The benefits of multi-year rates include:

- Greater revenue certainty
  - Increased budget discipline
  - Better alignment between revenues and expenditures
- For the seventh consecutive year, DC Water received the Government Finance Officers’ Award for Distinguished Budget Presentation for its FY 2017 budget submission. DC Water also received its twentieth unqualified audit opinion for the fiscal year ended September 30, 2016 and received the twentieth GFOA Certificate of Achievement for Excellence in Financial Reporting.

- In FY 2017, DC Water successfully renewed all of the Authority’s operations insurance policies at essentially the same terms at 7.7% higher costs than previous year. DC Water’s coverage is generally comparable to expiring.
- DC Water completed its thirteenth year of its rolling owner-controlled insurance program (ROCIP), sixth year of ROCIP II, third year of ROCIP III and is actively managing ROCIP IV. DC Water procures general liability and workers’ compensation insurance coverage for the majority of its construction contractors. The result is substantially higher insurance coverage levels for all contractors and significant cost savings. At the end of FY 2017, 65 projects and 393 contractors were enrolled in the expired ROCIP I program, 47 projects and 770 contractors were enrolled in the now expired ROCIP II program, 46 projects and 790 contractors were enrolled in the ROCIP III program and 21 projects and 145 contractors are currently enrolled in the ROCIP IV program. Preliminary avoided costs (aka savings) are estimated in the range of \$4 to \$5 million for ROCIP I; approximately \$8 million for ROCIP II, \$12 million for ROCIP III and \$15 million for ROCIP IV. ROCIP II and III were three year insurance programs that support an estimated \$2.4 billion of planned and completed construction. A major reason for the cost savings is the implementation of a uniformly strong safety program for all contractors.
- DC Water revenue collection rates rival high levels of performance achieved by investor-owned water utilities. Delinquent accounts receivable represents less than 2 percent of Total Operating Cash Receipts by:
  - Advanced Metering Infrastructure (AMI) – In 2017, DC Water began upgrading 90,000 residential customer meters to its new AMI platform
    - New technology provides two way communication to and from a device
    - New Technology allows us to increase data points from the field from twice daily to hourly or 15-minute interval data
    - Increased data points sets the foundation for improved technology advancements in consumption analysis, leak detection, and bill accuracy
    - Provides complete control over access to consumption data with On-demand reads virtually eliminating the need for truck rolls after installation
    - Assures the highest read success rate in the industry with redundant readings transmissions and collection paths
  - Customer Information System (CIS) – Starting in 2017, DC Water began the upgrade of its system to a new Vertex One CIS
    - New functionality for managing customer relationships, not just locations
    - Improved customer relationship management
    - Advanced process automation capabilities
    - Improved customer self-service features
    - Enhanced security over personal and financial information
    - Robust customer communication/notifications related to changes to customer profiles
    - Enables on-line service requests
  - New mobile work management application

- The gradual decoupling of revenues from volumetric based revenues to more predictable relatively fixed revenue sources increases our ability to negotiate payment plans with customers based on expected future bills
- Continuous updating of the customer information systems to allow the integrity of the data to be maintained, resulting in better credit decision making
- Maintain the predictive dialer outbound calls to remind customers to pay before balances become unmanageable
- Adhering to payment plan policies that balance managing arrears and keep a vital service on for customers
- Continuous placement of property liens when an account balance exceeds \$200 and is more than 60 days past due
- Getting Executive and Board support for credit policies and developing assistance programs such as the customer assistance program (CAP) and SPLASH program for low income customers. The CAP discount program administered by DOEE provided discount as of September 30, 2017 to 4,244 customers representing \$1,135,297.
- SPLASH – This is the program that provides assistance to needy customers as well. It operates solely on contributions from Customers, the community and DC Water employees. DC Water pays all administrative fees to Greater Washington Urban League (GWUL), who administers the program. For FY 2017, DC Water received \$103,283 in contributions and assisted 331 customers as of September 2017. CAP and SPLASH together provide approximately \$1,238,580 per year in assistance to approximately 4,600 low income households to help make their bills more affordable
- Continuous focus is placed on the top 75 accounts with the largest balances by making outbound calls to negotiate payments and assess risk

## DELINQUENT ACCOUNTS RECEIVABLE (\$ in Millions)



■ Graph represents Delinquent Accounts Receivable as percent of Total Operating Cash Receipts (includes Retail, Wholesale and Other)

## General Principles of Affordability for Low- Income Customers Policy

On September 4, 2014, The General Principles of Affordability for Low-Income customers was approved. It is the policy of the Board of Directors of DC Water in setting retail rates, to follow the General Principles of Affordability for Low-Income Customers articulated herein:

1. Consideration of rate impacts on low-income customers;
2. Exploration of affordability alternatives for low-income customers; and
3. Development of a more innovative rate structure, the goal of which is to reduce the economic burden on low-income customers at the earliest practicable date consistent with the Board's need to gather sufficient data to support any rate structure chosen.

DC Water reviews the equity and sufficiency of its rates and rate structures periodically through various costs of service studies. The COS study prioritizes the following pricing objectives:

- Revenue sufficiency – Rates should recover revenue necessary to operate and maintain the utility in perpetuity
- 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 our customers to understand
- Affordability – DC Water should minimize customer bills while not sacrificing good, clean and safe service

In FY 2015, a Cost of Service Study was conducted by the Independent Financial Consultants which provided several recommendations:

Additional Alternative Fees and Charges:

1. Customer Class-Based Volumetric Rates – Rate differentiation based on the peaking demands of each customer class (residential, multi-family and non-residential).
2. Lifeline Rate – A lifeline rate for first 4 Ccf of Single Family Residential (SFR) water use to reflect baseline usage by residential customers without peaking costs. The lifeline rate provides an economic benefit to low-volume Residential customers, while spreading the cost of peaking to high-volume Residential customers.
3. Water System Replacement Fee (WSRF) – In Fiscal Year 2016, DC Water to modify its existing rate structure and to implement a new meter-based Water System Replacement Fee in order to recover the cost of the 1% renewal and replacement program for water service lines. It is anticipated that the new WSRF will generate \$40 million per year. DC Water's low income CAP customers would receive a 100% credit for this fee.

4. System Availability Fee (SAF) – DC Water to propose a new System Availability Fee (SAF). A one-time fee assessed to a property owner of any premises, building or structure to recover the cost of system capacity put in place to serve all metered water service and sanitary sewer connections and renovation or redevelopment projects that require an upsized meter service connection to the District’s potable water system. The fee is assessed based on the peak water demand, excluding fire demand, for new meter water service connection and renovation or redevelopment projects that increase the peak water demand and associated SAF meter size for the property.
5. Based on the 2015 Cost of Service Study, DC Water has adopted several changes to its existing retail rate structure starting in Fiscal Year 2016. These changes are designed to better align the Authority’s revenues and expenditures by establishing customer class-based volumetric water rates based upon peaking factors, to create a more progressive rate structure for its residential customers by establishing lifeline water rates which discount core consumption, and to fund the authority’s water main replacement program by establishing a monthly, fixed Water System Replacement Fee.

In FY 2018, a Cost of Service Study was conducted by the Independent Financial Consultants which provided several recommendations:

- Every three years DC Water conducts Cost of Service Study for the Water and Sewer rates, and the Clean Rivers Impervious Area Charge (CRIAC) to update actual and projected expenditures to ensure that these charges are appropriately recovering costs
- DC Water has taken several actions over the last several years to lower CRIAC costs including Century Bonds, refinancing older debt for savings, and restructuring debt so the relief is provided to today’s customers. These savings are now reflected in the projected charges
- A reallocation of the costs associated with the Clean Rivers Impervious Area Charge (CRIAC) to the Sewer utility results in a reduction in the CRIAC and an increase in the Sewer volumetric charge
- The revenue collected from the Water System Replacement Fee, originally designed to fund the annual costs of 1% of DC Water’s water service line 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
- Although these two reallocations cause shifts in the cost structure, and subsequent rates, DC Water customers will see only minimal changes to their bills

## **Water System Replacement Fee (WSRF)**

Effective October 1, 2015 (FY 2016), DC Water modified its existing rate structure and implemented a new meter-based Water System Replacement Fee (WSRF) in order to recover the cost of the 1% renewal and replacement program for water service lines. It is anticipated that the new Water System Replacement Fee (WSRF) will generate approximately \$39.7 million per year from fiscal years 2018 through 2027. The fee is based upon meter size and average flow. DC Water’s low income CAP customers receive a 100% credit for this fee.

Effective October 1, 2017, (FY 2018), DC Water amended the Water System Replacement Fee (WSRF) regulations to add rules and procedures for a Multi-family WSRF adjustment; amend the Customer Classifications to clarify the definitions for Residential, Multi-family and Non-Residential customers to include cooperative housing associations and other clarifications; and amend the definitions set forth in Chapter 4I to define the terms Condominium, Cooperative Housing Association, and Dwelling Unit used in the Customer Classification regulations.

The following terms are defined:

**Condominium** – means real estate, portions of which are designated for separate ownership and the remainder of which is designated for common ownership solely by the owners of the portions designated for separate ownership, provided the undivided interests in the common elements are vested in the unit owners.

**Cooperative Housing Association** – means an association, whether incorporated or unincorporated, organized for the purpose of owning and operating residential real property, the shareholders or members of which, by reason of their ownership of a stock or membership certificate, a proprietary lease or other evidence of membership, are entitled to occupy a dwelling unit pursuant to the terms of a proprietary lease or occupancy agreement.

**Dwelling Unit** – any habitable room or group of rooms with kitchen and bathroom facilities forming a single unit located within a building or structure, which is wholly or partially used or intended to be used for living, sleeping and the preparation and consumption of meals by human occupants, and is under the control of and for the use of the occupant.

## **System Availability Fee (SAF)**

Many utilities have implemented a fee, assessed to new development (or redevelopment) to recover the investment in available system capacity. On June 17, 2016, DC Water’s Board approved a new System Availability Fee (SAF) to be effective from January 1, 2018. All Residential Customers with meters 1 inch or smaller will use the same set of fees. All Residential Customers with meters larger than 1”, and all Multi-Family and Non-Residential Customers will have SAF based on their meter size.

The System Availability Fee will be assessed for all new buildings, structures or properties under development and properties under redevelopment. For properties under redevelopment, DC Water will determine the net System Availability Fee by determining the property's proposed capacity requirements and applying a credit for the capacity of accounts being removed from the system. However, if the associated credit for capacity removed is equal to or greater than the future System Availability Fee, the net System Availability Fee shall be zero. Properties under redevelopment shall not receive a credit for accounts that are inactive for more than 12 months.



In FY 2018, DC Water has determined that implementing the System Availability Fee (SAF) regulations on the effective date of January 1, 2018 could present significant fiscal impacts to the District's New Communities Initiative, which includes redevelopment, one for one replacement and/or augmentation, of affordable housing units. On March 1, 2018, the DC Water Board considered comments received during the SAF public comment period and agreed to;

- 1) Extend the System Availability Fee (SAF) effective date from January 1, 2018 to June 1, 2018 for DCRA Construction Permit Applicants and federal facilities new water and sewer connections and renovation or redevelopment projects for existing connections to the District's potable water and sanitary sewer systems based on the SAF meter size in accordance with the following fee schedule and requirements;
- 2) Revised the DC Water guidance document used to determine the SAF meter size from DC Water Standard Details and Guideline Masters to DC Water's Sizing Instructions and Worksheets;
- 3) Added procedures and requirements to receive credits for Affordable Housing Units (AHU) development and redevelopment;
- 4) Clarified the requirements for projects submitted prior to the effective date of June 1, 2018 and approved by June 1, 2019;
- 5) Added formulas to clarify how the SAF is calculated with the SAF credit, AHU credit and Net AHU credit;
- 6) Clarified requirements for Payment Plan Agreement;
- 7) Properties under redevelopment shall not receive a credit for accounts that are inactive for more than 24 months.

Effective June 1, 2018, DCRA Construction Permit Applicants and federal facilities shall be assessed a System Availability Fee (SAF) for new water and sewer connections and renovation or redevelopment projects for existing connections to the District's potable water and sanitary sewer systems based on the SAF meter size in accordance with the following fee schedule and requirements.

- In 2018, the Independent Financial Consultants performed a cost of service study (COS) to determine the costs of providing fire protection service to the District. DC Water provides Fire Protection Services to the District, including but not limited to the delivery of water for firefighting, inspection, maintenance and upgrading of public fire hydrants in the District of Columbia. The consultants compared DC Water costs with the revenues received from the District for fire protection services. The consultants reviewed and tabulated historical fire service costs of DC Water (FY 2013 - 2017). Projections of DC Water costs were developed for FY 2018 – FY 2021. As per terms of the 2013 MOU and based on the results of the 2018 COS, Fire Protection Service fee was established at \$12.527 million for fiscal years FY 2019, FY 2020 and FY 2021. This fee is \$1.731 million higher than the FY 2015 fee of \$10.796 million.
- A new PILOT MOU was signed between DC Water and the District of Columbia on September 4, 2014, which reduced the annual PILOT payment. As per agreement, the PILOT of \$15.3 million for FY 2015 would be escalated by 2 percent per year. The agreement will be effective till September 30, 2024.
- On October 07, 2014, DC Water and the District reached an agreement on the ROW terms and conditions, which provides that DC Water will continue to make payments totaling \$5.1 million annually to the District for FY 2015 – FY 2024.
- DC Water periodically reassesses its policies every five years regarding the operating reserve requirement. The Independent Financial Consultants conducted the study to consider the appropriate level of its Total Operating Reserves for FY 2013 and subsequent years. The Independent Financial Consultants recommended that DC Water maintain its current operating reserve policy to require a minimum balance of the greater of \$125.5 million or 120 days of budgeted O&M expenses. In 2018, Independent Financial Consultants conducted the study and recommended to revise the current reserve policy (120 days of operating and maintenance expenses or \$125.5 million, the bond indenture requires 60 days of operating expenses) to the higher of \$140.0 million or 140 days of operating and maintenance expense. The recommendations will be presented to the DC Water Board for approval. The next Operating Reserves study will be conducted in FY 2022.
- The Independent Financial Consultants noted that the wholesale customers have not contributed to the reserves and that DC Water may consider having wholesale customers provide a proportionate share of the contributions required for the R&R Reserve Fund.
- DC Water Indenture of Trust requires the Authority to maintain a Renewal and Replacement (R&R) Reserve Fund. In FY 2013, the Independent Financial Consultants conducted this study to examine the reasonableness of the amount on deposit in the R&R Reserve Fund and make recommendations to the Authority for the value of the Fund for the next 5-year period of FY 2013 through FY 2017. The Independent Financial Consultants recommended that DC Water maintain its current R&R Reserve Fund policy to require a balance of \$35 million. In FY 2018 study, the Independent Financial Consultants recommended to maintain R&R Reserve Fund at \$35.0 million. The recommendation will be presented to the DC Water Board for approval. The next R&R Reserve Fund study will be conducted in FY 2022.
- Over the last ten years, DC Water has made contributions to the RSF and made withdrawals to help mitigate rate increases. In FY 2018, the Independent Financial Consultant performed a cost of service (COS) study to determine the appropriate level of Rate Stabilization Fund (RSF) to help

mitigate rate increases. The study recommended that the Authority maintain current RSF policy of allowing management discretion on deposits and withdraws; consider adding to the RSF in future years from year-end operation balances to support one or more Board objectives. The recommendation will be presented to the DC Water Board for review and approval.

- With respect to Operating Reserves, Renewal and Replacement (R&R) Reserve Fund Study and Rate Stabilization Fund (RSF), the Independent Financial Consultants also recommended the following:
  - DC Water’s Operating Reserves, Rate Stabilization (RSF) and R&R Reserve Fund requirement be reassessed at least every five years in conjunction with the Indenture-required system assessment (or sooner in event of changes in the underlying factors, assumptions, or market conditions).
  - DC Water and its financial advisor should monitor the rating agencies assessment of the Total Operating Reserves (including the R&R Reserve Fund) on an ongoing basis. The purpose of such monitoring would be to ensure that the rating agencies remain comfortable with the level of the reserves

## ALL LEGAL COVENANTS, FINANCIAL BOARD POLICIES, ACCOMPLISHMENTS AND TARGETS ARE INCORPORATED INTO THIS TEN YEAR FINANCIAL PLAN

Compliant	Description	Legal covenant	Performance Target	FY 2017 Actual	FY 2018 Revised	FY 2019 Approved	FY 2020 Proposed
<input checked="" type="checkbox"/>	Senior Debt Service Coverage	120%	140%	547%	489%	561%	545%
<input checked="" type="checkbox"/>	Operating Cash Reserves	N/A	\$125.5 million	147.21 million	\$140 million	\$140 million	\$140 million
<input checked="" type="checkbox"/>	Short Term Investment Return Benchmark Merrill Lynch 3-Month Treasury Index	N/A	25 basis points	102 basis points	118 basis points	159 basis points	209 basis points
<input checked="" type="checkbox"/>	Long Term Investment Return Benchmark Merrill Lynch 1-3 Year Treasury Index	N/A	50 basis points	143 basis points	142 basis points	177 basis points	238 basis points
<input checked="" type="checkbox"/>	Water and Sewer Rates	Revenues must be sufficient to cover: operating expenses, senior and sub debt service, amounts necessary to maintain DSRF and ORF levels, and any annual PILOT payments	Each customer will be charged for the actual cost to provide each service, and rate increases will be reliable and predictable	Future rate increases are driven by financial impact of the capital program and full utilization of the RSF; the development of a 10-year financial plan allows DC Water to meet these key goals of full cost recovery and predictability	Same as Performance Target		
<input checked="" type="checkbox"/>	Rate Stabilization Fund (RSF)	N/A	Help to avoid spikes in rate increases for retail customers	Zero Utilization of the RSF, leaving a balance of \$61.45 million.	Projected at \$61.45 million at the end of FY 2018	Projected at \$61.45 million at the end of FY 2019	Projected at \$61.45 million at the end of FY 2020

The Approved FY 2018 - FY 2027 financial plan includes the resources necessary to accomplish critical financial and operational goals over the coming years, as summarized below .

- Continue adherence to the Board's financial, investment, rate-setting and long-term planning policies
- Continue implementation of the ten-year \$4.0 billion capital improvement program
- Includes disbursements of \$1.3 billion over the ten-year planning period for Clean Rivers Project (CSO Long-Term Control Plan) exclusive of the nine-minimum controls program
- Continued exceptional financial performance, reduction in overtime, adherence to Board's customer outreach and transparency to include customer input and flexibility to meet emerging needs
- Improving Public Image: re-focus of the government relations activities to bring greater visibility to DC Water and the national need for infrastructure investment and funding; and various pilot projects to look for additional improvements to DC Water services
- Efficiency
  - Capital efficiencies through in-sourcing of engineering design, valve operations and fire hydrant maintenance
  - Organizational development and process improvement to enhance the Team Blue activities initiated in FY 2011 and continued through FY 2016
- Enhancing security
  - Initiate Hardening Project at Blue Plains (reinforcing exterior security) and integration of operations cameras at 'off-Blue Plains' location
  - Complete Vulnerability Assessment to identify weaknesses in DC Water's physical, cyber, and operational security
  - Continue build of dedicated Security network (virtual network) and incorporate Physical Security Information Management (PSIM) technology into Security Command Center (SCC)
- Workforce
  - Continue to focus employees' efforts on DC Water's most important goals in line with the Board Strategic Plan
  - Improve recruiting process by identifying high-quality candidates using job descriptions based upon the expertise of high performing employees holding uniquely valued competencies
  - Fill critical talent management needs and address company and industry changes promptly
  - Continue to Enhance management skills through training

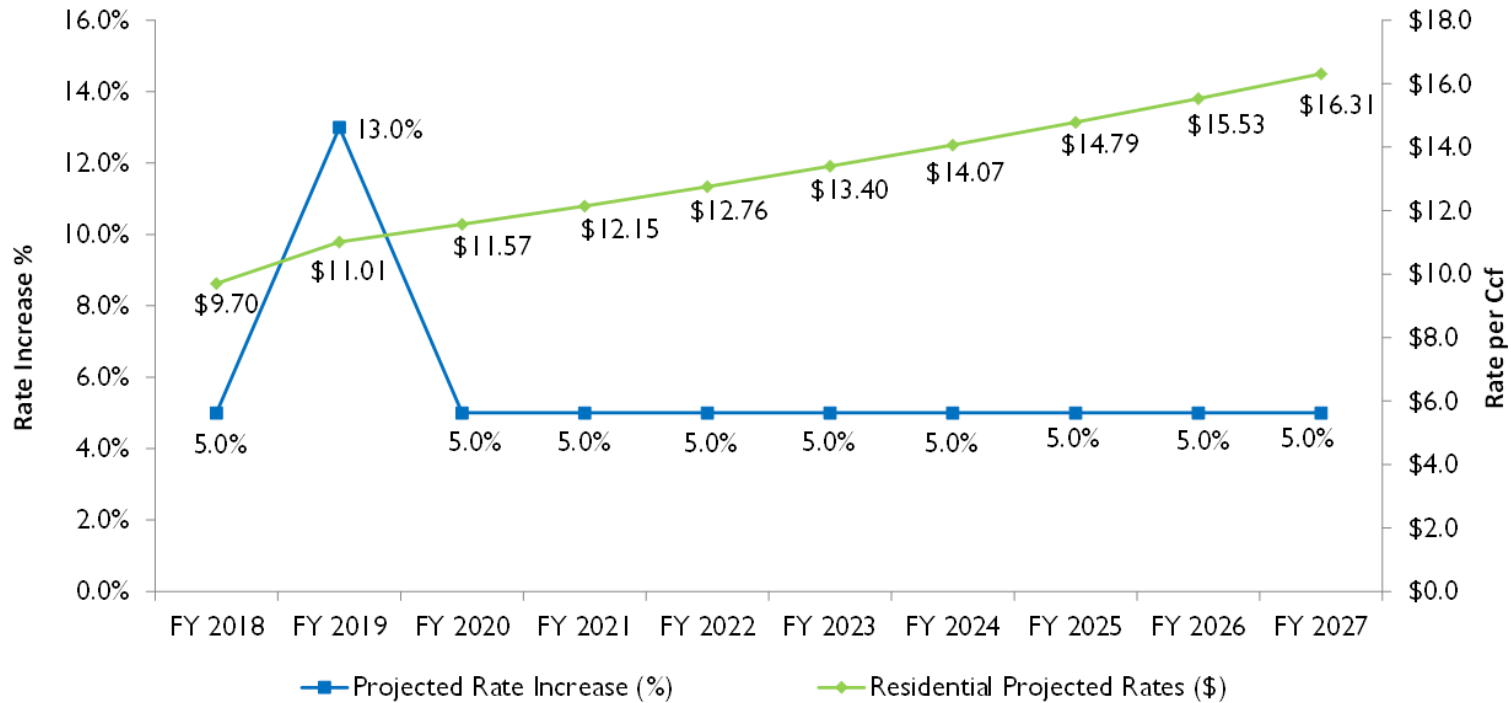
The ten-year financial plan reflects the following major assumptions:

- Operating and maintenance expenses (excluding the payment-in-lieu-of-taxes and right-of-way fee) are projected to grow at an average annual rate of 3.4 percent, primarily due to projected inflation
- Personnel services is projected to increase to accommodate for insourcing initiatives to support the capital program
- Payment-in-lieu-of-taxes (PILOT) to the District of Columbia for FY 2018 will be at \$16.276 million. PILOT payment is projected to increase by 2 percent per annum in accordance with the new memorandum of understanding (MOU) signed on September 4, 2014 with the District
- According to the new memorandum of understanding (MOU) dated October 4, 2014, the Right-of-Way payment to the District of Columbia stays level at \$5.1 million
- Debt Service:
  - Interest on Variable debt assumed to be 2.50 percent in FY 2018 and FY 2019
  - Interest on Fixed debt assumed to be 5.0 percent in FY 2018 and 5.50 percent in FY 2019
  - Utilization of the Commercial Paper program / Extendable Municipal Commercial Paper (EMCP) is assumed for interim financing for bond issuance, capital equipment and Washington Aqueduct

Due to these ongoing and new initiatives, from FY 2018 – FY 2027 DC Water’s water and sewer volumetric retail rates are projected to increase by \$0.56 to \$1.31 per 100 cubic feet as shown in the chart below. Cumulative rate increases would total 58.0 percent over the ten-year period compared to 50.0 percent projected in last year’s ten-year plan (FY 2017 – FY 2026).

### Projected Retail Rate Increases

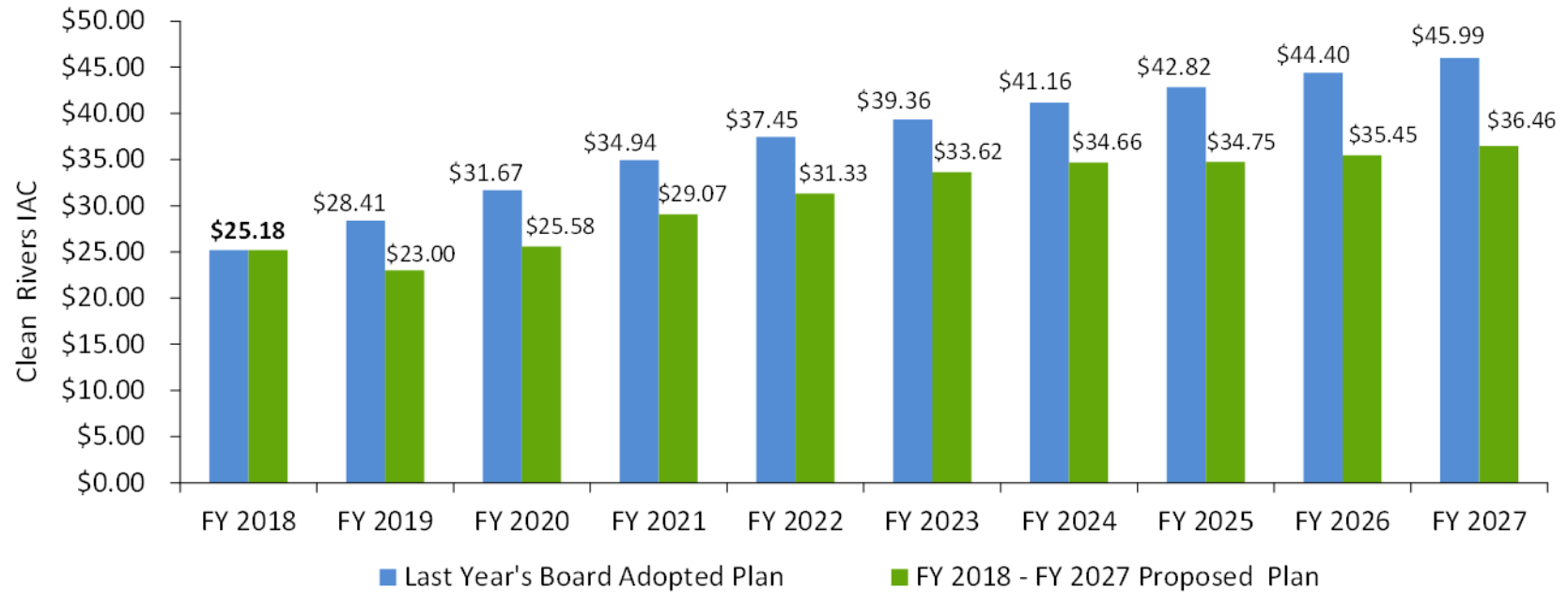
*FY 2018 – FY 2027*



Rates shown above reflect weighted water and sewer rates for Residential customers’ category. The proposed retail water and sewer combined rate for FY 2019 is \$11.01 per Ccf and \$11.57 per Ccf for FY 2020. In addition, the approved increase in the combined Right-of-Way and PILOT Fees is \$0.01 per Ccf, {\$0.01 per 1,000 gallons}, in FY 2019 and is \$0.02 per Ccf, {\$0.02 per 1,000 gallons} in FY 2020 to recover the full amount for services charged to DC Water by the District. There is no increase in FY 2019 Right-of-Way Fee, which remains same at \$0.18 per Ccf (\$0.24 per 1,000 gallons). The proposed monthly Clean Rivers Project CRIAC charges for FY 2019 and FY 2020 are \$23.00 and \$25.58 respectively per ERU (Equivalent Residential Unit); decrease of \$2.18 over the FY 2018 charge and increase of \$2.58 over the FY 2019 charge respectively.

**Projected Monthly Clean Rivers Impervious Surface Area Charge Increases**

***FY 2018 – FY 2027***



- The projected charges displayed in the chart above are primarily driven by anticipated debt service costs necessary to support the twenty-five year Clean Rivers Project totaling \$2.7 billion federally mandated Clean Rivers Project (CSO LTCP) and the nine-minimum control program.
- The annual Clean Rivers Project IAC costs for the average Tier 2 residential customer (700 – 2,000 sq. ft. of Impervious Area) is projected to increase from \$25.18 per month in FY 2018 to \$36.46 per month in FY 2027.



The proposed rate and fee adjustments included in the FY 2018 – FY 2027 financial plan are driven by the following trends and initiatives:

- Assumed retail water consumption decline of 1 percent in FY 2018 over FY 2017 projection and conservation of 1 percent in FY 2019 and onwards.
- Increasing debt service expenditures, driven by DC Water's \$4.0 billion capital improvement program (cash disbursements basis), which increases on average by 5.3 percent over the Financial Plan period.
- Operations and maintenance expenditure (excluding the payment-in-lieu-of-taxes and right-of-way-fee) increase on average of 3.4 percent annually over ten year period.
  - Increasing operating expenditures, driven primarily by projected increases in personnel services, contractual services, chemicals, and water purchases
  - Continuation of In-Sourcing Proposals for in-house planning & design and valve operations
  - Enhanced service to the development community through improved permitting operations

**Customer Assistance Programs:** We continued our commitment to help improve the quality of life for those of our customers who are least able to pay, by providing relief through our customer assistance programs (CAP). Through CAP, we provide eligible customers a discount of 4 Ccf per month on their water and sewer bills. Since it began in FY 2001, participation in CAP has continued to increase. In FY 2004, the authority expanded the CAP to include tenants who meet financial eligibility requirements and whose primary residence is separately metered by the Authority. As of October 1, 2010, the Board expanded the CAP discount to include the first 4 Ccf of Payment-in-Lieu of Taxes (PILOT) and Right-of-Way (ROW) to qualifying low-income residential customers. The District Department of Energy and Environment (DOEE), administers this program for the Authority and several other utilities in the area.

In FY 2016, DC Water implemented Water System Replacement Fee (WSRF). This is a fixed monthly fee set to recover the costs of the 1 percent renewal and replacement program for water service lines. The fee is based on meter size and average flow. The DC Water's low-income CAP customer will receive 100 percent credit for this fee.

As of May 1, 2017, the Authority further expanded the CAP to include 50 percent discount for CRIAC.

DC Water Board Approved a DC Clean Rivers Impervious Surface Area Charge Incentive Program (CRIAC) effective from October 1, 2013. This is a three year pilot credit/discount program for the DC Clean Rivers Impervious Surface Area Charge.

For FY 2017, \$1,135,297.25 in discount benefits was provided to 4,244 customers. Our SPLASH program customers donated an additional \$103,283 through their water bills for the benefit of those customers who needed additional help.

The Revised FY 2018 operating receipts projection totals \$620.5 million, an increase of \$3.3 million above the approved FY 2018 receipts. The Proposed FY 2019 operating receipts total \$649.5 million, an increase of \$29.0 million over the Revised FY 2018 receipts. The Proposed FY 2020 operating receipts total \$658.8 million, an increase of \$36.3 million over the Proposed FY 2019 receipts.

**COMPARATIVE OPERATING RECEIPTS**  
**FY 2018 – FY 2019**  
(\$ in 000's)

	FY 2018 Approved	FY 2018 Revised	Increase/ (Decrease)	Percent Change	FY 2019 Approved	Increase/ (Decrease)	Percent Change	FY 2020 Approved	Increase/ (Decrease)	Percent Change
Residential	109,793	\$ 111,600	1,807	1.6%	\$ 117,377	5,777	5.2%	\$ 125,342	7,965	6.8%
Commercial	159,147	156,272	(2,875)	-1.8%	163,067	6,795	4.3%	175,349	12,282	7.5%
Multi-family	84,099	87,042	2,943	3.5%	93,208	6,166	7.1%	98,780	5,572	6.0%
<b>Sub-Total Residential, Commercial and Multi-family</b>	<b>353,039</b>	<b>354,914</b>	<b>1,875</b>	<b>0.5%</b>	<b>373,652</b>	<b>18,738</b>	<b>5.3%</b>	<b>399,471</b>	<b>25,819</b>	<b>6.9%</b>
Federal Government(1)	58,494	62,167	3,674	6.3%	67,054	4,887	7.9%	70,176	3,122	4.7%
District Government	19,066	17,312	(1,753)	-9.2%	17,362	50	0.3%	18,650	1,288	7.4%
D.C. Housing Authority	8,825	8,979	153	1.7%	9,719	740	8.2%	10,209	490	5.0%
Transfer from Rate Stabilization Fund	-	-	-	-	-	-	-	-	-	-
Water System Replacement Fee (WSRF)	39,717	39,717	-	-	39,717	-	-	39,717	-	-
Metering Fee	10,776	10,776	-	-	10,776	-	-	10,776	-	-
<b>Total Retail</b>	<b>489,917</b>	<b>493,865</b>	<b>3,948</b>	<b>0.8%</b>	<b>518,280</b>	<b>24,415</b>	<b>4.9%</b>	<b>549,000</b>	<b>30,719</b>	<b>5.9%</b>
IMA Wastewater Charges	67,895	67,895	-	-	70,371	2,476	3.6%	72,482	2,111	3.0%
Potomac Interceptor Wastewater Charges	8,133	8,133	-	-	8,866	733	9.0%	9,132	266	3.0%
<b>Total Wholesale</b>	<b>76,028</b>	<b>76,028</b>	<b>-</b>	<b>-</b>	<b>79,237</b>	<b>3,209</b>	<b>4.2%</b>	<b>81,614</b>	<b>2,377</b>	<b>3.0%</b>
District Stormwater Revenue (2)	1,000	1,000	-	-	1,000	-	-	1,000	-	-
Misc. Rev. (e.g. water tap installation, fire hydrant usage, etc.)	24,036	23,534	(502)	-2.1%	22,235	(1,299)	-5.5%	22,107	(128)	-0.6%
Washington Aqueduct Debt Service Revenue for Falls Church & Arlington	193	193	-	0.0%	193	-	-	193	-	-
Interest Income (including interest on Bond Debt Service Reserve Fund)	2,549	2,326	(223)	-8.8%	2,971	645	27.7%	3,966	995	33.5%
System Availability Fee (SAF)	1,925	1,925	-	-	3,850	1,925	100.0%	5,775	1,925	50.0%
Right of Way	5,100	5,100	-	-	5,100	-	-	5,100	-	-
PILOT Fee	16,411	16,501	90	0.6%	16,601	101	0.6%	17,013	412	2.5%
<b>Total Other</b>	<b>51,214</b>	<b>50,579</b>	<b>(635)</b>	<b>-1.2%</b>	<b>51,950</b>	<b>1,372</b>	<b>2.7%</b>	<b>55,154</b>	<b>3,204</b>	<b>6.2%</b>
<b>Total Operating Cash Receipts</b>	<b>617,159</b>	<b>\$ 620,472</b>	<b>\$ 3,313</b>	<b>0.9%</b>	<b>\$ 649,467</b>	<b>\$ 28,996</b>	<b>4.7%</b>	<b>\$ 685,768</b>	<b>\$ 36,301</b>	<b>5.6%</b>

(1) Historical actuals are presented on revenue basis. Projected amounts shown are billed revenues. Actual Federal receipts are a combination of current year projected revenues and prior year adjustments, which are presented as reserve items. See Section 3 for further explanation.

(2) Reflects District stormwater fee revenue that will fund DC Water's share of District stormwater permit compliance activities, and will not be funded through DC Water's retail rates or other DC Water revenue sources. See Section 3 for further explanation.

- **Residential, Commercial and Multi-family Receipts** - are projected at \$354.9 million, which is approximately \$1.9 million higher than the Board approved FY 2018 level, primarily due to slightly higher consumption projection.
- **Federal revenues** - are projected to increase by \$3.7 million or 6.3 percent reflecting the Congressional approval level for the FY 2018 federal bill.
- **Municipal & D.C. Housing Authority Receipts** - are projected to increase by \$1.6 million (or 5.7 percent) primarily due to increase in CRIAC charges for these categories.
- **Rate Stabilization Fund Utilization** - The ten-year plan and near-term revenue projections assume no utilization of RSF in FY 2018. Prior years' plans assumed the use of these funds, which is necessary as DC Water reaches its peak years of spending in the CIP. Utilization of RSF monies allows DC Water to implement future rate increases in a reliable and predictable manner while still meeting Board and indenture policies on cash reserves and debt service coverage.
- **Customer Metering Fee** - This fee recovers the costs associated with installing, operating, maintaining and replacing meters, and is charged to all retail customers (including federal and municipal customers). The fee varies based on meter size, with monthly fees ranging from \$3.86 for a 5/8 inch meter (typical size of a residential customer meter) to \$349.06 for 16" meters (typically used for large commercial customers). No revenue change is anticipated in this category.
- **Wholesale Receipts** - the FY 2018 revised budget assumes no change in this category over the approved FY 2018 budget.
- **Stormwater** - DC Water's FY 2018 and FY 2019 receipts include \$1.0 million each year from the Department of Energy and Environment (DOEE), formerly DDOE, which will be used to fund DC Water's services provided on behalf of the District's stormwater permit compliance activities including the billing and collection through DC Water invoices of fees established by DOEE. The FY 2018 – FY 2027 financial plan assumes that all incremental costs borne by DC Water for stormwater permit compliance activities will be reimbursed by the stormwater fund, and that no DC Water funds will be advanced to pay for these activities.
- **Other revenues** - In FY 2018 are projected to decrease by \$0.6 million, or 1.2 percent, mainly due to decrease in the interest income and IMA Indirect Cost Reimbursement for Capital Projects.
- **Right-of-Way and Payment-In-Lieu of Taxes (PILOT) Pass-Through Fees** - Similar to other Washington area utilities, DC Water has implemented fees that pass through the costs of the District's Right-of-Way fee (ROW) and Payment in Lieu of Taxes (PILOT) as separate line items on its bill. In FY 2018 revised budget as compared to FY 2018 approved budget, PILOT is projected to increase by \$0.09 million, or 0.6 percent due to slightly higher consumption projection. ROW fee remains same at \$5.1 million.

Other major assumptions underlying the revenue projections contained in the FY 2018 – FY 2027 financial plan include:

- For FY 2018, 1.0 percent reduction in water sales is assumed over FY 2017 projection for all customer categories, based on historical trends in consumption levels. For FY 2019 and onwards, 1.0 percent conservation is assumed for all categories.
- 3.0 percent average revenue increase between FY 2020 and FY 2027 for wholesale customers, in line with operating and maintenance expense increases for joint use facilities. In FY 2019, however, the wholesale revenue increased by \$3.2 million or 4.2 percent due to the new Multi-Jurisdictional User Facility O&M Costs (MJUF) and revised operations and maintenance expense projection for FY 2019.
- Based on the current interest rate environment, interest projections are conservatively assumed at 1.50 percent earnings rate in FY 2019 and 2.0 percent in FY 2020 and 3.0 percent FY 2021 on operating funds. Interest rates for FY 2022 and onwards are assumed at 4.0 percent.
- The majority of other non-operating revenues, totaling \$27.3 million in FY 2019 are projected to increase within the ten-year plan, and include such items as:
  - Reimbursement from Arlington County and Falls Church for debt service issued for pre-1997 Washington Aqueduct capital improvements - \$0.2 million.
  - Reimbursement from the Stormwater Enterprise Fund for services provided to DOEE under their MS4 permit - \$1.0 million.
  - Recovery of indirect costs from DC Water’s IMA partners - \$3.2 million - this reflects recovery of indirect costs on capital projects (e.g., costs for Finance, Accounting and Budget, General Counsel, and Human Resources functions).
  - Reimbursement from the District for the Fire Protection Services fee of \$10.8 million.
  - Other miscellaneous fees and charges, including service line replacements, developer-related fees, and the Engineering Review, wastehauler fees and System Availability Fee (SAF) - \$12.1 million.

The Proposed FY 2019 receipts projection totals \$649.5 million, approximately \$29.0 million, or 4.7 percent higher than the revised FY 2018 projections. This increase is due primarily to:

- **Residential, Commercial & Multi-Family** - FY 2019 projections reflect an increase of \$18.7 million, or 5.3 percent from FY 2017 revised due primarily to proposed retail rate increases of 13.0 percent (water and sewer volumetric rates) and decrease of \$2.18 monthly ERU fee for the Clean Rivers IAC (see Section IV- Rate and Revenues for detail on all rate and fee proposals)
  - One percent decrease in consumption has been assumed due to conservation in FY 2019
- **Federal Revenues** - Approved FY 2019 federal revenues are projected to increase by \$4.9 million or 7.9 percent over revised FY 2018 budget. Under existing federal billing legislation, federal billings are prepared on an estimated basis eighteen months in advance of the start of the fiscal year (e.g., the FY 2019 billing was prepared in April 2017, and are based on the current consumption estimates and projected rate increases as included in the current ten-year plan. These estimates are then reconciled with actual consumption and rate increases, and an adjustment is made in the subsequent year's billing (e.g., the reconciliation of FY 2017 estimated vs. actual consumption and rate increases will be included in the FY 2020 billing, prepared in April 2018). Federal revenues in the ten year plan are presented on a revenue basis, net of any adjustments for prior year reconciliations which are accounted for as reserve items. Consistent with this methodology, the proposed FY 2019 federal revenues reflect the final billing sent to the federal government in April 2017 net of the adjustment for the prior-year (FY 2016) reconciliation.
- **Municipal & D.C. Housing Authority Receipts** - are projected to increase \$0.8 million (or 3.0 percent), mainly due to proposed retail rate increases of 13.0 percent and decrease of \$2.18 monthly ERU fee for the Clean Rivers IAC.
- The **Rate Stabilization Fund** - is not utilized in FY 2019. There will be a balance of \$61.45 million by the end of FY 2027.
- **Water System Replacement Fee** - Proposed fixed monthly fee set to recover the costs of 1 percent renewal and replacement program for water service lines generating approximately \$39.7 million per year.
- **Customer Metering Fee** - This fee recovers the costs associated with installing, operating, maintaining and replacing meters, and is charged to all retail customers (including federal and municipal customers). The fee varies based on meter size, with monthly fees ranging from \$3.86 for a 5/8 inch meter (typical size of a residential customer meter) to \$349.06 for 16" meters (typically used for large commercial customers). No revenue change is anticipated in this category.
- **Wholesale Receipts** - DC Water's wholesale customers are responsible for a proportionate share of operating and maintenance expenses (associated only with shared facilities primarily at Blue Plains) based on their respective share of wastewater volume discharged. In addition, each user is responsible for a proportionate share of related indirect costs. In FY 2019 wholesale revenues are projected to increase by \$3.2 million or 4.2 percent to \$79.2 million due to the new Multi-Jurisdictional User Facility O&M Costs (MJUF) and revised operations and maintenance expense projection for FY 2019.
- **Stormwater** - As noted earlier, the proposed FY 2019 receipts for this category include \$1.0 million each year from the Department of Energy and Environment (DOEE).
- FY 2019 **PILOT Fee** increase by 2 percent over prior year as per new PILOT MOU signed with the District Government on September 4, 2014.

The Proposed FY 2020 receipts projection totals \$685.8 million, approximately \$36.3 million, or 5.6 percent, higher than the Proposed FY2019 projections. This increase is due primarily to:

- **Residential, Commercial & Multi-Family** - FY 2020 projections reflect an increase of \$25.8 million, or 6.9 percent from FY 2019 Proposed due primarily to proposed retail rate increases of 5.0 percent (water and sewer volumetric rates) and \$2.58 monthly ERU fee for the Clean Rivers IAC (see Section IV- Rate and Revenues for detail on all rate and fee proposals)
  - One percent decrease in consumption has been assumed due to conservation in FY 2020
- **Federal Revenues** – Proposed FY 2020 Federal revenues are projected to increase by \$3.1 million or 4.7 percent over Proposed FY 2019 budget to \$70.2 million.
- **Municipal & D.C. Housing Authority Receipts** - are projected to increase \$1.8 million (or 6.6 percent), mainly due to proposed retail rate increases of 5.0 percent and \$2.58 monthly ERU fee for the Clean Rivers IAC.
- The **Rate Stabilization Fund** - is not utilized in FY 2019. There will be a balance of \$61.45 million by the end of FY 2027.
- **Water System Replacement Fee** - Proposed fixed monthly fee set to recover the costs of 1 percent renewal and replacement program for water service lines generating approximately \$39.7 million per year.
- **Customer Metering Fee** - No revenue change is anticipated in this category and \$10.8 million is projected to be collected in FY 2020.
- **Wholesale Receipts** - In FY 2020, Wholesale revenues are projected to increase by \$2.4 million or 3.0 percent to \$81.6 million due to projected 3.0 percent increase in operations and maintenance expenses.
- **Stormwater** - As noted earlier, the Proposed FY 2020 receipts for this category includes \$1.0 million each year from the Department of Emergency and Environment (DOEE).
- FY 2020 **PILOT Fee** increased by 2.0 percent over prior year as per new PILOT MOU signed with the District Government.

**DISTRICT OF COLUMBIA WATER & SEWER AUTHORITY**  
**FY 2018 – FY 2027 FINANCIAL PLAN**  
*(In 000's)*

OPERATING	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Retail*	\$ 515,466	\$ 539,982	\$ 571,113	\$ 602,587	\$ 629,109	\$ 656,446	\$ 678,437	\$ 696,598	\$ 718,313	\$ 742,257
Wholesale*	76,028	79,237	81,614	84,062	86,584	89,182	91,857	94,613	97,451	100,375
Other	28,978	30,249	33,041	39,588	42,764	43,199	42,708	42,789	44,418	44,803
RSF	-	-	-	-	-	-	-	-	-	-
Operating Receipts (1)	\$ 620,472	\$ 649,467	\$ 685,768	\$ 726,237	\$ 758,456	\$ 788,827	\$ 813,002	\$ 834,000	\$ 860,182	\$ 887,436
Operating Expenses	(320,146)	(338,499)	(348,335)	(358,462)	(368,891)	(379,628)	(390,684)	(402,068)	(413,790)	(427,381)
Debt Service	(184,278)	(199,025)	(214,119)	(232,128)	(245,477)	(258,537)	(267,811)	(275,215)	(283,955)	(292,699)
Cash Financed Capital Improvement	\$ (35,260)	\$ (26,999)	\$ (28,556)	\$ (30,129)	\$ (37,747)	\$ (45,951)	\$ (47,491)	\$ (55,728)	\$ (64,648)	\$ (66,803)
Net Revenues After Debt Service	\$ 80,789	\$ 84,944	\$ 94,758	\$ 105,518	\$ 106,342	\$ 104,711	\$ 107,017	\$ 100,989	\$ 97,788	\$ 100,553
Operating Reserve-Beg Balance	147,212	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000
Other Misc (Disbursements)/Receipts										
Wholesale/Federal True Up	(16,019)	(7,321)	(1,500)	-	-	-	-	-	-	-
Project Billing Refunds	(4,000)	(4,000)	(4,000)	-	-	-	-	-	-	-
Transfers To RSF	-	-	-	-	-	-	-	-	-	-
Pay-Go Financing	(67,982)	(73,624)	(89,258)	(105,518)	(106,342)	(104,711)	(107,017)	(100,989)	(97,788)	(100,553)
Operating Reserve - Ending Balance	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000
Rate Stabilization Fund Balance RSF (2)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)
Senior Debt Service Coverage	489%	561%	545%	544%	575%	559%	659%	674%	648%	624%
Combined Debt Service Coverage	164%	161%	165%	168%	168%	167%	166%	166%	166%	166%
Actual/Projected Water/Sewer Rate Increases	5.0%	13.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
*Operating Receipts \$ Increase/Decrease										
Retail	20,228	24,515	31,131	31,474	26,522	27,338	21,991	18,161	21,715	23,945
Wholesale	(5,108)	3,209	2,377	2,448	2,522	2,598	2,675	2,756	2,838	2,924
*Operating Receipts % Increase/Decrease										
Retail	4.1%	4.8%	5.8%	5.5%	4.4%	4.3%	3.3%	2.7%	3.1%	3.3%
Wholesale	-6.3%	4.2%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

(1) Includes interest earnings on senior lien revenue bonds' debt service reserve fund  
(2) FY 2018 planned transfers of \$0.0 million to Rate Stabilization Fund will maintain the total fund balance at \$61.45 million

As in previous years, debt service continues to be the fastest growing expenditure in the ten-year financial plan as a result of DC Water’s \$4.0 billion capital improvement program, growing at an average annual rate of 5.3 percent. All other operating expenses are projected to grow at an average annual rate of 3.4 percent. The following chart provides detailed comparison of the FY 2018 and FY 2019 operating budgets.

**COMPARATIVE OPERATING BUDGETS**  
**FY 2018 – FY 2019**  
 (\$ in 000’s)

	FY 2018 APPROVED	FY 2019 APPROVED	Increase/ (Decrease)	Percent Change
Personnel Services	\$ 149,193	\$ 162,620	\$ 13,427	9.0%
Contractual Services	72,951	76,618	3,667	5.0%
Biosolids	6,402	5,061	(1,341)	-20.9%
Water Purchase	30,156	30,520	364	1.2%
Supplies	8,356	8,534	178	2.1%
Chemicals	22,303	23,558	1,255	5.6%
Utilities	29,399	26,905	(2,495)	-8.5%
Small Equipment	1,071	1,240	169	15.8%
<b>Subtotal Operations &amp; Maintenance</b>	<b>319,831</b>	<b>335,055</b>	<b>15,224</b>	<b>4.8%</b>
Debt Service	185,480	199,025	13,545	7.3%
Cash Financed Capital Improvements	35,260	26,999	(8,261)	-23.4%
PILOT	16,276	16,602	326	2.0%
Right Of Way Fee	5,100	5,100	0	0.0%
<b>Subtotal Debt Service, CFCI &amp; PILOT / ROW</b>	<b>242,116</b>	<b>247,726</b>	<b>5,610</b>	<b>2.3%</b>
<b>TOTAL OPERATING EXPENDITURES</b>	<b>\$ 561,947</b>	<b>\$ 582,781</b>	<b>\$ 20,834</b>	<b>3.7%</b>
Less Personnel Services Charged to Capital Projects	(21,061)	(18,259)	2,802	-13.3%
<b>Total Net Operating Expenditures</b>	<b>\$ 540,886</b>	<b>\$ 564,522</b>	<b>\$ 23,636</b>	<b>4.4%</b>



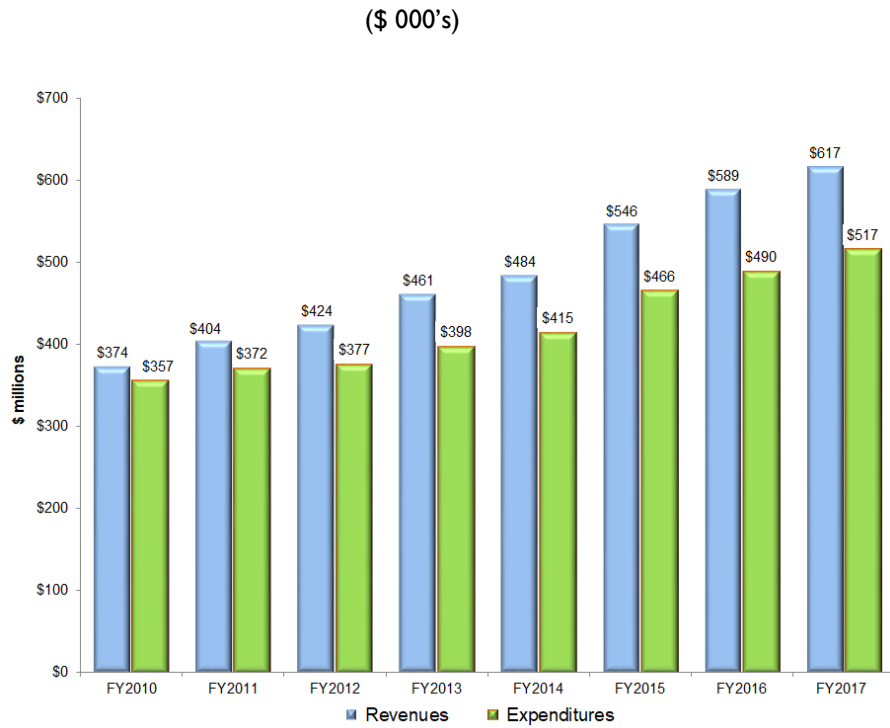
The approved FY 2019 budget total of \$582.8 million is approximately 3.7 percent higher than the approved FY 2018 budget. This net increase is primarily due to increasing debt service costs associated with DC Water’s capital improvement program, as well as increase in the operations and maintenance budget. The FY 2019 operations and maintenance budget net increase of 4.8 percent is primarily due to ratification of Board union labor contract, and various maintenance and professional services, coupled with projected decreases in biosolids hauling costs, and reduced utilities. Specific information regarding each department is included in Section VII. A description of the assumptions and major issues/changes in each major expenditure category follows.

- **Personnel Services** – increase of \$13.4 million or 9.0 percent above the approved FY 2018 budget. The increase is primarily attributable to impact of ratified union labor contract and other employee salary adjustments, including overtime & benefits and combined with 14 additional headcount to provide in-house support of various programs.
- **Utilities** – net decrease of approximately \$2.5 million or 8.5 percent below the approved FY 2018 budget is mainly from the electricity budget which decreased by \$2.2 million due to DC Water’s thermal hydrolysis process and anaerobic digesters that became operational in the Fall of 2015 and produces electricity from wastewater. The net onsite generation from the Combined Heat and Power (CHP) process powers up to one third of Blue Plains Plant’s operation. The Authority-wide energy consumption is estimated at 25MW which includes usages for the new Wet Weather facility that will treat excess flow during wet weather events, the Filtrate Treatment Facility (FTF) that will remove ammonia generated by the dewatering facilities, and, the new Headquarters Building anticipated in 2018.
- **Chemicals** – increase of \$1.3 million or 5.6 percent above the approved FY 2018 budget is as a result of the additional chemicals needed to operate the new Wet Weather facility to treat excess flow, and the Filtrate Treatment Facility (FTF) to remove excess mainstream ammonia.
- **Water purchase** – increase of approximately \$0.4 million or 1.2 percent above the approved FY 2018 budget represents DC Water’s share of the Washington Aqueduct’s FY 2018 O&M budget.
- **Biosolids Hauling** – decrease by approximately \$1.4 million or 20.9 percent below the approved FY 2018 budget, is due to increased marketing efforts of BLOOM, and the materialized savings from transportation costs attributable to production of Class A biosolids, estimated at 450 wet tons/day from the digesters. Previously, the Blue Plains Plant produced 1,200 wet tons per/day of Class B biosolids.

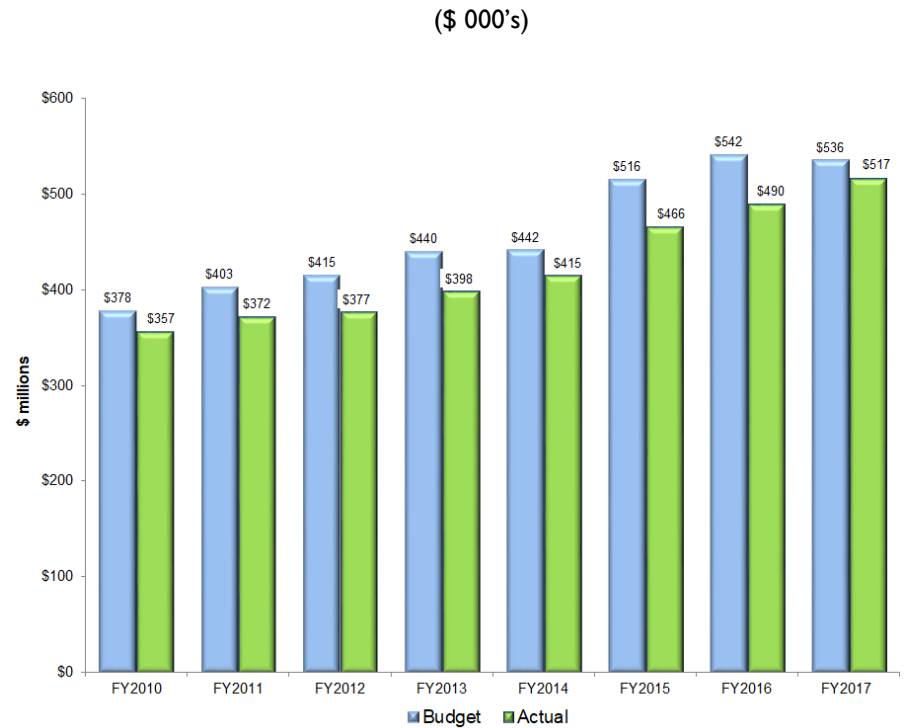
**Solid Financial Performance with Revenues Consistently Exceeding Expenses**

- FY 2017 Actual Operating cash receipts increased by \$27.7 million to \$617.0 million or 4.7 percent
- FY 2017 Actual Operating expenses increased by \$27.1 million to \$516.9 million, or 5.5 percent
- FY 2017 Budget to actual results showed both revenues exceeding and expenses below budget

**Revenues vs. Expenditures**



**Expenditure Budget to Actual Results**

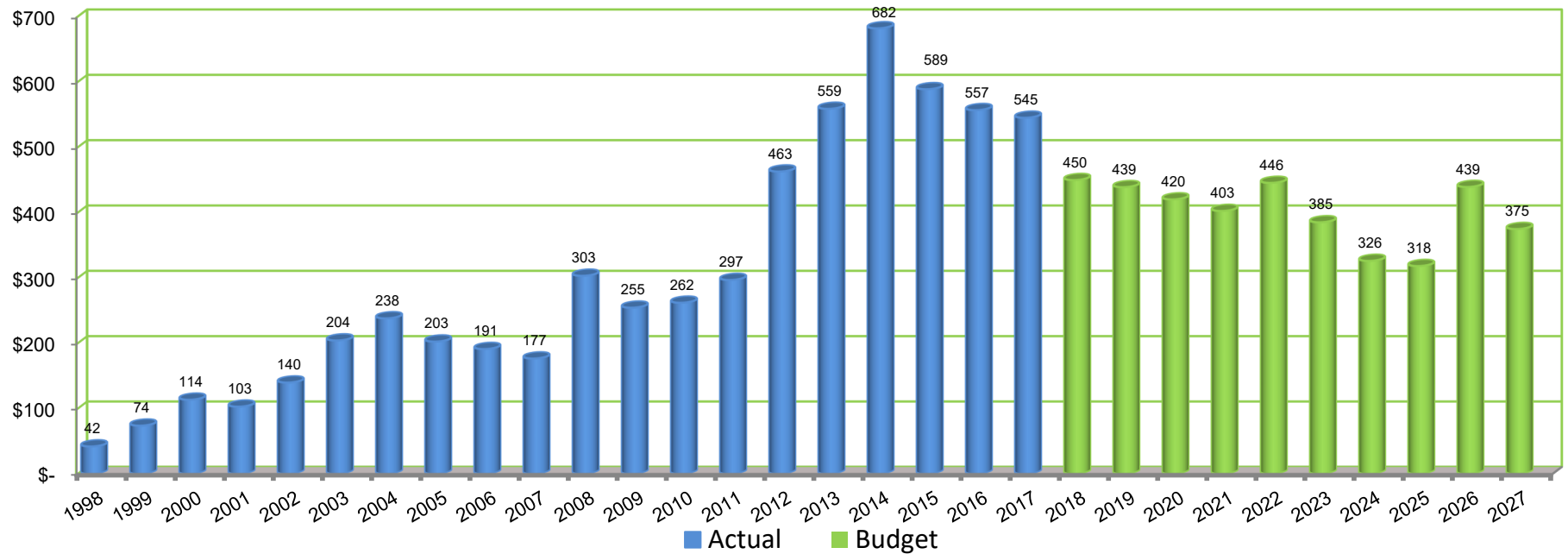


**The \$4.0 Billion 10-Year CIP Protects Our Assets While Leveraging Long-Term Debt**

The FY 2018 – FY 2027 financial plan anticipates capital disbursements of \$4.0 billion. Over the last 20 years, \$6.0 billion have been invested on DC Water’s system averaging approximately \$300 million per year. Projected annual spending ranges from \$318 million to nearly \$450 million as shown in the chart below (or approximately \$400 million per year from FY 2018 – FY 2027). The financing of DC Water’s capital program comes from four primary sources, as more fully described in this section. The amount of EPA grant funding is defined by annual federal appropriations, while jurisdictional capital contributions are based on a fixed percentage of Blue Plains and other shared facilities. The remainder of the program is funded with DC Water’s debt and PAY-GO financing from operations.

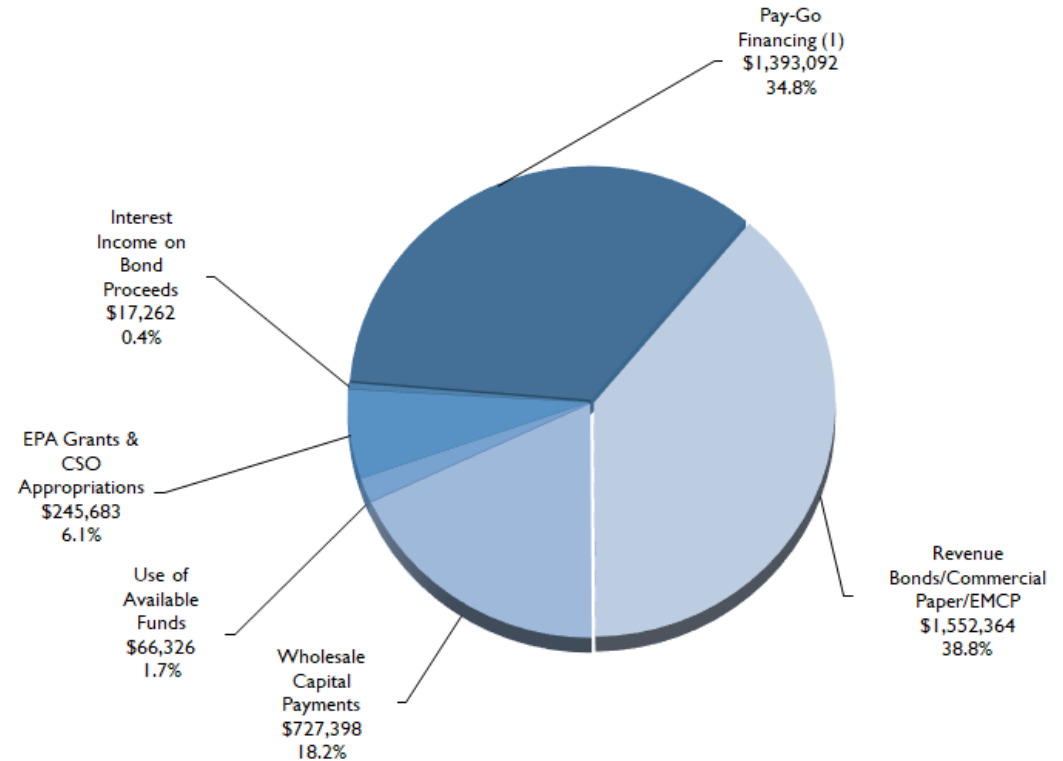
As noted earlier in this section, DC Water developed a comprehensive financing plan in FY 1999 with the dual goals of 1) securing the lowest cost of capital possible, and 2) maximizing administrative and operating flexibility. The plan includes the following components: Grants; wholesale capital payments; permanent financing; Interim financing and PAY-GO.

**HISTORICAL AND PROJECTED CAPITAL SPENDING FY 1998 – FY 2027  
(\$ IN MILLIONS)**



**FY 2018 - 2027 CAPITAL IMPROVEMENT PROGRAM**  
**Sources of Funds**  
 (In \$000's)

	<b>FY 2018 - 2027</b>	<b>PERCENT OF</b>
	<b>PLAN TOTAL</b>	<b>TOTAL</b>
Revenue Bonds/Commercial Paper/EMCP	\$ 1,552,364	38.8%
Wholesale Capital Payments	727,398	18.2%
Use of Available Funds	66,326	1.7%
EPA Grants & CSO Appropriations	245,683	6.1%
Interest Income on Bond Proceeds	17,262	0.4%
Pay-Go Financing (1)	1,393,092	34.8%
<b>Total Sources:</b>	<b>\$ 4,002,124</b>	<b>100.00%</b>



- 1) Pay-go financing is any funds available after funding the greater of 120 days or 125.5 million operating and maintenance reserve, approximately \$140.0 million in FY 2018. These transfers reduce the amount of new debt issuance.
- 2) Debt financing refers to the borrowing of funds through long -term revenue bonds, commercial paper/EMCP and other short-term notes.

- **EPA and CSO Grants** – For FY 2018 – FY 2027, EPA and CSO grants represent only 6.1 percent of the funding for 10-year capital program. DC Water currently plans to finance part of its Ten-Year CIP through EPA grant funding for certain eligible projects under the Clean Water and Safe Drinking Water Acts. In general, the District of Columbia projects carried out by DC Water are supported by approximately one percent of the available annual funding through revolving fund programs associated with the Clean Water and Safe Drinking Water Acts. In addition, DC Water has received \$238.8 million in Congressional appropriations for the Clean Rivers Project (aka CSO LTCP) as of September 30, 2017.
- **Wholesale Capital Payments** – Approximately 60 percent of the capacity of DC Water’s wastewater treatment facilities are contractually committed to provide wholesale service to suburban jurisdictions under various contracts. Montgomery and Prince George's Counties (through the Washington Suburban Sanitary Commission (WSSC), Fairfax County, and the Loudoun County Sanitation Authority pay a proportionate share of capital-related costs equal to their share of contracted capacity at Blue Plains. DC Water anticipates 18.2 percent of its capital funding will come from wholesale customers.
- **Revenue Bonds/Commercial Paper/EMCP** – Currently debt financing represent only 38.8 percent of the funding in the ten-year capital program.
- **PAY-GO (Internal) Financing** – ‘Pay-go’ financing shall mean any cash financing of capital projects. The amount transferred from operations to the capital program each year shall be cash in excess of all operating requirements or restricted use. Approximately 34.8 percent of total funding for the FY 2018 – FY 2027 plan is projected to come from PAY-GO financing, which strikes an appropriate balance between maintaining moderate debt levels and financing provided by current ratepayers.

PAY-GO funds will be used in a manner consistent with our financial policies: 1) to fund capital financing or for repayment of higher cost debt and that whenever possible, the least costly capital financing be used for capital projects, 2) to produce the lowest practical cost of debt for financing its capital projects.

## **FY 2018 & FY 2019 Debt Issuance Plans & Debt Service Assumptions**

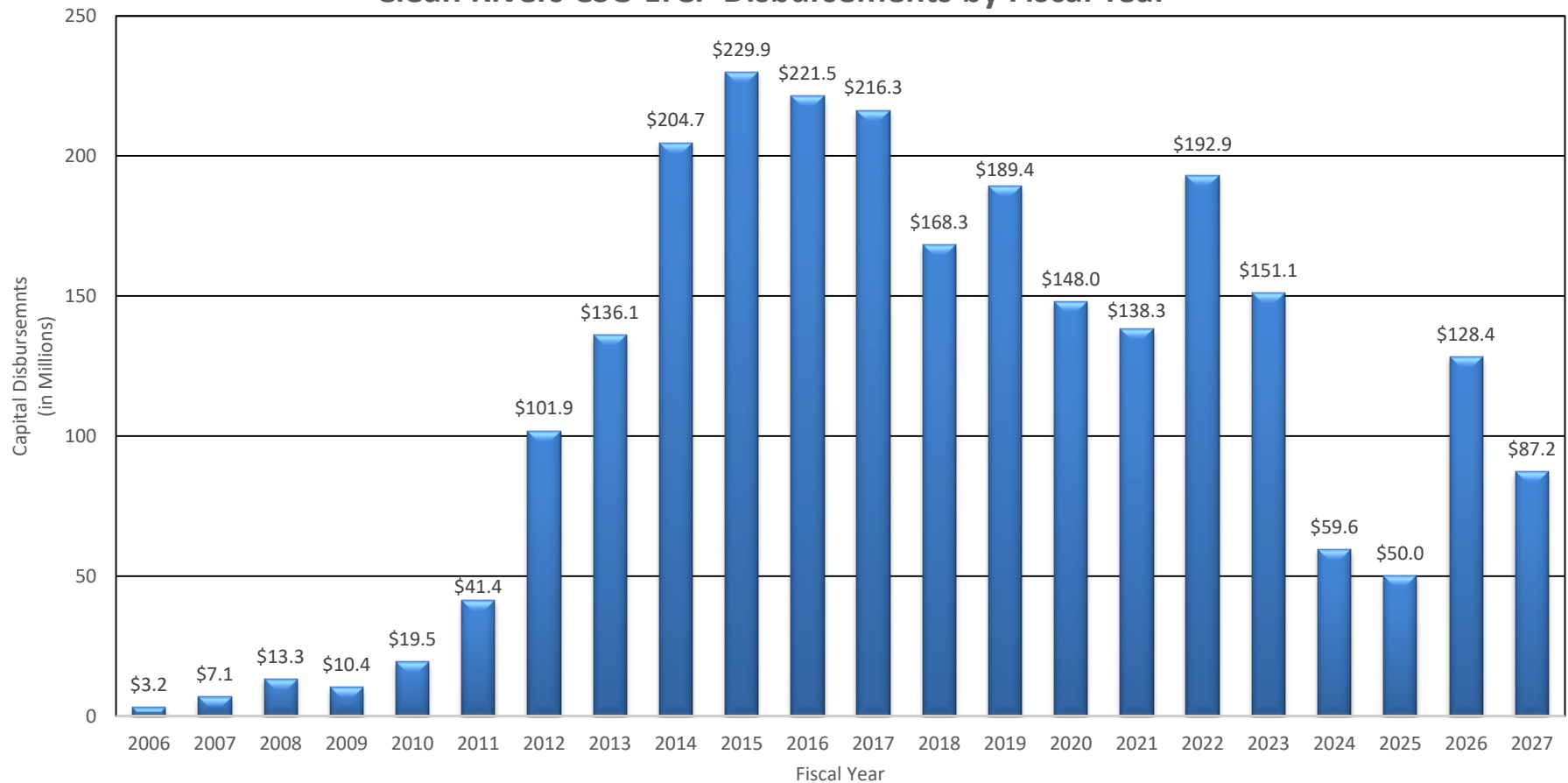
Based on current capital project spending, we plan to: 1) issue approximately \$300 million in new bonds in third quarter of FY 2018. For the purpose of financial planning we have assumed fixed rate, tax-exempt bonds at 5.0 percent. Similarly for the remainder of the ten-year plan we have assumed issuing long term bonds at 5.50 percent for FY 2019, 6.0 percent for FY 2020, and 6.50 percent for FY 2021 – FY 2027, 2) issue commercial paper/EMCP for interim financing. The ten-year plan assumes a variable interest rate of 2.50 percent in FY 2018 – FY 2027. In order to yield the best possible interest rate savings, our debt portfolio is evaluated on a regular basis.

**DC Clean Rivers Project**

In December 2004, the Board reached agreement with the federal government on the proposed DC Clean Rivers Project LTCP and entered into a related consent decree. Lifetime capital costs for this project currently stands at approximately \$2.7 billion and this year’s proposed ten-year plan includes \$1.3 billion of projected disbursements. Projected spending by fiscal year for the Clean Rivers Project is shown in the next chart.

In FY 2017, DC Water received federal funding of \$14.0 million for the Combined Sewer Overflow Long term Control Plan Service Area. However, as the project spending increases over the years, so does the projected Clean Rivers Impervious Service Area Charge (CRIAC) rate. If additional federal assistance is provided, the Clean Rivers IAC would increase at a slower pace than this ten-year plan proposal assumes. As noted earlier, this plan assumes jurisdictional contributions, for joint use Projects, to the Clean Rivers Project under the IMA of 7.1 percent beginning in FY 2011. Please see section IV for more details on the Clean Rivers IAC.

**Clean Rivers CSO LTCP Disbursements by Fiscal Year**



Cash balances totaled \$209.7 million at the end of FY 2017. As detailed below, this includes \$61.45 million for rate stabilization. Over the next ten years, cash balances are projected to meet the Board-required reserve level, of 120 days of operating and maintenance budget or no less than \$125.5 million.

DC Water’s operating reserve includes the following components:

**FY 2017 YEAR - END CASH**  
(In 000's)

<b>BOARD-ADOPTED OPERATING RESERVES (120 DAYS OF O&amp;M)</b>	
60 Day Operating Reserve (Indenture Required)	\$ 49,134
Renewal & Replacement Reserve (Indenture Required)	35,000
Undesignated Reserve	41,366
<b>TOTAL OPERATING RESERVES</b>	<b>\$ 125,500</b>
<b>OTHER RESERVES</b>	
Rate Stabilization Fund Reserve	\$ 61,450
DC Insurance Reserve	1,050
<b>TOTAL OTHER RESERVES</b>	<b>\$ 62,500</b>
<b>TOTAL RESERVES</b>	<b>\$ 188,000</b>
Cash in Excess of Reserves <sup>(1)</sup>	21,712
<b>TOTAL CASH POSITION <sup>(1)</sup></b>	<b>\$ 209,712</b>

(1) Excludes Debt Service Reserve Funds

- **Indenture-Required Operating Reserve** - This reserve is required by DC Water's bond indenture and is equivalent to two months' operations and maintenance expenses from the prior year, or approximately \$49.1 million in FY 2017.
- **Renewal & Replacement Reserve** - In FY 2013 the Board reaffirmed the amount of \$35 million in the financing policy. In 2018, Independent Financial Consultant reviewed R&R Reserves and recommended to maintain it at \$35 million. The recommendations will be presented to the Board for review and approval. The reserve level will be reviewed every five years by DC Water's independent rate consultants in conjunction with the indenture-required assessment of the physical condition of the system.
- **Undesignated Reserve** - After allocating portions of the operating and maintenance reserve to the reserves listed above, the amount that remains (approximately \$41.4 million for FY 2017) is DC Water's undesignated reserve, and is available for other contingencies.

DC Water has other reserves that are available for very specific circumstances:

- **Rate Stabilization Fund** - Consistent with the Board's financial policies and as envisioned in the bond indenture, this fund is to be established to mitigate large annual rate increases. This year's plan reflects continued use of the rate stabilization fund, which totaled \$61.45 million as of September 2017. Future deposits to the rate stabilization fund will be determined annually based on financial performance in that fiscal year and updated ten-year capital and operating forecasts. The current plan anticipates \$61.45 million available at the end of FY 2018 – 2027.
- **Debt Service Reserve Funds** - The supplemental bond indenture associated with the Series 1998 senior lien bonds requires DC Water to maintain a debt service reserve fund. This reserve which is in addition to the 120 days operating and maintenance reserve, is held by DC Water's trustee and can only be used in the event that net revenues are insufficient to meet the next debt service payment. DC Water earns interest on this reserve that is included in other operating revenue and is used to offset annual debt service payments. The amount of interest earnings that DC Water can retain on the debt service reserve fund is limited by federal arbitrage restrictions.





# APPROVED BUDGETS

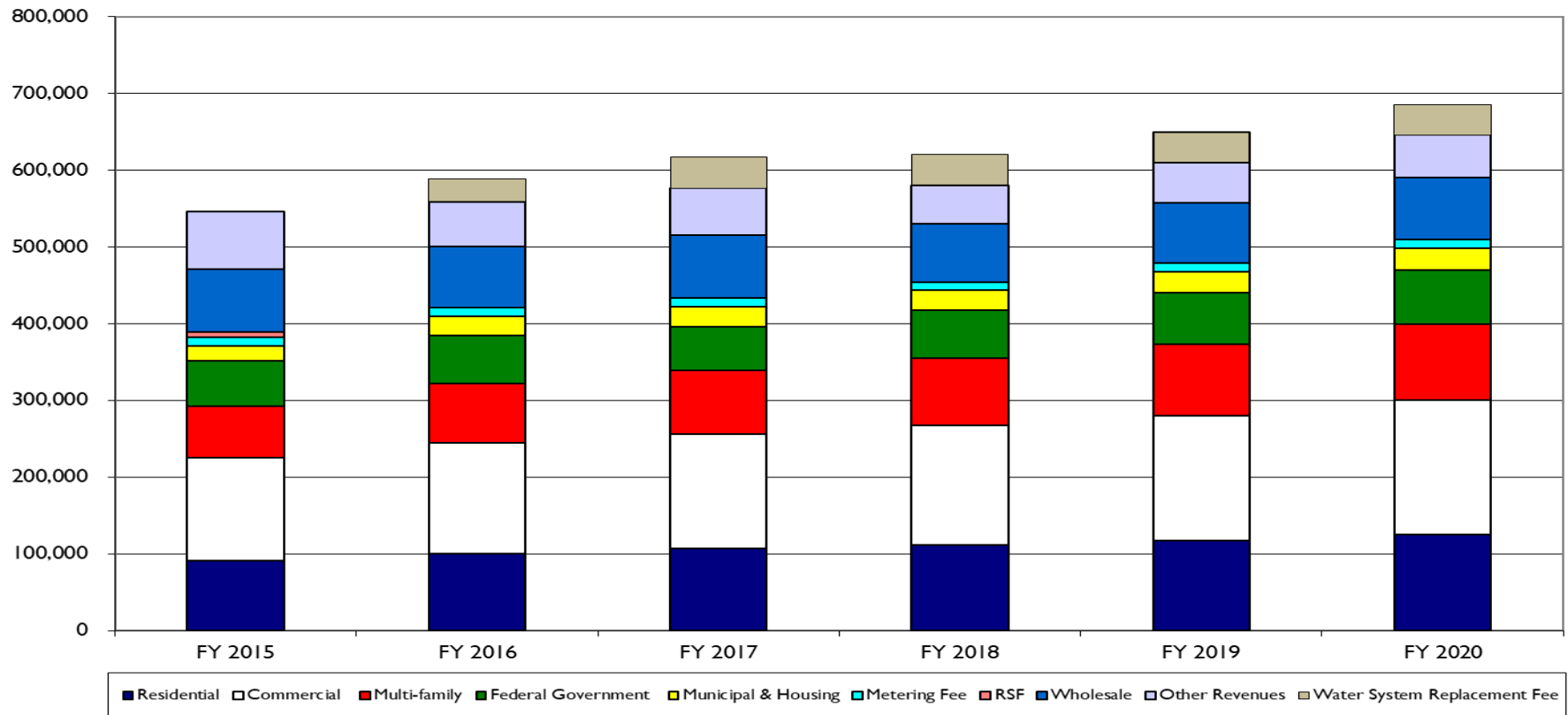


DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

## Section IV RATES AND REVENUES

In order to provide continuous delivery of water and wastewater services, DC Water must ensure a reliable and predictable revenue stream that cover operating and maintenance (O&M) costs and meet or exceed all Board and other financial requirements. DC Water has a diverse customer base and thus receives cash receipts from a variety of sources. This diversity mitigates reliance on any single customer and provides a level of revenue stability.

**Historical & Projected Cash Receipts (\$000's)**



## Historical and Projected Operating Cash Receipts

(\$000's)

	FY 2015 Actual	FY 2016 Actual	FY 2017 Actual	FY 2018 Revised	FY 2019 Proposed	FY 2020 Proposed
Residential	90,765	100,032	106,417	111,600	117,377	125,342
Commercial	134,724	144,355	149,991	156,272	163,067	175,349
Multi-family	66,378	77,566	82,238	87,042	93,208	98,780
<b>Sub-Total Residential, Commercial and Multi-family</b>	<b>291,867</b>	<b>321,953</b>	<b>338,646</b>	<b>354,914</b>	<b>373,652</b>	<b>399,471</b>
Federal Government (1)	59,171	62,989	57,540	62,167	67,054	70,176
District Government	12,894	15,988	17,628	17,312	17,362	18,650
D.C. Housing Authority	6,968	8,772	8,560	8,979	9,719	10,209
Transfer from Rate Stabilization Fund	7,500	-	-	-	-	-
Water System Replacement Fee (WSRF)	-	30,287	40,522	39,717	39,717	39,717
Metering Fee	11,111	11,479	11,566	10,776	10,776	10,776
<b>Total Retail</b>	<b>389,511</b>	<b>451,467</b>	<b>474,462</b>	<b>493,865</b>	<b>518,280</b>	<b>549,000</b>
IMA Wastewater Charges	73,889	71,970	72,931	67,895	70,371	72,482
Potomac Interceptor Wastewater Charges	7,341	7,814	8,205	8,133	8,866	9,132
<b>Total Wholesale</b>	<b>81,230</b>	<b>79,784</b>	<b>81,136</b>	<b>76,028</b>	<b>79,237</b>	<b>81,614</b>
District Stormwater Revenue (2)	899	944	1,025	1,000	1,000	1,000
Misc. Rev. (e.g. water tap installation, fire hydrant usage, etc.)	31,169	33,703	37,748	23,534	22,235	22,107
Washington Aqueduct Debt Service Revenue for Falls Church & Arlington	193	193	193	193	193	193
Interest Income (including interest on Bond Debt Service Reserve Fund)	846	1,253	1,676	2,326	2,971	3,966
System Availability Fee (SAF)				1,925	3,850	5,775
Transfer from DC PILOT/ROW Fund	5,100					
DC Contribution of 50% PILOT Fund to DCW	15,049					
Right-of-Way Fee	5,100	5,100	5,100	5,100	5,100	5,100
PILOT Fee	16,998	16,885	15,677	16,501	16,601	17,013
<b>Total Other</b>	<b>75,354</b>	<b>58,078</b>	<b>61,419</b>	<b>50,579</b>	<b>51,950</b>	<b>55,154</b>
<b>Total Operating Cash Receipts</b>	<b>546,095</b>	<b>589,329</b>	<b>617,017</b>	<b>620,472</b>	<b>649,467</b>	<b>685,768</b>

- 1) Historical actuals are presented on revenue basis. Projected amounts shown are billed revenues. Actual Federal receipts are a combination of current year projected revenues and prior year adjustments, which are presented as reserve items. See Section 3 for further explanation.
- 2) Reflects District stormwater fee revenue that will fund DC Water's share of District stormwater permit compliance activities, and will not be funded through DC Water's retail rates or other DC Water revenue sources. See Section 3 for further explanation.

## CUSTOMER CATEGORIES AND ACCOUNTS

As of September 30, 2017, DC Water had 127,277 active, metered water and wastewater accounts. In addition, there are 10,257 separate accounts that are billed only for impervious surface. DC Water's customers are classified as retail (residential, multi-family and non-residential) and wholesale customers only. However, within the retail customer class, DC Water tracks receipts and associated consumption at a more detailed level in order to analyze trends and service characteristics. Retail customers' characteristics can be viewed in six groups: residential, multi-family, commercial, federal, DC Municipal and Housing Authority.

FY 2017 revenue receipts are actual as of September 30, 2017.

In FY 2011, a study of the demand characteristics of DC Water customers was undertaken to determine if additional customer classes should be defined for the purpose of cost allocation. Review of 12 months of data (May 2010 to April 2011) revealed, (among other things) that there is a difference in peaking characteristics between many of the customer groups. Generally, the federal customers have the highest peaking factor, with commercial customers having the next highest peaking factor and municipal, residential, multi-family and Housing Authority customers having the lowest peaking factor. Segmentation of water customers is typically done by class-based peak use characteristics with the higher peaking customers allocated more of the system costs (primarily driven by electricity and system capacity costs).

This information helped to inform an analysis of alternative rate structures within the FY 2012 Cost of Service Study (COS). Among the alternatives reviewed, the study reviewed different volumetric rates by customer class/category based on the different demands they place on the system. Differentiation could be based on water peaking characteristics or discharge strength contributions (wastewater). While it was recommended that additional analysis be undertaken in for any further consideration of discharge strength differentiation, management recommended that a new customer class, "Multi-Family", be created to acknowledge the similarity of peaking characteristics with other residential customers, yet provide transparency between single family and multi-family residential units. (Multi-Family residential facilities will continue to be defined as those facilities with 4 or more residential units.) The new Multi-family class has been effective from October 1, 2013. The three customer classes are defined as follows:

**Residential** – a customer whose premises is a single-family dwelling unit used for domestic purposes, whether as a row, detached or semi-detached structure, or as a single dwelling unit within an apartment building, or as a single dwelling unit within a condominium, or as a single dwelling unit within a cooperative housing association, where each unit is served by a separate service line and is individually metered and used for domestic purposes; or a multi-family structure or development of less than four (4) single-family, apartment, condominium, or cooperative housing association dwelling units where all the units are used for domestic purposes and served by a single service line that is master metered; excluding a premises operated as a nursing home, dormitory or transient housing business, including, but not limited to a bed and breakfast, hotel, motel, inn, boarding house or rooming house.

Multi-Family – a customer whose premises is a multi-family structure or development (such as an apartment, condominium, or cooperative housing association) used for domestic purposes, with four or more single-family, apartment, condominium, or cooperative housing association residential dwelling units served by the same service line that is master metered; excluding a premises operated as a nursing home, dormitory or transient housing business, including, but not limited to a bed and breakfast, hotel, motel, inn, boarding house or rooming house.

Non-residential – all customers not within either the residential or multifamily class including customers whose premises is comprised of one or more units that is not used for domestic purposes and all units are served by the same service line that is master metered.

In FY 2015, a COS was conducted by Independent Financial Consultants. These recommendations were incorporated in the FY 2016 rate proposal, and were approved by the Board. These are summarized below:

- New class-based rate structure including Lifeline rate
- Based on similar peaking ratios, District of Columbia Housing Authority (DCHA) category moved to Multi-family class

In FY 2018, a COS was conducted by Independent Financial Consultants, which provided several recommendations that were incorporated in the FY 2019 rate proposal, and were approved by the Board.

- A reallocation of the costs associated with the Clean Rivers Impervious Area Charge (CRIAC) to the sewer utility results in a reduction in the CRIAC and an increase in the sewer volumetric charge.
- The revenue collected from the Water System Replacement Fee (WSRF), originally designed to fund the annual costs of 1% of DC Water's water service line 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.
- Although these two reallocations cause shifts in the cost structure, and subsequent rates, DC Water customers will see only minimal changes to their bills.

**Residential, commercial and multi-family receipts are projected to increase in FY 2018 by approximately \$16.30 million, or 4.8 percent, over the FY 2017 level due to:**

- Board-approved volumetric retail rate increase of 5.0 percent, effective October 1, 2017
- Board-approved Clean Rivers Project CRIAC rate change from \$22.24 in FY 2017 to \$ 25.18 per ERU in FY 2018.
- 1 percent decrease in consumption due to conservation
- In FY 2017, DC Water's collections on its retail receivables was strong, with accounts receivable over 90 days at \$8.4 million as of September 30, 2017. DC Water will continue its aggressive collection efforts
- The customer assistance program reduces projected revenues by approximately \$2.4 million

**Residential, commercial and multi-family customers:**

- In FY 2018, residential customers include 105,762 accounts that comprise 18.0 percent of the total operating revenues. Given the large number of individual account holders who are in residential, it is unlikely that any one customer will have a major impact on the DC Water cash receipts.
- Multi-family customers house 4 or more units within one building with a master meter. In FY 2018, there are 8,425 accounts that comprise 14.0 percent of the total operating revenues.

The commercial group of customers includes a number of nationally-recognized universities and regional hospitals, national associations, lobbying firms, major law firms and hotels. This group has 10,375 accounts and will comprise 25.2 percent of the projected FY 2018 operating revenues. In FY 2019, they will comprise 25.1 percent of the fiscal year operating revenue.

FY 2019 projections for Residential, Multi-Family and Commercial customers reflect an increase of \$18.7 million, or 5.3 percent from FY 2018 revised due primarily to proposed retail rate increase of 13.0 percent (water and sewer volumetric rates), and a decrease of \$2.18 monthly ERU fee for the Clean Rivers IAC. For FY 2020, the revenue increase is projected at \$25.8 million or 6.9 percent over FY 2019 due to the projected rate increase of 5.0 percent and \$2.58 monthly ERU from CRIAC. In FY 2018 and onwards, one percent decrease in consumption has been assumed due to conservation.

**The Federal customers' revised FY 2018 receipts are projected to total \$62.2 million; an increase of \$4.6 million, or 8.0 percent over FY 2017.** In FY 2019, Federal revenues are projected to be \$67.1 million or 10.3 percent of the total operating revenues. The projected federal revenues will be higher by \$4.9 million or 7.9 percent in FY 2019 due to estimated rate and consumption assumptions provided under the federal billing policies. It may be noted that in order to reduce costs, the federal government issued an executive order to federal agencies to reduce water and electricity consumption, coupled with the federal telework and commuting act to reduce footprint in the District, transfer of federal properties and large metering issues at restricted federal properties. In FY 2020, the Federal receipts will increase by \$3.1 million or 4.7 percent to \$ 70.2 million.

Under existing federal billing legislation, federal billings are prepared on an estimated basis eighteen months in advance of the start of the fiscal year (e.g., the FY 2018 billing was prepared in April 2016), and are based on the current consumption estimates and projected rate increases as included in the current ten-year plan. These estimates are then reconciled with actual consumption and rate increases, and an adjustment is made in the subsequent year's billing (e.g., the reconciliation of FY 2018 estimated vs. actual consumption and rate increases will be included in the FY 2021 billing, to be prepared in April 2019.) Federal revenues in the ten-year plan are presented on a revenue basis, net of any adjustments for prior year reconciliations which are accounted for as reserve items. Consistent with this methodology, revised FY 2018 federal revenues reflect the final billing sent to the federal government in April 2016 net of the adjustment for the prior year (FY 2015) reconciliation. The Authority serves many facilities of the federal government as well as the District of Columbia. The largest federal accounts include General Services Administration, U.S. Congress, the Smithsonian Institution, Department of the Navy, National Park Service and the Department of Defense in both DC and VA.

**Municipal & D.C. Housing Authority – FY 2018 receipts from the District of Columbia government and the District of Columbia Housing Authority are projected at \$26.3 million, an increase of \$0.1 million or 0.4 percent over FY 2017.** In FY 2019, receipts from these organizations are projected to total \$27.1 million, an increase of \$0.8 million, or 3.0 percent, mainly due to increases in retail volumetric rates and CRIAC. In FY 2020, the projected increase is \$1.8 million or 6.6 percent over FY 2019.

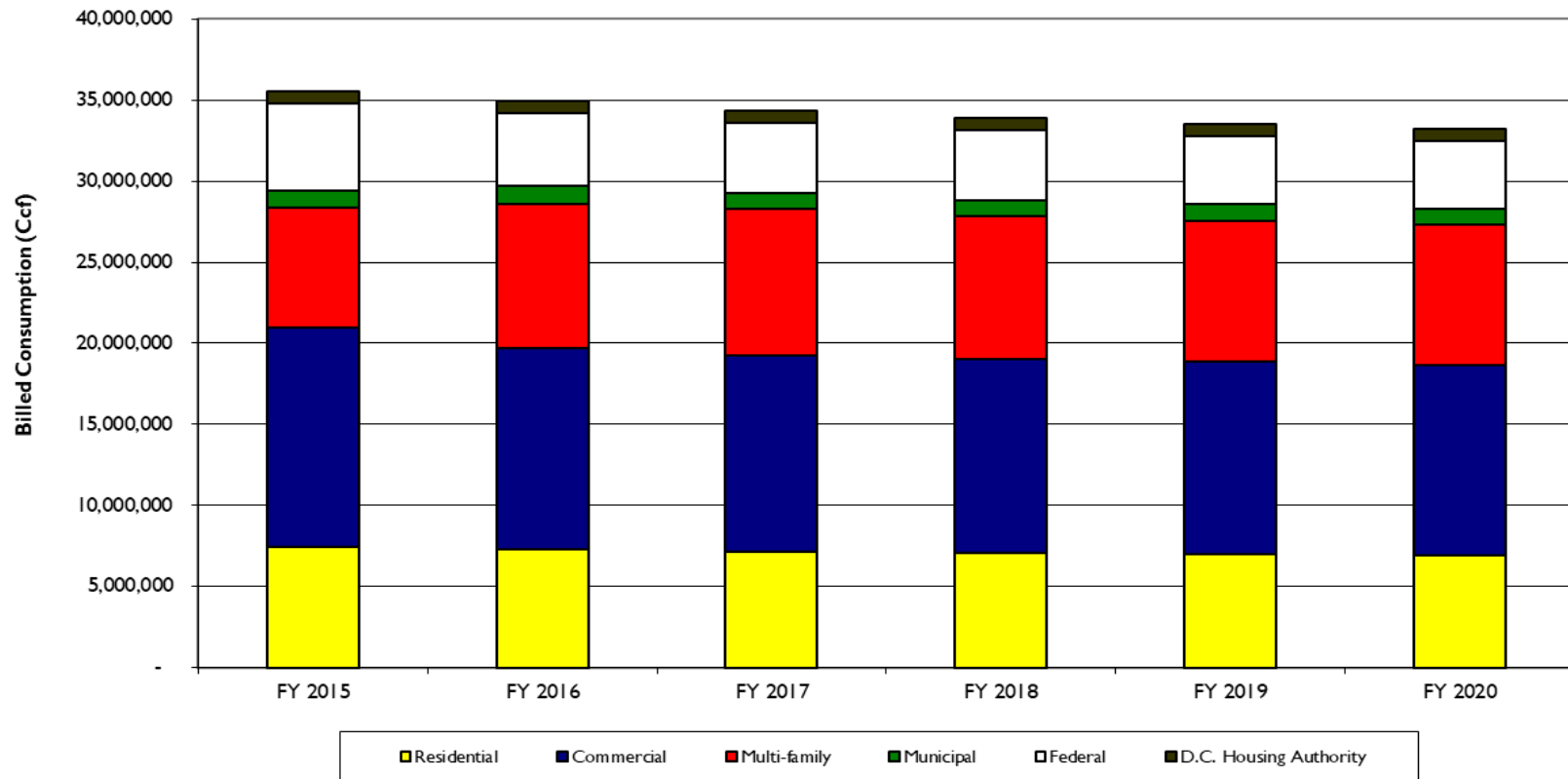
- The municipal customer group includes 650 accounts under the authority of the District of Columbia government. This includes offices and facilities for various government agencies and activities such as education, regulatory affairs and general government operations. This group will comprise of 2.8 percent of the FY 2018 operating budget and 2.7 percent each of the proposed FY 2019 and FY 2020 budgets.
- The D.C. Housing Authority has multiple accounts that include public housing at various facilities throughout the District of Columbia. They have 1,457 accounts. Their annual billings make up only 1.4 percent of the FY 2018 cash receipts and 1.5 percent of the proposed FY 2019 and FY 2020 cash receipts.

**Wholesale customer revenue - FY 2018 revenues are projected at \$76.0 million, a decrease of \$5.1 million or 6.3 percent over FY 2017.** In FY 2019, wholesale revenues are projected to increase by \$3.2 million or 4.2 percent to \$79.2 million. In FY 2020, the Wholesale revenues are projected to increase by \$2.4 million or 3.0 percent to \$81.6 million. DC Water provides wholesale wastewater treatment services to User Jurisdictions at the Blue Plains Plant. The wholesale customers' share of operating costs at Blue Plains and other multi-jurisdictional use facilities (MJUFs) are recovered in accordance with the Blue Plains Intermunicipal Agreement of 2012, effective April 3, 2013, (which replaces Blue Plains Intermunicipal Agreement of 1985), the Potomac Interceptor Agreements and the Loudoun County Sanitation Authority Agreement (as discussed in more detail in "THE SYSTEM – The Wastewater System"), and are based on actual costs of operating and maintaining the plant and the collection facilities, prorated to each User Jurisdiction based on its respective actual share of wastewater flows. The User Jurisdiction's share of capital costs is based on each User Jurisdiction's share of capacity allocations in the Plant. Both operating and capital payments are made on a quarterly basis. Capital-related charges are billed quarterly with payments due on the 15th day of the second month following the end of the quarter. The operating and maintenance-related charges are billed annually by mid-October and payments are due on November, February, May and August. Receipts are projected to be 12.3 percent 12.2 and 11.9 percent of total receipts in FY 2018, FY 2019 and FY 2020 respectively. In FY 2017, DC Water began billing our wholesale customers for the operating and maintenance costs of MJUFs, which include twelve interceptors and four pumping stations that carry suburban wastewater to the Blue Plains Plant. Following each fiscal year, the Authority prepares a reconciliation that determines the actual costs and each wholesale customer's appropriate share of such costs. Adjustments are then billed or credited to the wholesale customers in the first quarter of the subsequent fiscal year. The wholesale customers include: Washington Suburban Sanitary Commission (WSSC), Loudoun County, VA, Fairfax County, VA and a group of small customers of the Potomac Interceptor (PI). The PI customers are comprised of Dulles International Airport (MWAA), National Park Service, Department of Navy and the Town of Vienna.

## CONSUMPTION

While wholesale customers pay for their proportional share of wastewater services, retail customers are billed based upon metered consumption. Therefore, variations in consumption have a direct impact upon DC Water retail rates. The consumption for DC retail customers declined by 1.7 percent in FY 2017. Given the uncertainty of the current economy as well as the federal government’s goal to close some neighboring federal facilities and implement a number of conservation best practices over the next few years, the revenue projections assume a 1 percent decline in FY 2018 over FY 2017 projection and 1 percent decline in FY 2019 and beyond.

**Historical and Projected Billed Consumption (Ccf)**





## Historical and Projected Billed Consumption (Ccf) <sup>(3)</sup>

	FY 2015 Actual	FY 2016 Actual	FY 2017 Actual	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected
Residential	7,431,013	7,262,184	7,108,543	7,037,000	6,967,000	6,897,000
Commercial (1)	13,507,756	12,440,516	12,144,071	12,022,000	11,902,000	11,783,000
Multi-family	7,437,925	8,889,754	9,013,474	8,800,000	8,712,000	8,625,000
Municipal (2)	1,066,587	1,110,717	993,799	984,000	974,000	964,000
Federal	5,319,948	4,493,362	4,335,937	4,293,000	4,250,000	4,208,000
D.C. Housing Authority	<u>795,696</u>	<u>761,401</u>	<u>765,900</u>	<u>758,000</u>	<u>750,000</u>	<u>743,000</u>
<b>Total Retail</b>	<b>35,558,925</b>	<b>34,957,934</b>	<b>34,361,724</b>	<b>33,894,000</b>	<b>33,555,000</b>	<b>33,220,000</b>

(1) Reflects consumption at Commercial facilities and selected facilities at Howard University and Soldiers' Home. From October 1, 2011 Howard University accounts have been transferred to Commercial and are no longer exempt from paying water.

(2) Reflects consumption at District of Columbia Government facilities and DC Water facilities

(3) Ccf - hundred cubic feet or 748 gallons

## **COST OF SERVICE STUDIES:**

In FY 2010, DC Water's Independent Financial Consultants performed a Cost of Service (COS) Study to include objectives from senior staff on prioritizing DC Water's pricing objectives. One of the objectives noted was the Class-Based Volumetric Differentiation.

In FY 2011, a Customer Segmentation Study was performed to identify classes of customers for the purpose of rate-setting, planning, supply management and cost analysis among others. Typically, this classification is based on: A. general service characteristics and B. demand patterns. Each class is assumed to have somewhat different needs and progressively higher demands than the previous class. Most water utilities typically have three principal classes of customers: A. Residential, B. Commercial and C. Industrial. DC Water has two customer classes: A. Residential and B. Non-Residential.

Furthermore, the FY 2012 Cost of Service Study identified several customer categories that demonstrated a reasonable level of differentiation in terms of peak usage. The customer classes identified included A. Residential, B. Multi-family and C. Non-residential. DC Water added a new class of customer, Multi-family effective October 1, 2014.

In FY 2015, DC Water successfully completed its Cost of Service Study (COS). This study is undertaken every three years to review and certify DC Water's water and wastewater volumetric rates, Clean Rivers Impervious Surface Area Charge (CRIAC) and other DC Water fees and charges to ensure that revenues are sufficient to recover projected revenue requirements, that Board rate setting policies are followed, and that rates are allocated equitably.

DC Water expanded the COS to include alternative rate structure analysis that would more effectively meet DC Water's highest priority pricing objectives:

- Lifeline Rates
- Classed-based Volumetric Rates
- Water System Replacement Fee (WSRF)
- System Availability Fee (SAF)

In FY 2018, a Cost of Service Study (COS) was conducted by Independent Financial Consultants, which provided several recommendations that were incorporated in the FY 2019 rate proposal, and were approved by the Board.

- A reallocation of the costs associated with the Clean Rivers Impervious Area Charge (CRIAC) to the sewer utility results in a reduction in the CRIAC and an increase in the sewer volumetric charge.
- The revenue collected from the Water System Replacement Fee (WSRF), originally designed to fund the annual costs of 1% of DC Water's water service line 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.
- Although these two reallocations cause shifts in the cost structure, and subsequent rates, DC Water customers will see only minimal changes to their bills.

## Lifeline Rate

The lifeline rate allows for the first 4 Ccf of Single Family Residential (SFR) water use to reflect baseline usage by residential customers without peaking costs. The lifeline water rate provides an economic benefit to low-volume Residential customers, while spreading the cost of peaking to high-volume Residential customers.

## Class-based Rate Structure

The Independent Financial Consultants analyzed rate differentiation based on the peaking demands of each customer class. They also analyzed consumption patterns to better understand how customers use water and how their use of water may inform selection of an optimized rate structure. Based upon the analysis of the peak demand of different customer classes as well as affordability considerations, the Board approved establishing class-based water volumetric rates for Residential, Multi-family and Non-residential customers effective from October 1, 2015 (FY 2016). The class-based water volumetric rates for FY 2018 to FY 2020 are listed below:

Water Volumetric	Class-Based (w/ lifeline)		
	FY 2018	FY 2019	FY 2020
Residential - 0-4 Ccf	\$3.39	\$2.91	\$3.06
Residential - >4 Ccf	\$4.26	\$3.90	\$4.10
Multi-Family / DC Housing	\$3.80	\$3.37	\$3.54
Non-Residential	\$4.40	\$4.05	\$4.25

## Water System Replacement Fee (WSRF)

Effective October 1, 2015 (FY 2016), DC Water modified its existing rate structure and implemented a new meter-based Water System Replacement Fee (WSRF) in order to recover the cost of the 1% renewal and replacement program for water service lines. It is anticipated that the new Water System Replacement Fee (WSRF) will generate approximately \$39.7 million per year from fiscal years 2018 through 2027. The fee is based upon meter size and average flow. DC Water’s low income CAP customers receive a 100% credit for this fee.

Effective October 1, 2017, (FY 2018), DC Water amended the Water System Replacement Fee (WSRF) regulations to add rules and procedures for a Multi-family WSRF adjustment; amend the Customer Classifications to clarify the definitions for Residential, Multi-family and Non-Residential customers to include cooperative housing associations and other clarifications; and amend the definitions set forth in Chapter 41 to define the terms Condominium, Cooperative Housing Association, and Dwelling Unit used in the Customer Classification regulations.

Meter Size (inches)	Meter Register Type	Monthly Water System Replacement Fee
5/8"	Single Register	\$ 6.30
3/4"	Single Register	\$ 7.39
1"	Single Register	\$ 9.67
1"x1.25"	Single and Multiple Register	\$ 15.40
1.5"	Single Register	\$ 41.35
2"	Single and Multiple Register	\$ 83.75
3"	Single and Multiple Register	\$ 232.13
4"	Single and Multiple Register	\$ 561.02
6"	Single and Multiple Register	\$ 1,292.14
8"	Single Register	\$ 5,785.51
8"x2"	Multiple Register	\$ 1,899.60
8"x4"x1"	Multiple Register	\$ 2,438.35
10"	Single and Multiple Register	\$ 6,679.65
12"	Single and Multiple Register	\$ 6,679.65
16"	Single Register	\$ 6,679.65

The following terms are defined:

**Condominium** – means real estate, portions of which are designated for separate ownership and the remainder of which is designated for common ownership solely by the owners of the portions designated for separate ownership, provided the undivided interests in the common elements are vested in the unit owners.

**Cooperative Housing Association** – means an association, whether incorporated or unincorporated, organized for the purpose of owning and operating residential real property, the shareholders or members of which, by reason of their ownership of a stock or membership certificate, a proprietary lease or other evidence of membership, are entitled to occupy a dwelling unit pursuant to the terms of a proprietary lease or occupancy agreement.

**Dwelling Unit** – any habitable room or group of rooms with kitchen and bathroom facilities forming a single unit located within a building or structure, which is wholly or partially used or intended to be used for living, sleeping and the preparation and consumption of meals by human occupants, and is under the control of and for the use of the occupant.

## Multi-Year Rates

DC Water moved to a multi-year rate proposal in FY 2016 covering the period FY 2017 and FY 2018. This is the second time that DC Water has adopted a multi-year rate proposal in FY 2018 covering the period FY 2019 and FY 2020 and will become effective from October 1, 2018.

The benefits of multi-year rates include:

- Greater revenue certainty
- Increased budget discipline
- Better alignment between revenues and expenditures

## System Availability Fee (SAF)

Many utilities have implemented a fee, assessed to new development (or redevelopment) to recover the investment in available system capacity. On June 17, 2016, DC Water's Board approved a new System Availability Fee (SAF) to be effective from January 1, 2018. All Residential Customers with meters 1 inch or smaller will use the same set of fees. All Residential Customers with meters larger than 1", and all Multi-Family and Non-Residential Customers will have SAF based on their meter size.

The System Availability Fee will be assessed for all new buildings, structures or properties under development and properties under redevelopment. For properties under redevelopment, DC Water will determine the net System Availability Fee by determining the property's proposed capacity requirements and applying a credit for the capacity of accounts being removed from the system. However, if the associated credit for capacity removed is equal to or greater than the future System Availability Fee, the net System Availability Fee shall be zero. Properties under redevelopment shall not receive a credit for accounts that are inactive for more than 12 months.

DC Water has determined that implementing the System Availability Fee (SAF) regulations on the effective date of January 1, 2018 could present significant fiscal impacts to the District’s New Communities Initiative, which includes redevelopment, one for one replacement and/or augmentation, of affordable housing units. On March 1, 2018, the DC Water Board considered comments received during the SAF public comment period and agreed to; 1) Extend the System Availability Fee (SAF) effective date from January 1, 2018 to June 1, 2018 for DCRA Construction Permit Applicants and federal facilities new water and sewer connections and renovation or redevelopment projects for existing connections to the District’s potable water and sanitary sewer systems based on the SAF meter size in accordance with the following fee schedule and requirements; 2) Revised the DC Water guidance document used to determine the SAF meter size from DC Water Standard Details and Guideline Masters to DC Water’s Sizing Instructions and Worksheets; 3) Added procedures and requirements to receive credits for Affordable Housing Units (AHU) development and redevelopment; 4) Clarified the requirements for projects submitted prior to the effective date of June 1, 2018 and approved by June 1, 2019; 5) Added formulas to clarify how the SAF is calculated with the SAF credit, AHU credit and Net AHU credit; 6) Clarified requirements for Payment Plan Agreement; 7) Properties under redevelopment shall not receive a credit for accounts that are inactive for more than 24 months.

Effective June 1, 2018, DCRA Construction Permit Applicants and federal facilities shall be assessed a System Availability Fee (SAF) for new water and sewer connections and renovation or redevelopment projects for existing connections to the District’s potable water and sanitary sewer systems based on the SAF meter size in accordance with the following fee schedule and requirements:

- a) Residential customers shall be charged a System Availability Fee based on the SAF meter size as listed below:

<b>SAF Meter Size (inches)</b>	<b>Water System Availability Fee</b>	<b>Sewer System Availability Fee</b>	<b>Total System Availability Fee</b>
5/8"	\$ 1,135	\$ 2,809	\$ 3,944
3/4"	\$ 1,135	\$ 2,809	\$ 3,944
1"	\$ 1,135	\$ 2,809	\$ 3,944
1"x1.25"	\$ 2,047	\$ 5,066	\$ 7,113
1.5"	\$ 5,491	\$ 13,591	\$ 19,082
2"	\$ 11,125	\$ 27,536	\$ 38,661

- b) Multi-Family and all Non-Residential customers shall be charged a System Availability Fee based on the SAF meter size as listed below:

SAF Meter Size (inches)	Water System Availability Fee	Sewer System Availability Fee	Total System Availability Fee
1" or smaller	\$ 1,282	\$ 3,173	\$ 4,455
1"x1.25"	\$ 2,047	\$ 5,066	\$ 7,113
1.5"	\$ 5,491	\$ 13,591	\$ 19,082
2"	\$ 11,125	\$ 27,536	\$ 38,661
3"	\$ 32,500	\$ 80,442	\$ 112,942
4"	\$ 83,388	\$ 206,394	\$ 289,782
6"	\$ 229,246	\$ 567,408	\$ 796,654
8"	\$ 229,246	\$ 567,408	\$ 796,654
8"x2"	\$ 229,246	\$ 567,408	\$ 796,654
8"x4"x1"	\$ 229,246	\$ 567,408	\$ 796,654
10"	\$ 229,246	\$ 567,408	\$ 796,654
12"	\$ 229,246	\$ 567,408	\$ 796,654
16"	\$ 229,246	\$ 567,408	\$ 796,654

The following terms are defined:

**Development** – the construction of a premises, building or structure that establishes a new water and/or sewer connection.

**Redevelopment** – the renovation or alteration of a premises, building or structure or reconstruction of a property that increases or decreases the water supply demand or drainage, waste, and vent (DWV) system load. Redevelopment shall not include the up-sizing of a water service or sewer lateral to comply with the D.C. Construction Codes Supplement, provided the water supply demand and DMV system load remain the same.

**System Availability Fee** – A one-time fee assessed to a property owner of any premises, building or structure to recover the cost of system capacity servicing all metered water service and sanitary sewer connections and renovation or redevelopment projects that require an upsized meter service connection to the District’s potable water system. The fee is assessed based on the peak water demand, excluding fire demand, for new meter water service connection and renovation or redevelopment projects that increase the peak water demand and associated SAF meter size for the property.

**Affordable Housing Unit (AHU)** – A housing unit that is offered for rent or sale for residential occupancy and as a result of a federal or District subsidy, incentive or benefit, and is made available and affordable to households whose income limit requirements are established by the federal or District program or agency or the Council for the District of Columbia.

**Force Majeure Event** - an event arising from causes beyond the control of DC Water or the control of any entity controlled by DC Water, which results in the closure of DC Water facilities.

## **Clean Rivers IAC Credit:**

In FY 2016, DC Water’s Board asked management to evaluate and propose recommendations for expansion of the Customer Assistance Program (CAP) to include fees assessed for the Clean Rivers Impervious Surface Area Charge (CRIAC). The staff evaluated the three options for CRIAC credit: (i) Dollar credit, (ii) ERU credit, and (iii) percent of CRIAC credit (25%, 50%, 75%). Based on the detailed analysis, the management made recommendation to the Board to expand Customer Assistance Program (CAP) to low-income customers to include CRIAC credit in their monthly bills. On March 2, 2017 the Board approved the expansion of the Customer Assistance Program for eligible single-family residential accounts and individually metered accounts to include a fifty percent (50%) credit off of the monthly billed Clean Rivers Impervious Area Charge. The CRAIC became effective May 1, 2017.



The Board has approved the following rates and fees to be effective from October 1, 2017:

- Water volumetric rates:
  - Residential customers: “Consumption of 0 – 4 Ccf” - water rate increase of \$0.16 per Ccf, {\$0.21 per 1,000 gallons} from \$3.23 per Ccf to \$3.39 per Ccf, {\$4.53 per 1,000 gallons}
  - Residential customers: “Consumption greater than 4 Ccf” - water rate increase of \$0.20 per Ccf, {\$0.27 per 1,000 gallons} from \$4.06 per Ccf to \$4.26 per Ccf, {\$5.70 per 1,000 gallons}
  - Multi-family customers: water rate increase of \$0.18 per Ccf, {\$0.24 per 1,000 gallons} from \$3.62 per Ccf to \$3.80 per Ccf, {\$5.08 per 1,000 gallons}
  - Non-Residential customers: water rate increase of \$0.21 per Ccf, {\$0.28 per 1,000 gallons} from \$4.19 per Ccf to \$4.40 per Ccf, {\$5.88 per 1,000 gallons}
- Sewer rate increase of \$0.29 per Ccf, {\$0.39 per 1,000 gallons} for all classes of customers from \$5.71 per Ccf to \$6.00 per Ccf, {\$8.02 per 1,000 gallons}
- Monthly Clean Rivers Impervious Area Charge (CRIAC) increase of \$2.94 from \$22.24 per ERU to \$25.18 per ERU
- Clean Rivers Impervious Area Charge (CRIAC) six-tier residential rates structure is shown in the table below:

Tiers	Residential Impervious Area Range	ERU
Tier 1	100 – 600 sq ft	0.6 ERU
Tier 2	700 – 2,000 sq ft	1.0 ERU
Tier 3	2,100 – 3,000 sq ft	2.4 ERU
Tier 4	3,100 – 7,000 sq ft	3.8 ERU
Tier 5	7,100 – 11,000 sq ft	8.6 ERU
Tier 6	11,100 sq ft and more	13.5 ERU

- The Water System Replacement Fee (WSRF) recovers the costs of 1% renewal and replacement program for water service lines. WSRF varies with meter size. There will be no increase in WSRF, which will remain same as in FY 2017. WSRF for 5/8” meter size is \$6.30.
- Right-of-Way Fee – This fee recovers the full cost of the Right-of-Way Fee charged to DC Water by the District of Columbia
  - Increase of \$0.01 in the Right-of-Way Fee, (\$0.01 per 1,000 gallons) to \$0.18 per Ccf, (\$0.24 per 1,000 gallons)

- Payment-in-Lieu of Taxes Fee – This fee recovers the cost of providing municipal services to DC Water by the District of Columbia. On September 4, 2014 the District and the Authority entered into a new Memorandum of Understanding (the “2014 PILOT MOU”) amending the 1998 PILOT MOU. According to the MOU, the Authority shall increase the amount of the PILOT payment by two percent per annum based on the amount of prior year’s annual PILOT payment.
  - Increase of \$0.01 per Ccf in the PILOT fee (\$0.01 per 1,000 gallons) to \$0.49 per Ccf, (\$0.66 per 1,000 gallons)
- These changes increased the typical residential customer’s total monthly bill by \$5.95 or 6.2 percent

The Board has proposed the following changes in the rates and fees for rate making to be effective from October 1, 2018:

- Water volumetric rates:
  - Residential customers: “Consumption of 0 – 4 Ccf” - water rate decrease of \$0.48 per Ccf, {\$0.64 per 1,000 gallons} from \$3.39 per Ccf to \$2.91 per Ccf, {\$3.89 per 1,000 gallons}
  - Residential customers: “Consumption greater than 4 Ccf” - water rate decrease of \$0.36 per Ccf, {\$0.49 per 1,000 gallons} from \$4.26 per Ccf to \$3.90 per Ccf, {\$5.21 per 1,000 gallons}
  - Multi-family customers: water rate decrease of \$0.43 per Ccf, {\$0.57 per 1,000 gallons} from \$3.80 per Ccf to \$3.37 per Ccf, {\$4.51 per 1,000 gallons}
  - Non-Residential customers: water rate decrease of \$0.35 per Ccf, {\$0.46 per 1,000 gallons} from \$4.40 per Ccf to \$4.05 per Ccf, {\$5.42 per 1,000 gallons}
- Sewer rate increase of \$1.75 per Ccf, {\$0.234 per 1,000 gallons} for all classes of customers from \$6.00 per Ccf to \$7.75 per Ccf, {\$10.36 per 1,000 gallons}
- Monthly Clean Rivers Impervious Area Charge (CRIAC) decrease of \$2.18 from \$25.18 per ERU to \$23.00 per ERU
- The WSRF recovers the cost of 1% renewal and replacement program for water service lines. There will be no increase in WSRF. The WSRF varies with meter size. WSRF for 5/8” meter size is \$6.30.
- PILOT and Right-of-Way fee – These fees are proposed to increase to recover the full cost of the PILOT and Right-of-Way fees charged to DC Water by the District of Columbia
  - Increase of \$0.01 in the PILOT fee, {\$0.01 per 1,000 gallons} to \$0.50 per Ccf, {\$0.67 per 1,000 gallons}
  - There is no increase in the Right-of-Way Fee, which remains the same at \$0.18 per Ccf, {\$0.24 per 1,000 gallons}

The Board has proposed the following changes in the rates and fees for rate making to be effective from October 1, 2019:

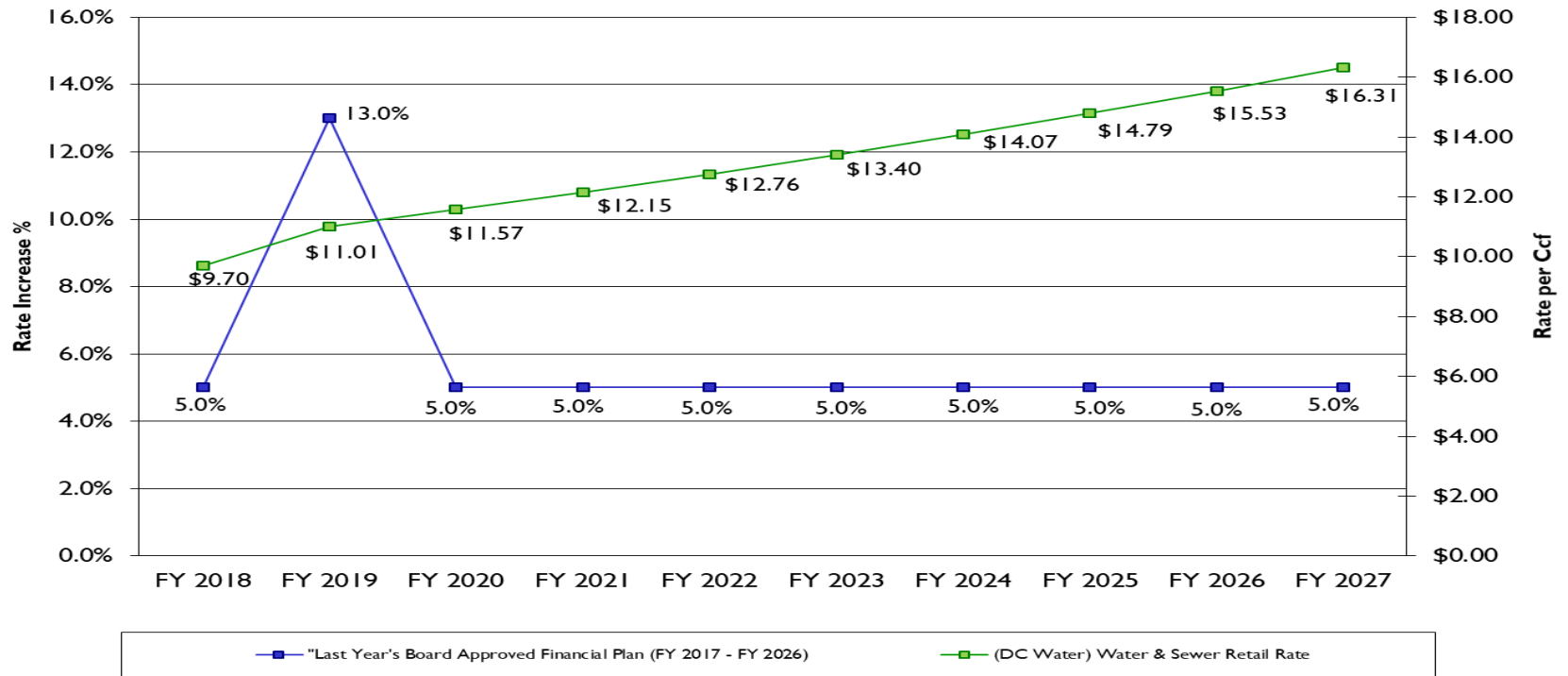
- Water volumetric rates:
  - Residential customers: “Consumption of 0 – 4 Ccf” - water rate increase of \$0.15 per Ccf, {\$0.20 per 1,000 gallons} from \$2.91 per Ccf to \$3.06 per Ccf, {\$4.09 per 1,000 gallons}
  - Residential customers: “Consumption greater than 4 Ccf” - water rate increase of \$0.20 per Ccf, {\$0.27 per 1,000 gallons} from \$3.90 per Ccf to \$4.10 per Ccf, {\$5.48 per 1,000 gallons}
  - Multi-family customers: water rate increase of \$0.17 per Ccf, {\$0.22 per 1,000 gallons} from \$3.37 per Ccf to \$3.54 per Ccf, {\$4.73 per 1,000 gallons}
  - Non-Residential customers: water rate increase of \$0.20 per Ccf, {\$0.26 per 1,000 gallons} from \$4.05 per Ccf to \$4.25 per Ccf, {\$5.68 per 1,000 gallons}
- Sewer rate increase of \$0.39 per Ccf, {\$0.52 per 1,000 gallons} for all classes of customers from \$7.75 per Ccf to \$8.14 per Ccf, {\$10.88 per 1,000 gallons}
- Monthly Clean Rivers Impervious Area Charge (CRIAC) increase of \$2.58 from \$23.00 per ERU to \$25.58 per ERU
- Water System Replacement Fee (WSRF) will remain the same. This fee varies with meter size. The WSRF recovers the cost of 1% renewal and replacement program for water service lines. WSRF for 5/8” meter size is \$6.30.
- PILOT and Right-of-Way fee – These fees are proposed to increase to recover the full cost of the PILOT and Right-of-Way fees charged to DC Water by the District of Columbia
  - Increase of \$0.01 in the PILOT fee, {\$0.01 per 1,000 gallons} to \$0.51 per Ccf, {\$0.68 per 1,000 gallons}
  - Increase of \$0.01 in the Right-of-Way fee, {\$0.01 per 1,000 gallons} to \$0.19 per Ccf, {\$0.25 per 1,000 gallons}

The ten-year projected water and sewer rate increases under this year's plan (FY 2018 – FY 2027) total 58.0 percent driven primarily by capital spending for DC Water's \$4.0 billion capital improvement program.

Primary spending in the ten-year capital plan includes: DC Clean Rivers Project (CSO LTCP) Enhanced Nitrogen Removal Facilities, Tunnel Dewatering Pump Station, and various on-going water and sewer infrastructure improvements.

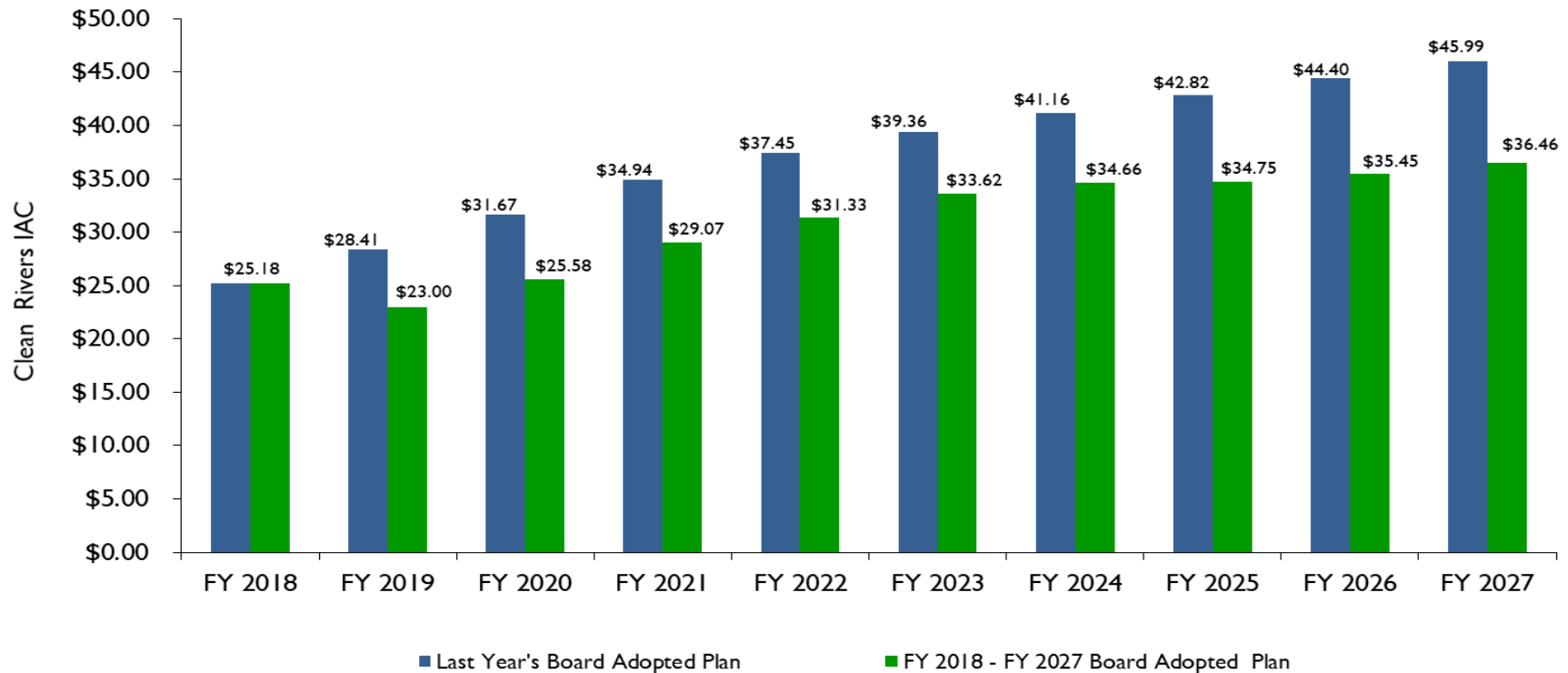
The public outreach and comment process for the multi-year rate proposal for FY 2019 and FY 2020 will occur between March and June 2018. With the approval of the rates by DC Water Board, these changes will increase the typical residential customer's monthly bill by \$6.02 or 5.9 percent in FY 2019 and by \$6.16 or 5.7 percent in FY 2020 as shown on page IV–25.

**PROJECTED RETAIL WATER & SEWER RATE CHANGES  
FY 2018 – FY 2027**



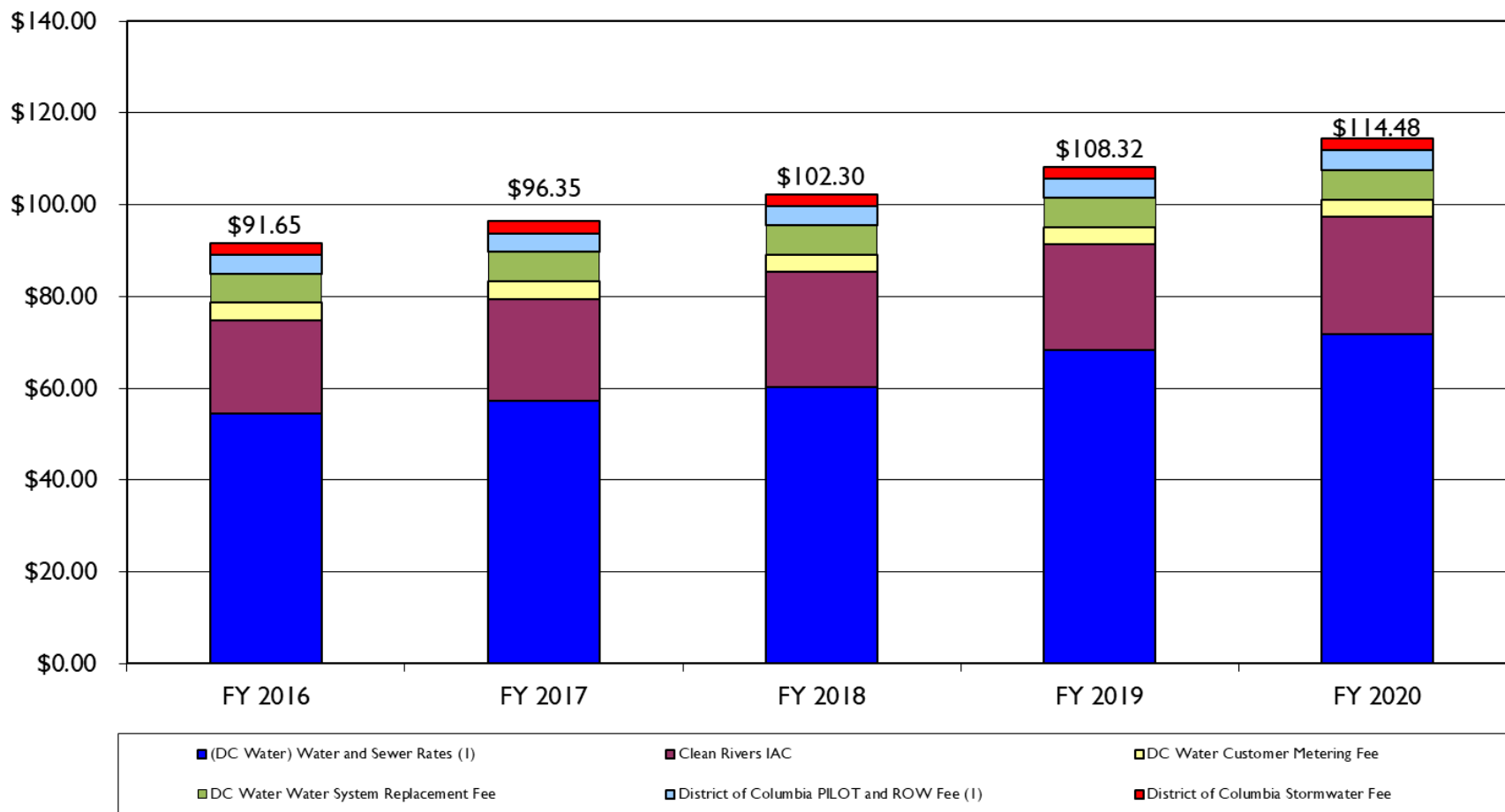
- 1) Rates shown above reflect weighted water and sewer rates for Residential customer category
- 2) In FY 2019 approved water and sewer rate increase of \$1.31 per Ccf, (\$1.75 per 1,000 gallons)
  - Combined water and sewer rate increases from \$9.70 to \$11.01 per Ccf
- 3) In FY 2020 approved water and sewer rate increase of \$0.56 per Ccf, (\$0.75 per 1,000 gallons)
  - Combined water and sewer rate increases from \$11.01 to \$11.57 per Ccf
- 4) Rate increases of 13.0 percent for FY 2019 and 5.0 percent for the period FY 2020 to FY 2027

## PROJECTED MONTHLY CLEAN RIVERS IMPERVIOUS SURFACE AREA CHARGE (CRIAC) CHANGES FY 2018 – FY 2027



- The projected charges displayed in the chart above are primarily driven by anticipated debt service costs necessary to support the twenty-five year \$2.7 billion Clean Rivers Project, which includes the federally mandated CSO-LTCP and the nine-minimum controls program
- The annual Clean Rivers Project costs for the average Tier 2 residential customer (700 – 2,000 sq ft of impervious area) is projected to increase from \$276.00 in FY 2019 to \$437.52 in FY 2027

## AVERAGE RESIDENTIAL CUSTOMER MONTHLY BILL FY 2016 – FY 2020



- I) Assumes average monthly consumption of 6.20 Ccf, or 4,638 gallons
  - FY 2019 cost per gallon is \$0.01 (water and sewer rates only)



**AVERAGE RESIDENTIAL CUSTOMER MONTHLY BILL**  
**FY 2016 – FY 2020**

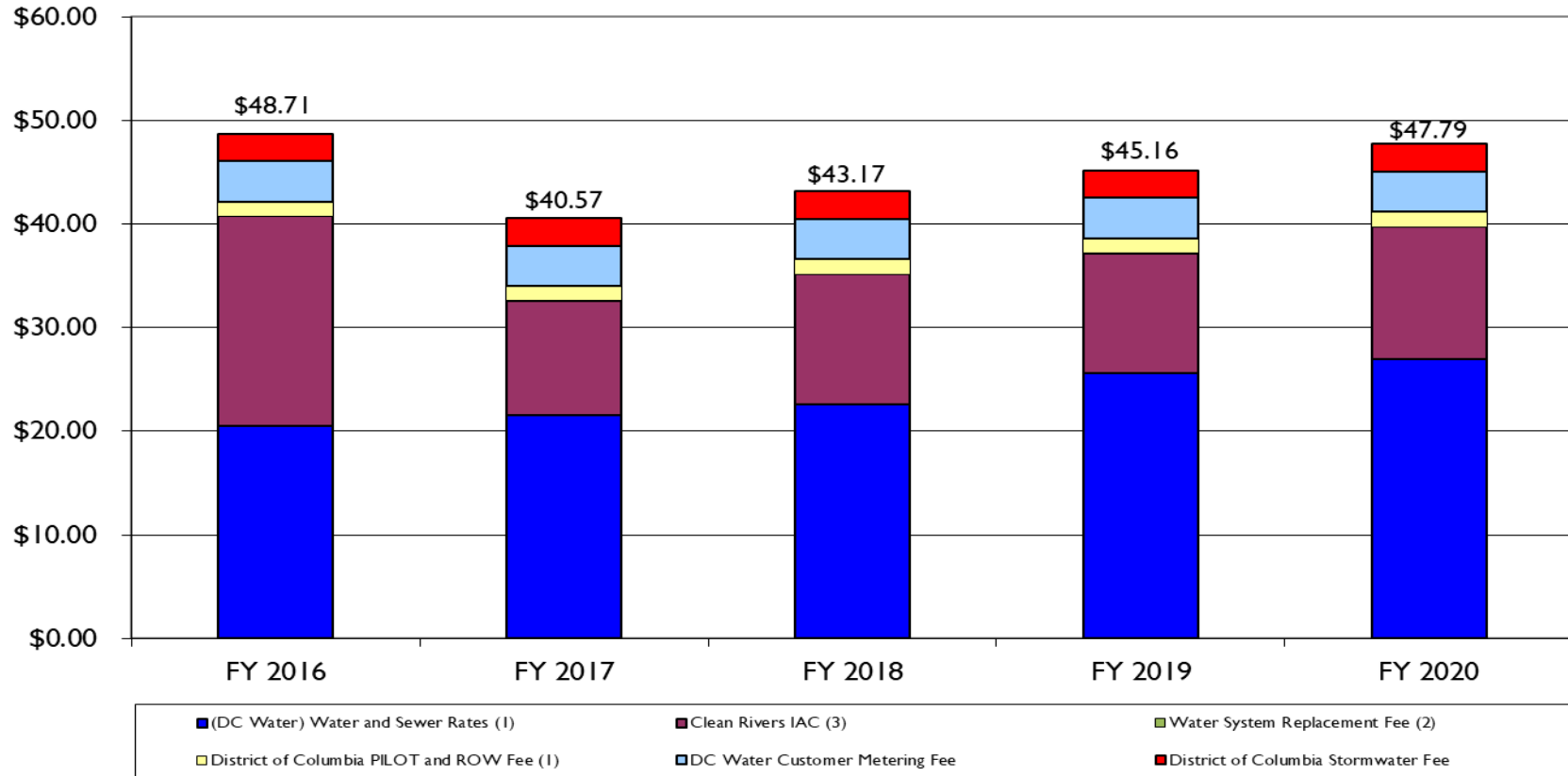
	Units	FY 2016	FY 2017	Current FY 2018	Proposed FY 2019	Proposed FY 2020
DC Water Water and Sewer Retail Rates <sup>(1)</sup>	Ccf	\$ 54.56	\$ 57.25	\$ 60.13	\$ 68.27	\$ 71.73
DC Water Clean Rivers IAC	ERU	20.30	22.24	25.18	23.00	25.58
DC Water Customer Metering Fee	5/8"	3.86	3.86	3.86	3.86	3.86
DC Water Water System Replacement Fee <sup>(3)</sup>	5/8"	6.30	6.30	6.30	6.30	6.30
<b>Subtotal DC Water Rates &amp; Charges</b>		<b>\$ 85.02</b>	<b>\$ 89.65</b>	<b>\$ 95.47</b>	<b>\$ 101.43</b>	<b>\$ 107.47</b>
Increase / Decrease		\$ 10.97	\$ 4.63	\$ 5.82	\$ 5.96	\$ 6.04
District of Columbia PILOT Fee <sup>(1)</sup>	Ccf	\$ 2.91	\$ 2.98	\$ 3.04	\$ 3.10	\$ 3.16
District of Columbia Right-of-Way Fee <sup>(1)</sup>	Ccf	1.05	1.05	1.12	1.12	1.18
District of Columbia Stormwater Fee <sup>(2)</sup>	ERU	2.67	2.67	2.67	2.67	2.67
<b>Subtotal District of Columbia Charges</b>		<b>\$ 6.63</b>	<b>\$ 6.70</b>	<b>\$ 6.83</b>	<b>\$ 6.89</b>	<b>\$ 7.01</b>
<b>Total Amount Appearing on DC Water Bill</b>		<b>\$ 91.65</b>	<b>\$ 96.35</b>	<b>\$ 102.30</b>	<b>\$ 108.32</b>	<b>\$ 114.48</b>
Increase / Decrease Over Prior Year		\$ 11.03	\$ 4.70	\$ 5.95	\$ 6.02	\$ 6.16
<b>Percent Increase in Total Bill</b>		<b>13.7%</b>	<b>5.1%</b>	<b>6.2%</b>	<b>5.9%</b>	<b>5.7%</b>

(1) Assumes average monthly consumption of 6.2 Ccf, or (4,638 gallons)

(2) District Department of the Environment stormwater fee of \$2.67 effective November 1, 2010

(3) DC Water "Water System Replacement Fee" of \$6.30 for 5/8" meter size effective October 1, 2015

## AVERAGE CAP CUSTOMER MONTHLY BILL FY 2016 – FY 2020



- 1) Assumes average monthly consumption of 6.20 Ccf, or 4,638 gallons
  - FY 2019 cost per gallon is \$0.01 (water and sewer rates only)
- 2) Assumes 100 percent discount for Water System Replacement Fee (WSRF) to CAP customers, therefore, WSRF is not shown in the above graph
- 3) Assumes 50 percent credit for Clean Rivers Impervious Area Charge (CRIAC) to CAP customers

**AVERAGE CAP CUSTOMER MONTHLY BILL  
FY 2016 – FY 2020**

	Units	FY 2016	FY 2017	Current FY 2018	Proposed FY 2019	Proposed FY 2020
DC Water Water and Sewer Retail Rates <sup>(1)</sup>	Ccf	\$ 54.56	\$ 57.25	\$ 60.13	\$ 68.27	\$ 71.73
DC Water Clean Rivers IAC	ERU	20.30	22.24	25.18	23.00	25.58
DC Water Customer Metering Fee	5/8"	3.86	3.86	3.86	3.86	3.86
DC Water Water System Replacement Fee	5/8"	6.30	6.30	6.30	6.30	6.30
<b>Subtotal DC Water Rates &amp; Charges</b>		<b>\$ 85.02</b>	<b>\$ 89.65</b>	<b>\$ 95.47</b>	<b>\$ 101.43</b>	<b>\$ 107.47</b>
Increase / Decrease		\$ 10.97	\$ 4.63	\$ 5.82	\$ 5.96	\$ 6.04
District of Columbia PILOT Fee <sup>(1)</sup>	Ccf	\$ 2.91	\$ 2.98	\$ 3.04	\$ 3.10	\$ 3.16
District of Columbia Right-of-Way Fee <sup>(1)</sup>	Ccf	1.05	1.05	1.12	1.12	1.18
District of Columbia Stormwater Fee <sup>(4)</sup>	ERU	\$ 2.67	\$ 2.67	2.67	2.67	2.67
<b>Subtotal District of Columbia Charges</b>		<b>\$ 6.63</b>	<b>\$ 6.70</b>	<b>\$ 6.83</b>	<b>\$ 6.89</b>	<b>\$ 7.01</b>
<b>Total Amount</b>		<b>\$ 91.65</b>	<b>\$ 96.35</b>	<b>\$ 102.30</b>	<b>\$ 108.32</b>	<b>\$ 114.48</b>
Less: CAP Discount (4 Ccf per month) <sup>(1), (2)</sup>		\$ (36.64)	(38.36)	(40.24)	(45.36)	(47.60)
Water System Replacement Fee (WSRF) <sup>(3)</sup>		\$ (6.30)	(6.30)	(6.30)	(6.30)	(6.30)
Clean Rivers IAC <sup>(5)</sup>			(11.12)	(12.59)	(11.50)	(12.79)
<b>Total Amount Appearing on DC Water Bill</b>		<b>\$ 48.71</b>	<b>\$ 40.57</b>	<b>\$ 43.17</b>	<b>\$ 45.16</b>	<b>\$ 47.79</b>
Increase / Decrease Over Prior Year		\$ 5.09	(8.14)	2.60	1.99	2.63
<b>CAP Customer Discount as a Percent of Total Bill</b>		<b>-46.9%</b>	<b>-57.9%</b>	<b>-57.8%</b>	<b>-58.3%</b>	<b>-58.3%</b>

(1) Assumes average monthly consumption of 6.2 Ccf, or (4,638 gallons)

(2) Extension of CAP program in FY 2009 to first 4 Ccf of Water and Sewer and to first 4 Ccf of PILOT and ROW in FY 2011

(3) Assumes 100 percent discount for Water System Replacement Fee (WSRF) to CAP customers effective October 1, 2015

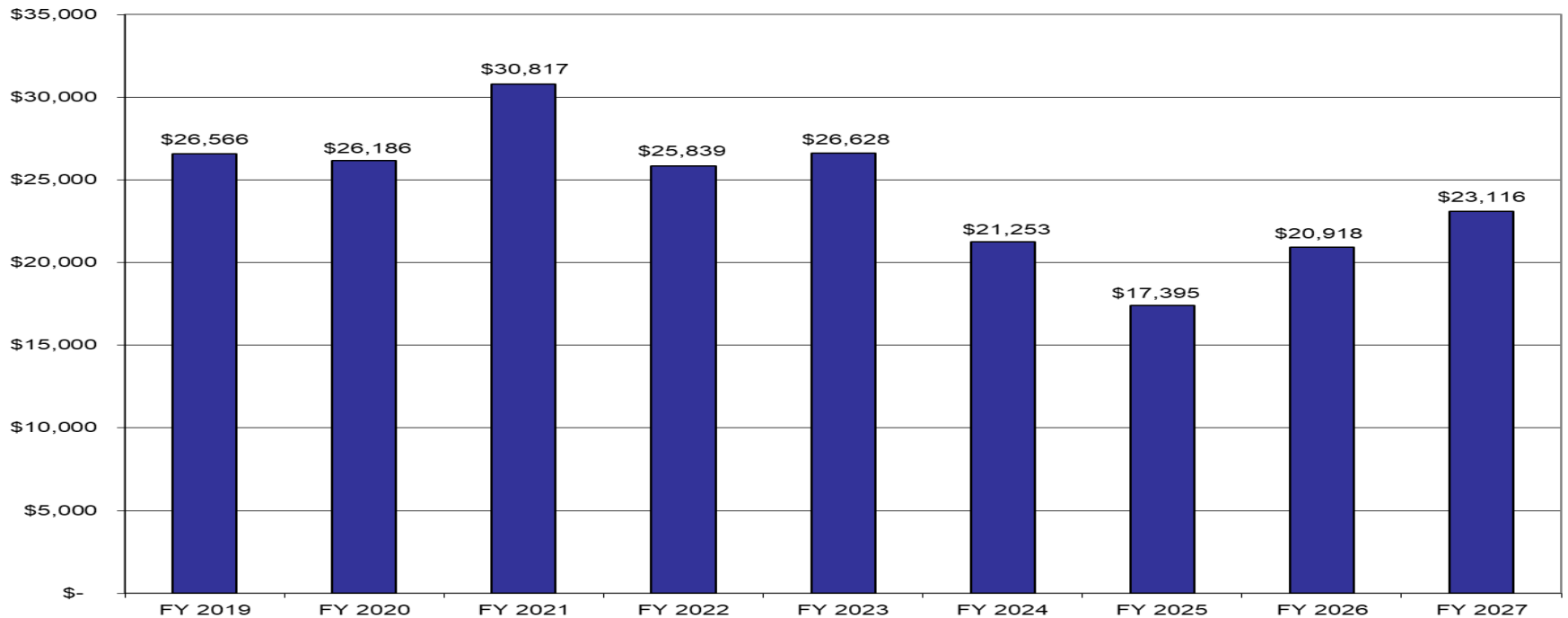
(4) District Department of the Environment stormwater fee of \$2.67 effective November 1, 2010

(5) Assumes 50 percent discount for the Clean Rivers IAC effective May 1, 2017

## FY 2018 – FY 2027 FINANCIAL PLAN

- As shown in the chart below, incremental increases in retail revenues are projected to range from \$17.4 million to \$30.8 million in FY 2019 – FY 2027, due to:
  - Average annual debt service increase of 5.3 percent
  - Average annual O&M increase of 3.4 percent
  - Annual projected Payment-in-Lieu of Taxes (PILOT) and Right-of-Way (ROW) increases due to DC Government increasing costs of providing services to the District
  - This year's ten-year plan reflects increases in operating and maintenance and increases in debt service cost associated with DC Water's Capital Improvement Program (CIP).

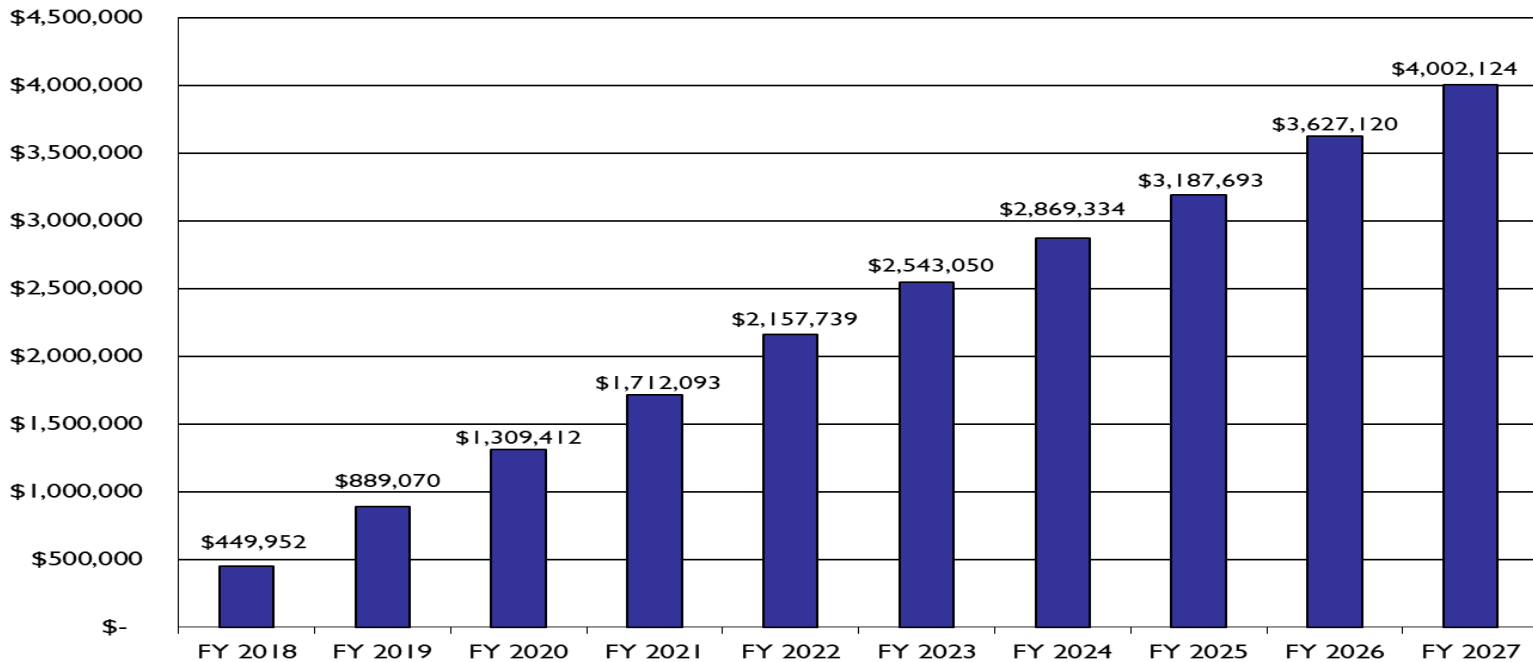
**INCREMENTAL INCREASE IN REVENUES  
FY 2019 – FY 2027  
(\$000's)**



- These costs would be recovered through:
  - Proposed water and sewer rate increases of 13.0 percent in FY 2019 and 5.0 percent from FY 2020 to FY 2027
  - Proposed Clean Rivers Impervious Surface Area Charge (CRIAC) revenues ranging from \$23.00 to \$36.46 per ERU per month
  - Proposed DC PILOT fee increases of 2 percent in accordance with the current MOU dated September 4, 2014 to recover the amount of PILOT payment obligation to the District of Columbia
  - The ROW fee will remain the same at \$5.1 million per annum in accordance with the current MOU signed on October 2, 2014 to recover the amount of ROW payment obligation to the District of Columbia
  - Utilization of the Board-authorized Rate Stabilization Fund (RSF) to offset retail rate increases

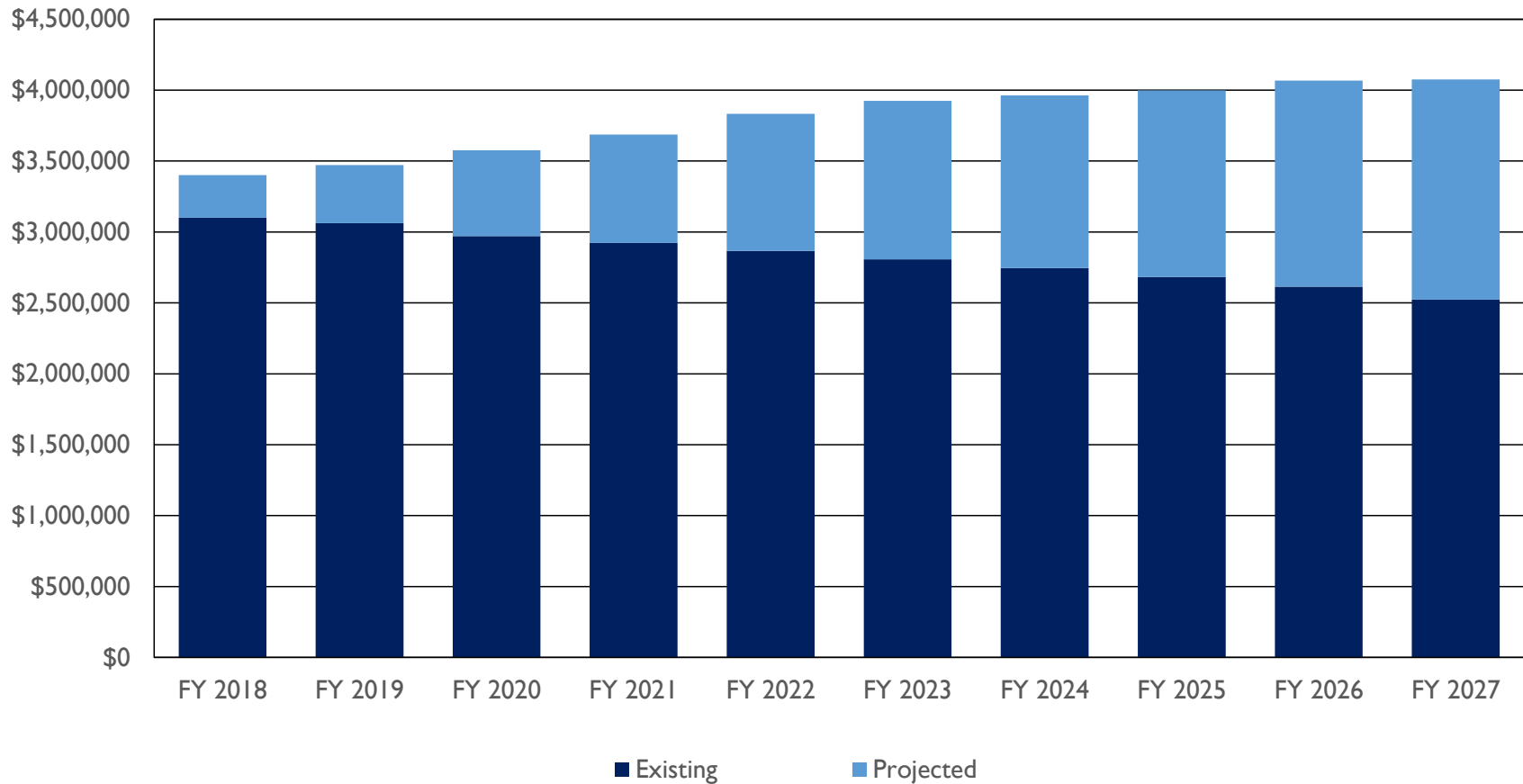
DC Water’s proposed rate increases are primarily required to fund increasing debt service costs from increased capital spending.

**CUMULATIVE CAPITAL SPENDING  
FY 2018 – FY 2027  
(\$000’s)**



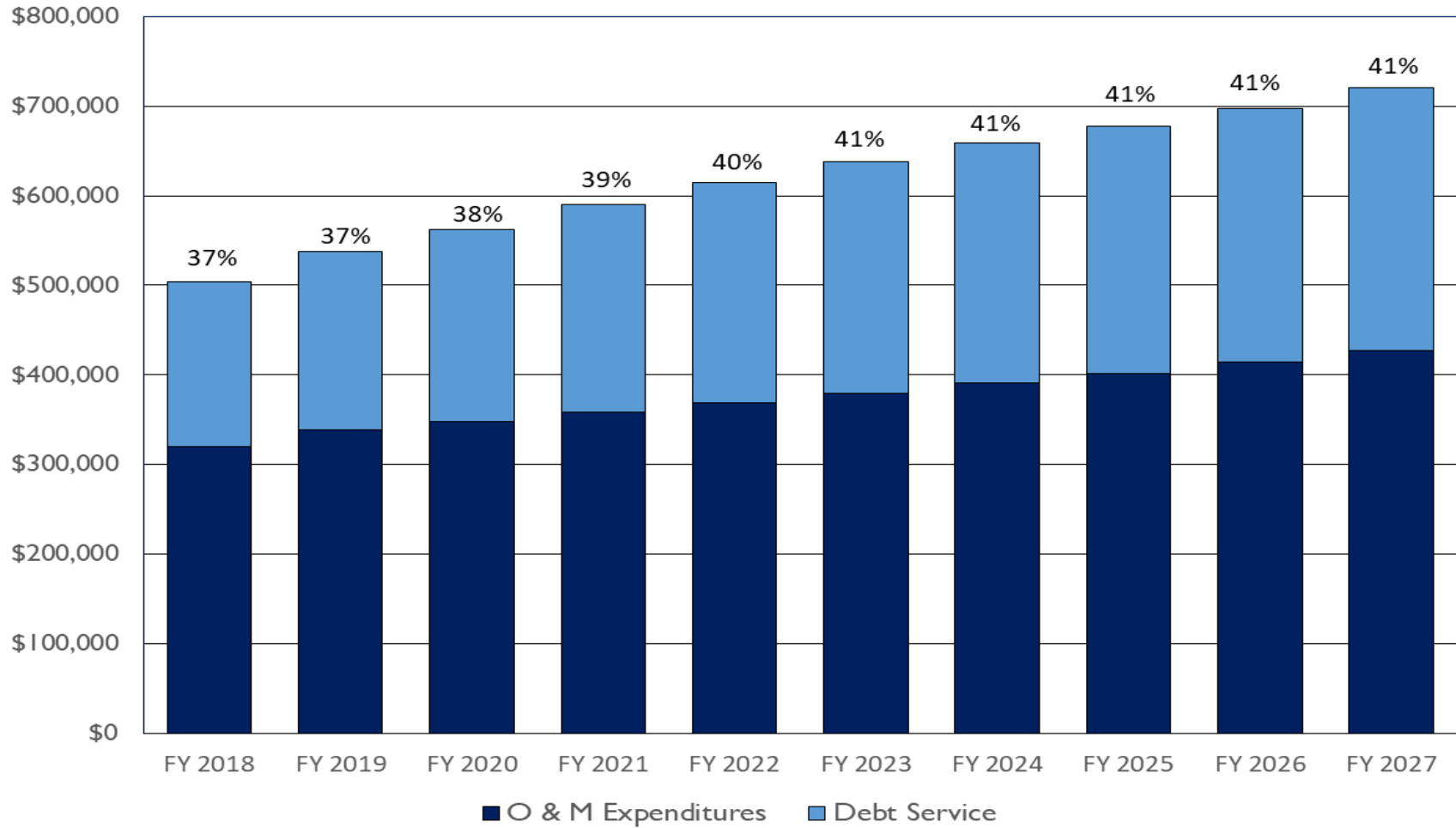
- DC Water’s ten-year capital improvement program totals \$4.00 billion, with annual spending ranging from \$318.4 million to \$450.0 million
- Once completed, the ten-year capital improvement project will double the book value of DC Water’s infrastructure
- The ten-year plan includes disbursements of the Clean Rivers Project (CSO LTCP), totaling nearly \$1.3 billion exclusive of nine minimum controls
- Water and sewer infrastructure continues to drive the ten-year Capital Improvement Plan from FY 2018 through FY 2027

## NEW & EXISTING DEBT OUTSTANDING FY 2018 – FY 2027 (\$000's)



- The largest source of funding for DC Water’s capital program is debt
- Over the next ten years, DC Water will issue approximately \$1.6 billion in new debt (which includes the funding of reserves and costs of issuance), increasing total debt outstanding to \$3.6 billion at the end of FY 2027

**DEBT SERVICE AS PERCENT OF TOTAL OPERATING & MAINTENANCE EXPENDITURES**  
**FY 2018 – FY 2027**  
 (\$000's)





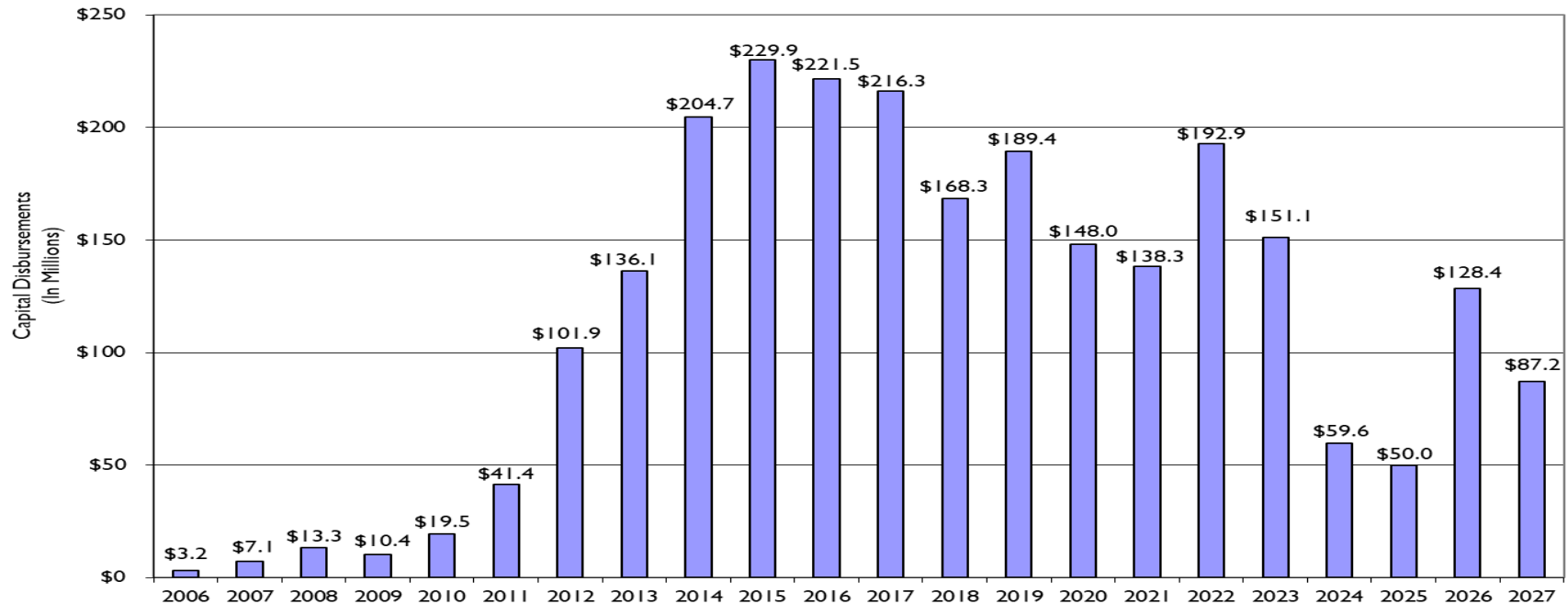
## OPERATING & DEBT SERVICE EXPENDITURES FY 2017 – FY 2026

Over the ten-year period, total expenditures increase on average by 4.1 percent annually

### ***DC Water's proposed rate increases are primarily required to fund increasing debt service costs***

- Operations and maintenance expenditures (excluding the payment-in-lieu of taxes and right-of-way fee) increase on average by only 3.4 percent annually
- Debt service expenditures grow at an annual average rate of 5.3 percent
- This year's ten-year plan reflects increases in operating and maintenance and increases in debt service costs associated with DC Water's Capital Improvement Program (CIP)

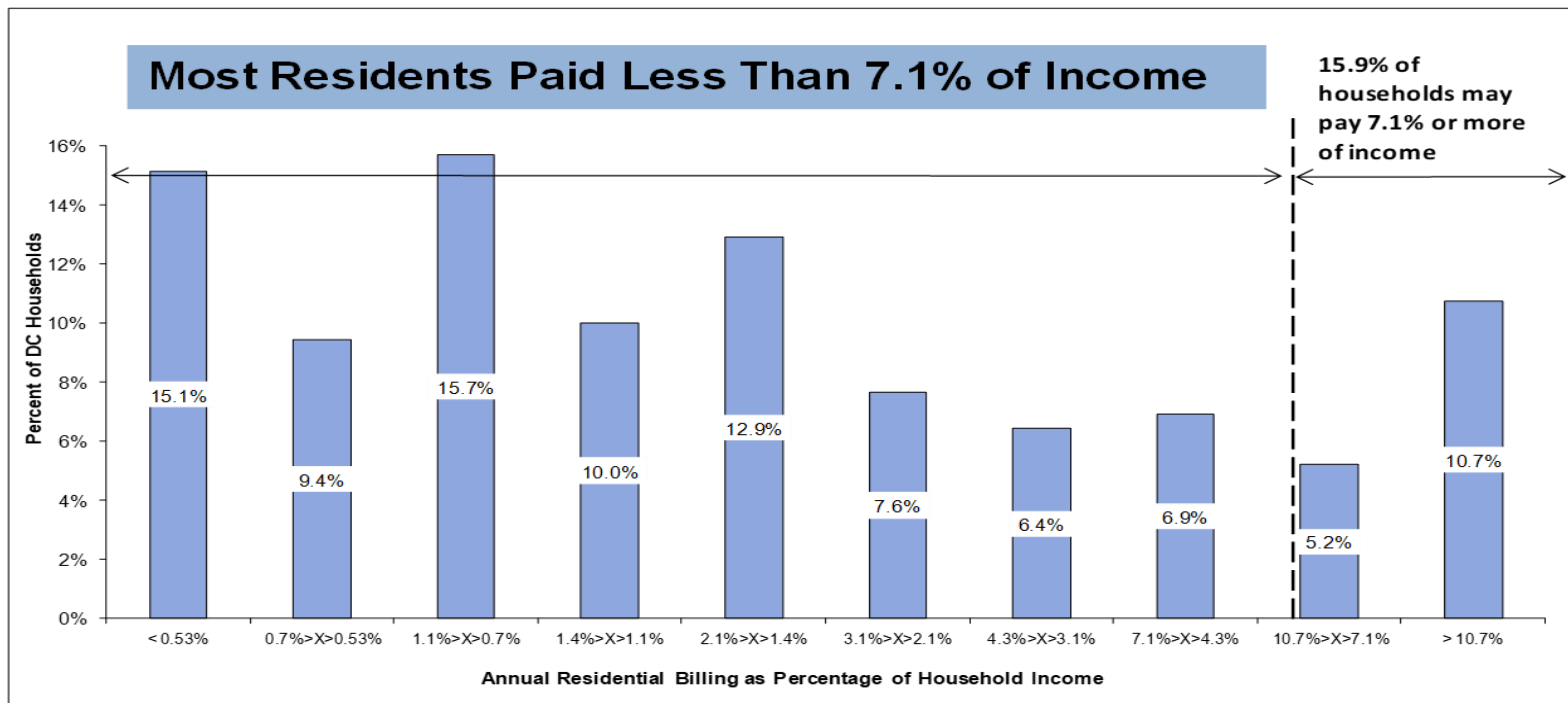
## POTENTIAL IMPACT OF CSO LONG-TERM CONTROL PLAN ON RATES Clean Rivers CSO LTCP Disbursements by Fiscal Year

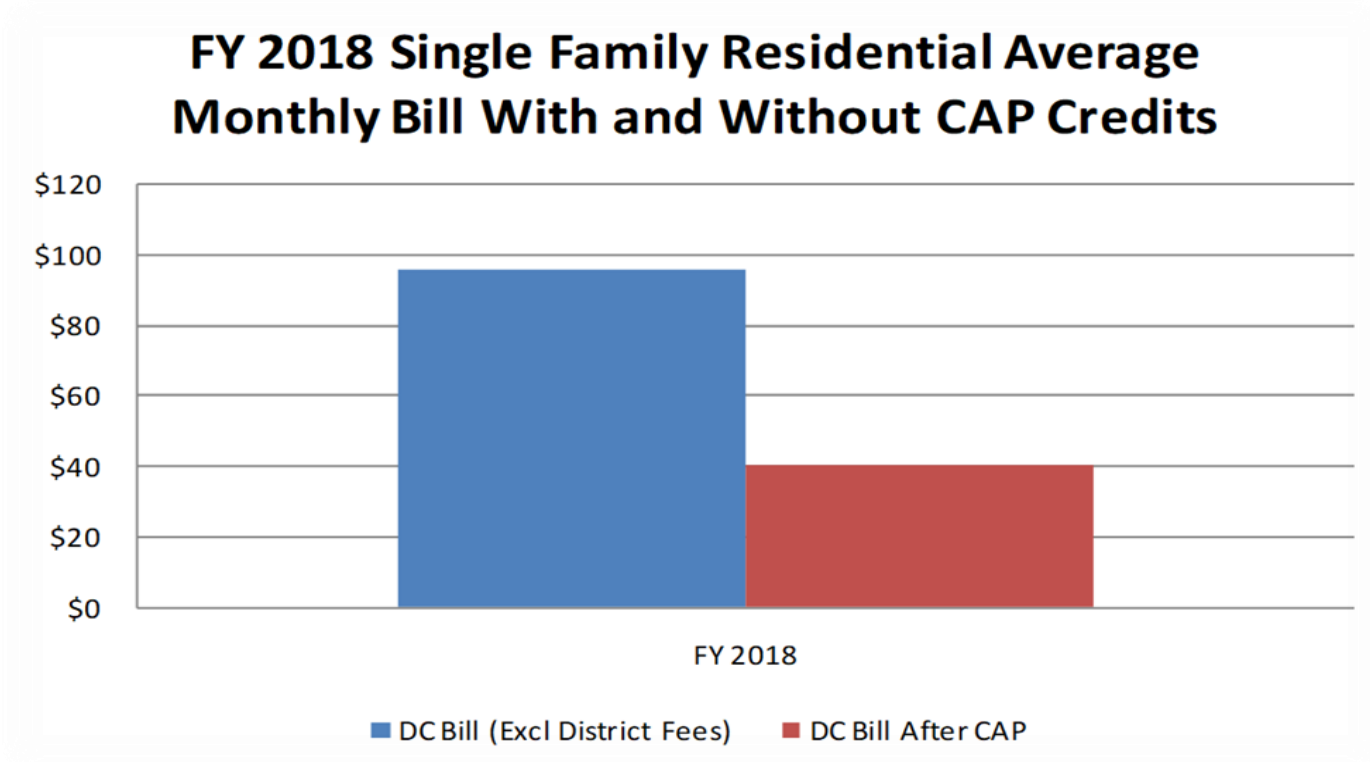


In December 2004, the Board reached an agreement with the federal government on the Clean Rivers Project (CSO-LTCP) and entered into a related consent decree. Actual and projected disbursements by fiscal year for the Clean Rivers Project are shown in the chart above and are the drivers for changes in the Clean Rivers Impervious Area Charge over the ten-year plan. Wholesale customers contribute 7.1 percent to the Clean Rivers Project. To mitigate impacts, DC Water continues to look for federal support for this program. As of September 30, 2017, \$238.8 million has been received through federal appropriations. Lifetime capital costs for the plan (exclusive of the nine – minimum controls program) total approximately \$2.7 billion, and this year’s proposed ten-year plan includes \$1.3 billion of projected Clean Rivers Project disbursements.

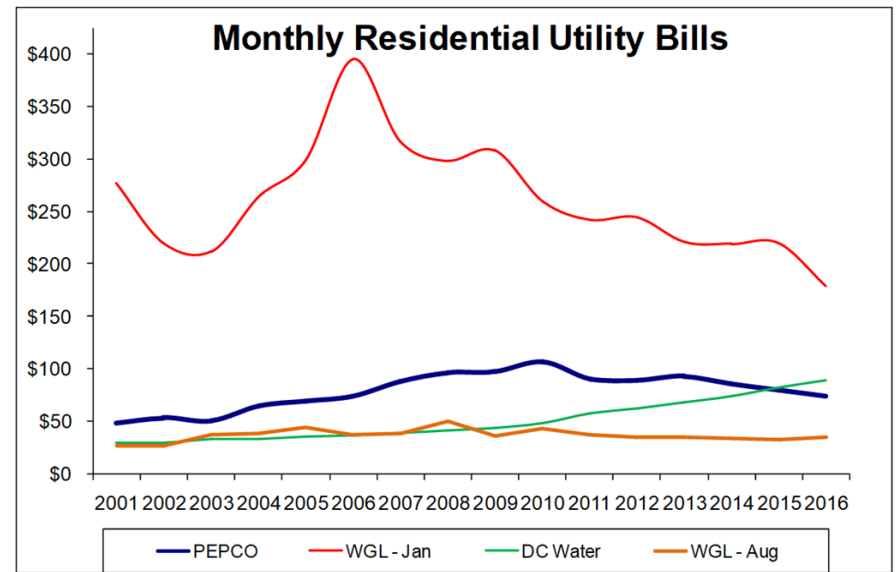
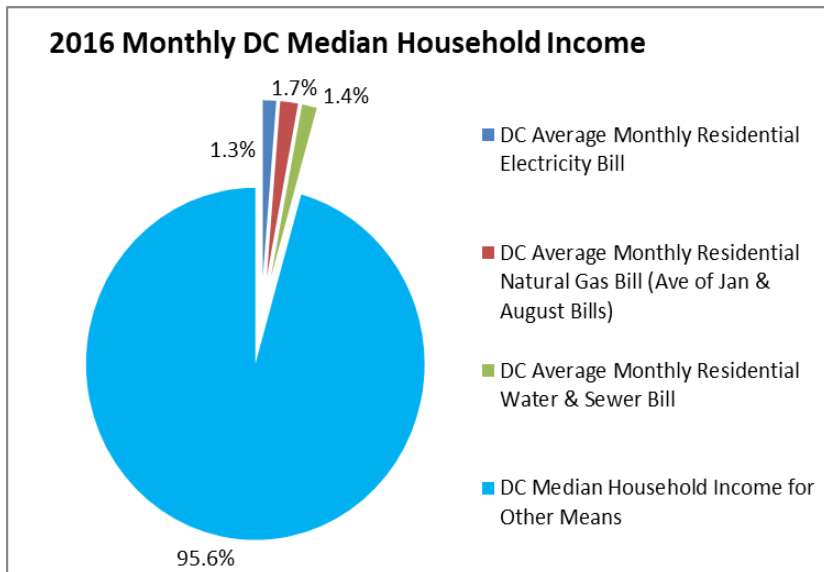
## DC WATER CHARGES ARE STILL AFFORDABLE AND COMPETITIVE WITH OTHER MAJOR CITIES

- **Median household income:** The average DC Water charges are less than 7.1% of income for 84.1% of the households in the District of Columbia. US EPA guidelines suggest that charges greater than 4% of median household income are typically viewed as a strain on household budgets (2% water + 2% sewer)
- **Typical DC Water residential bill as a percentage of median household income is lower than average when compared to other utilities of similar size**
- **Customer Assistance Programs** are in place to help eligible low income customers with their water/sewer bills





- After CAP credits, a family of 4 at the 2017 Federal Poverty level spends 1.9% of income on DC Water Bills



**Observation:**

- DC Water’s average monthly residential water & sewer bill is about 1.4 percent of the total monthly household income for the median income family, which is lower, compared to the average monthly electricity and natural gas bill and at about the national average for urban populations

**Observation:**

- Average electricity and natural gas are higher than water & sewer bills

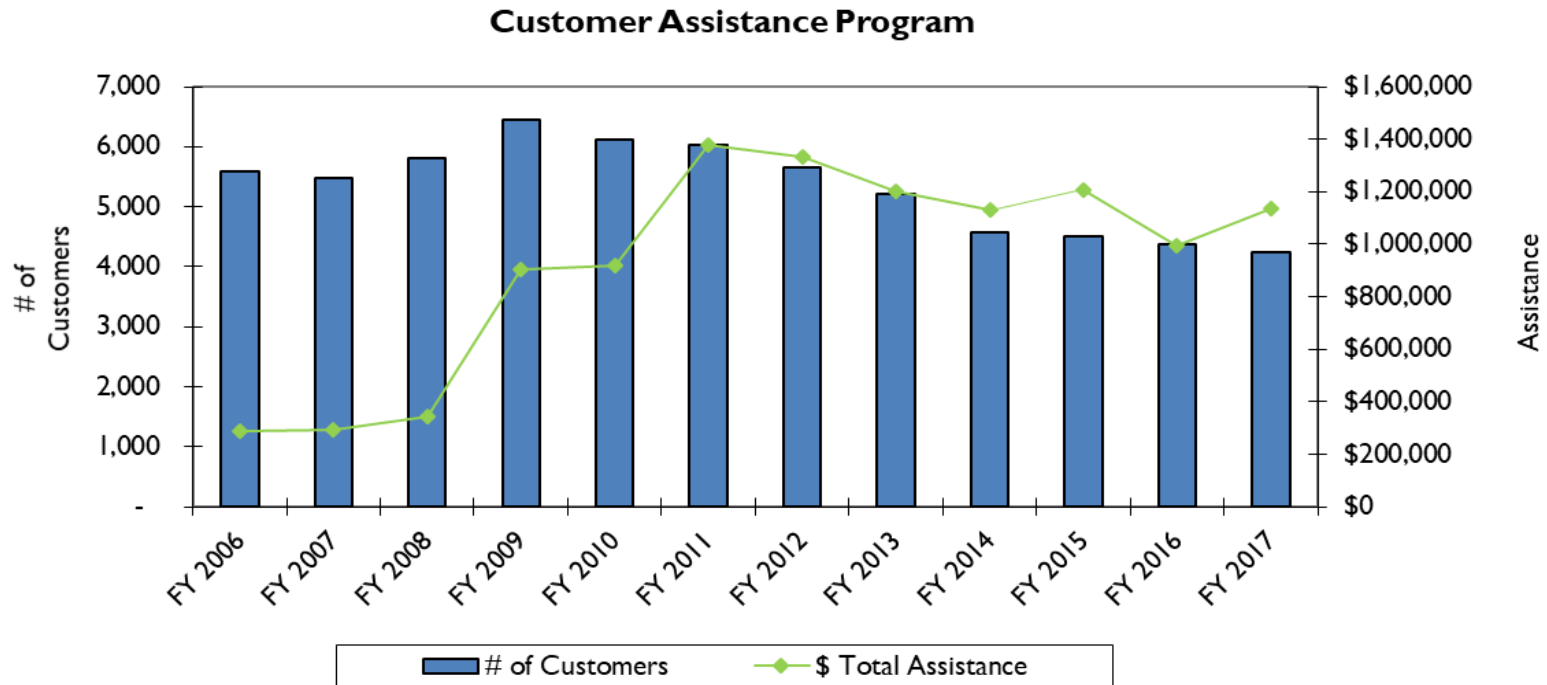
**Assumption:**

- Average DC customer is assumed to use 6.20 Ccf of water, 200 Therms of natural gas and 604 kWh of electricity per month in 2016

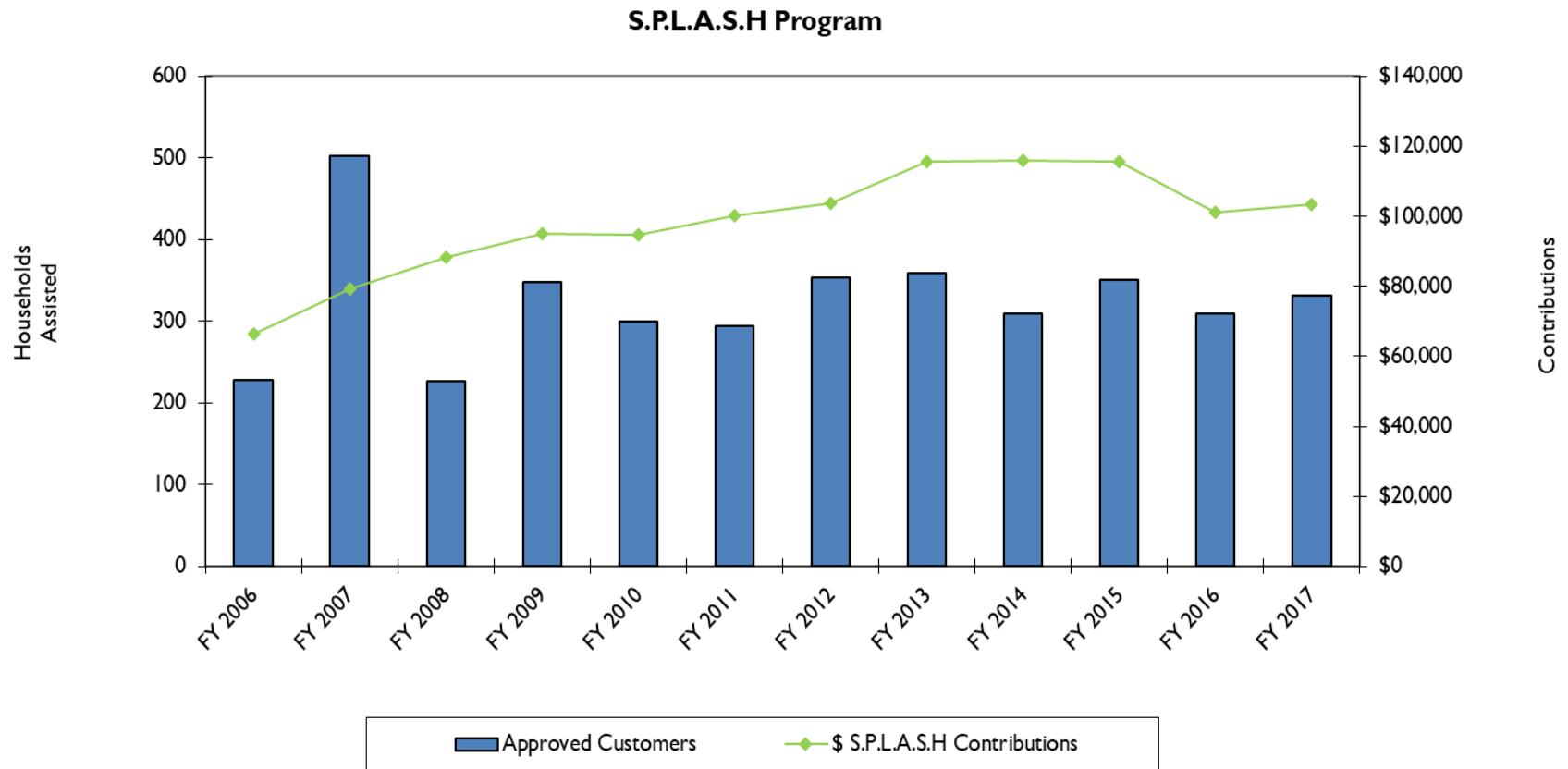
Sources:  
 Electricity and Gas: DC Public Service Commission  
 Water and Sewer: DC Water Assuming 6.20 Ccf, or 4,638 gallons consumption  
 Median HH Income: US Census Bureau, American Community Survey 2016 1-Year Estimates

**DC Water sponsors two programs to assist low income customers in paying their water bills:**

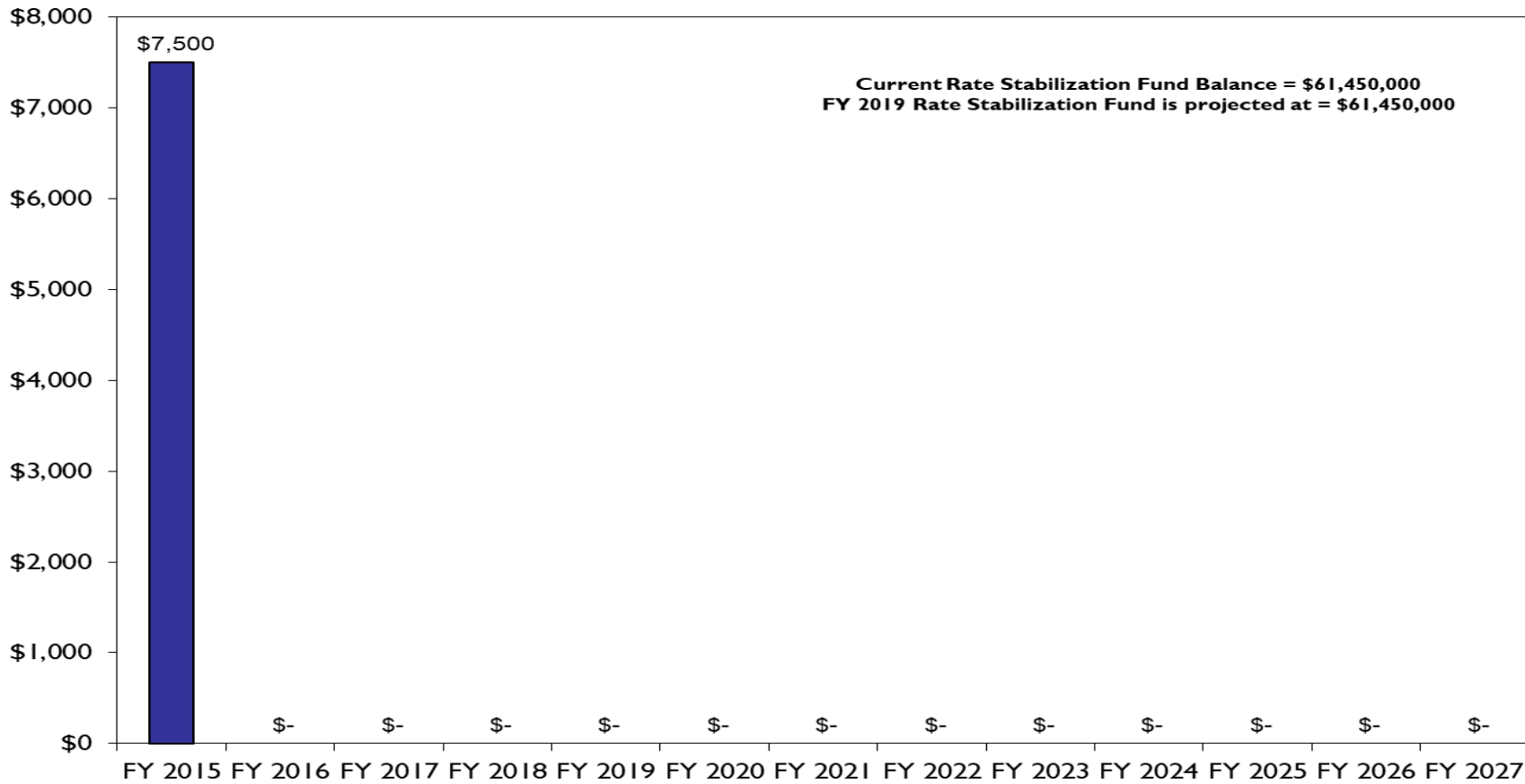
- Customer Assistance Program (“CAP”):** The Authority implemented the CAP in 2001 providing a discount of 4 Ccf per months of water service for single family residential homeowners that meet income eligibility guidelines. In FY 2004, the Authority expanded the CAP to include tenants who meet the financial eligibility requirements and whose primary residence is separately metered by the Authority. In January 2009, the Authority further expanded the CAP to provide a discount of 4 Ccf per month of sewer services to eligible customers. In FY 2011, the discount was expanded to the first 4 Ccf associated with the PILOT/ROW fee in addition to the current discount provided on water and sewer services. In FY 2016, the CAP discount was expanded to include a 100 percent credit/discount for the Water System Replacement Fee (WSRF). In FY 2017, the Authority further expanded the CAP to include 50 percent discount for CRIAC. In FY 2017, CAP assisted over 4,244 customers and provided \$1,135,297 in discounts to low-income customers.



- Serving People by Lending a Supporting Hand (“S.P.L.A.S.H”)**: The SPLASH program was implemented in FY 2001. Through the SPLASH program, DC Water offers assistance to families in need so that they can maintain critical water and sewer services until they get back on their feet. The program is administered by the Greater Washington Urban League. Every dollar received by DC Water is distributed to eligible customers. In FY 2017, SPLASH assisted 331 households and provided \$103,283 in contributions to low-income customers.



**RATE STABILIZATION FUND USAGE**  
**FY 2018 – FY 2027**  
 (\$000's)



- At the end of FY 2017, DC Water’s rate stabilization fund (RSF) balance was \$61.45 million. No RSF is proposed to be utilized from FY 2018 to FY 2027. RSF will have a balance of \$61.45 million at the end of FY 2027.



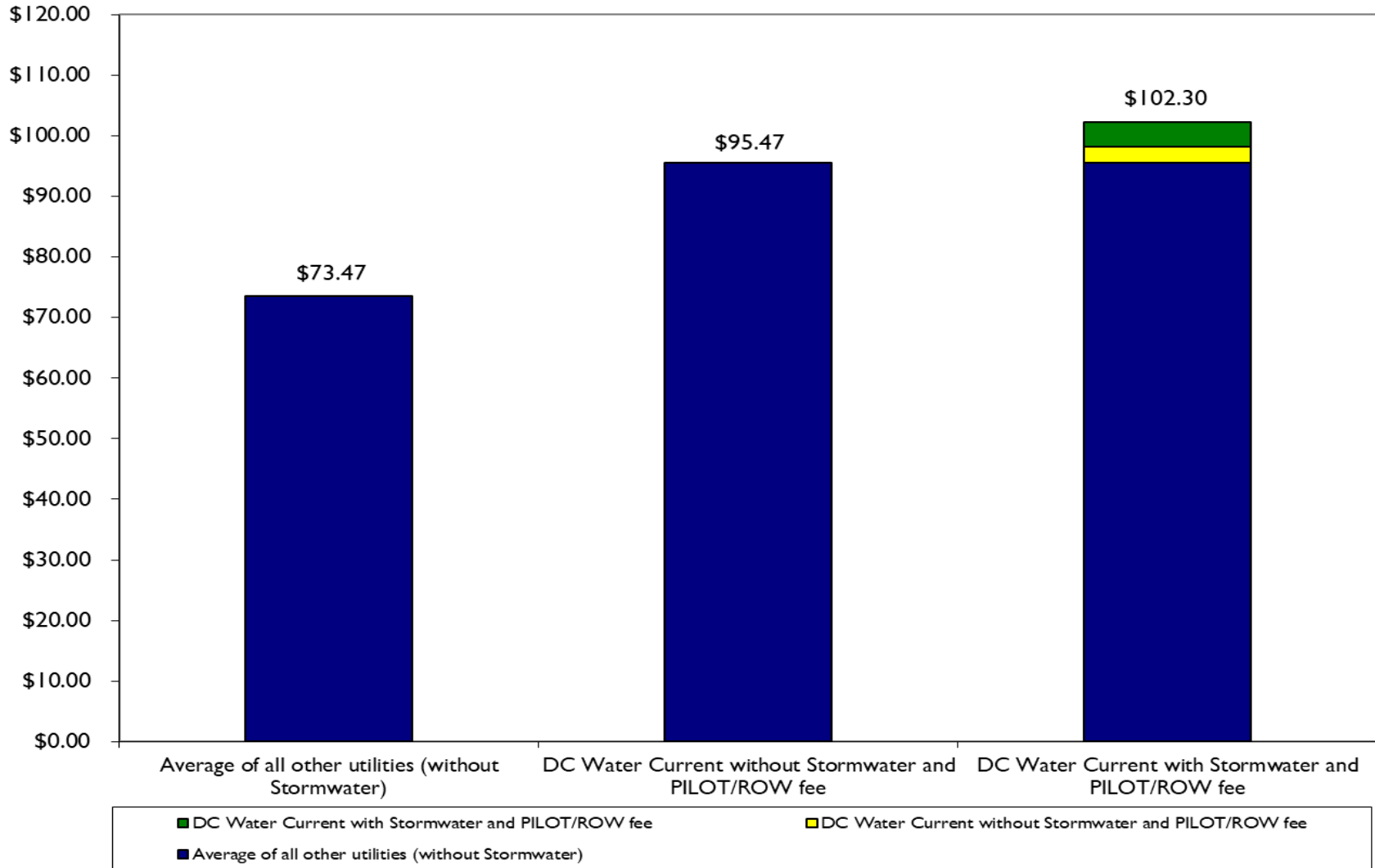
One method of assessing the affordability of residential rates is to calculate the portion of the Median Household Income that would be spent on typical water, wastewater, and stormwater bills and compare the results with the same calculation for other utilities. While no utilities are exactly alike, in the most recent rate survey conducted for DC Water in October 2017, DC Water's charges for a single family residential customer as a percentage of median income, excluding District fees, were comparable to the average of other large and regional water and wastewater utilities.

The following charts provide DC Water combined water, sewer and stormwater charges for single family residential customers compared to: large CSO communities, other similar large jurisdictions and other regional jurisdictions. There are distinct differences between DC Water and other large and regional utilities. Some differences include:

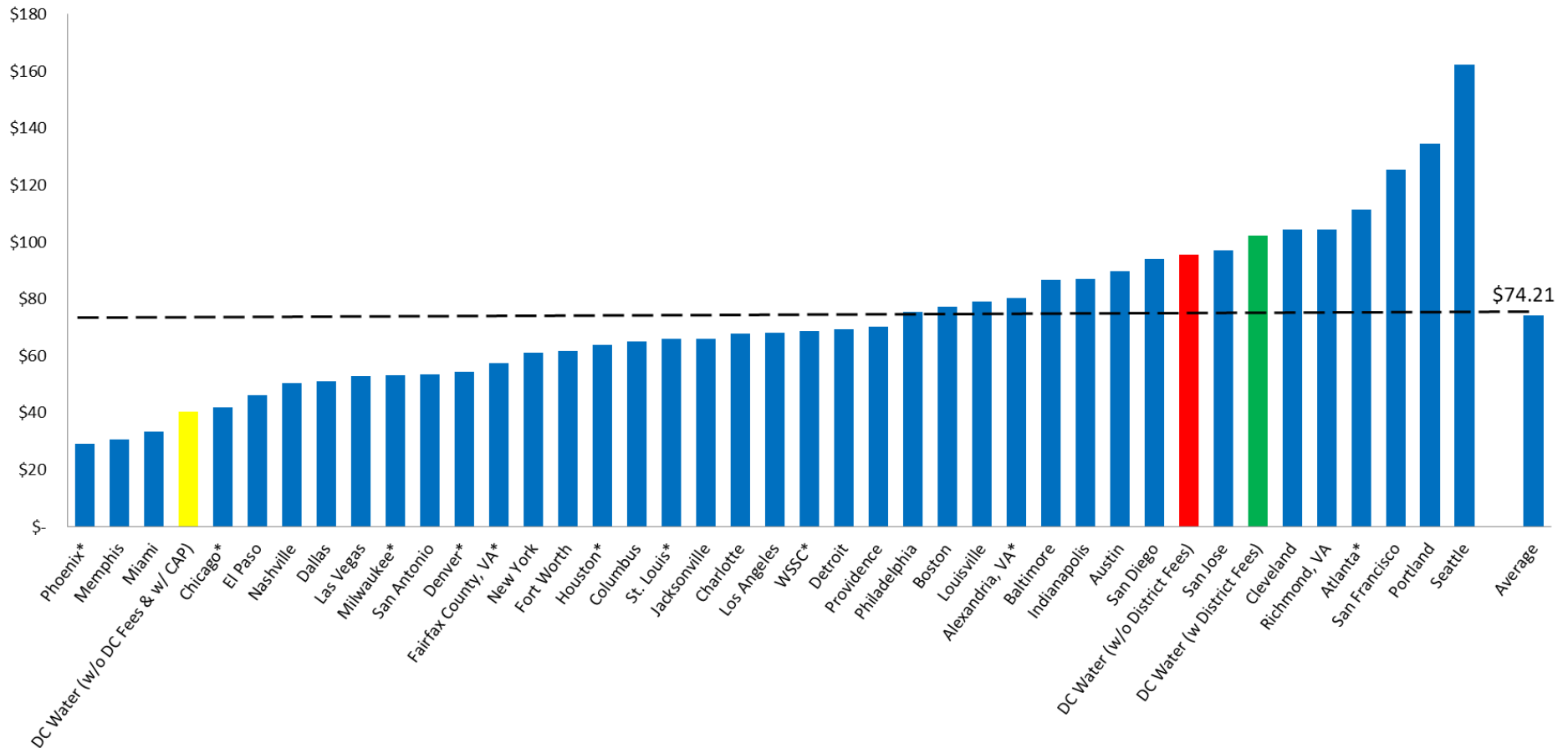
- Different patterns of water use (e.g., suburban jurisdictions can have different demands from urban centers)
- Revenues from taxes that reduce the revenues to be raised from water, sewer and stormwater rates (e.g., Alexandria, Arlington, Milwaukee, St. Louis, Atlanta, Chicago, etc.)
- Available undeveloped areas supporting high developer contributions for growth that can again reduce the revenues to be raised from water, sewer and stormwater rates (e.g., Fairfax County)
- Separate sewer systems in certain large jurisdictions and regional jurisdictions (e.g., Dallas)
- Differences in climate that may affect water supply or conservation needs (e.g., Seattle)
- Varying stages of completion of facilities to meet federal mandates (e.g., Atlanta and Boston have completed most of their major investments - the DC Clean Rivers Project is in progress at this time)

## DC WATER'S RETAIL RATES ARE COMPARABLE TO OTHER UTILITIES

*DC Water's Current FY 2018 Monthly Residential Bill  
vs.  
Average Monthly Bill of Other Utilities in Effect Spring 2017*



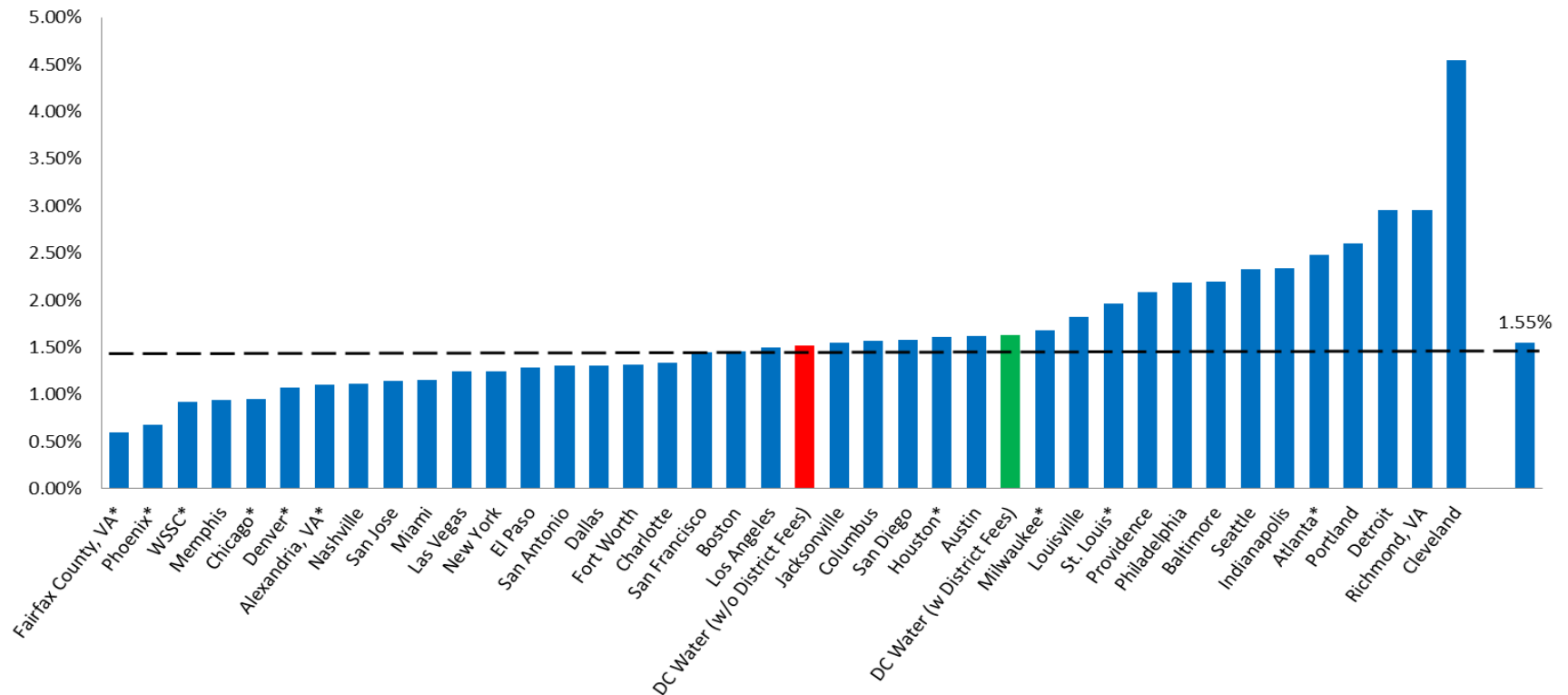
## DC Water Retail Rates Compared to Other Large Utilities (Based on Rates in effect Spring 2018)



- (1) Assumes average residential consumption of 6.20 Ccf, or 4,638 gallons, per month. Ccf = hundred cubic feet, or 748 gallons
- (2) Reflects rates and fees in place as of March 1, 2018. The Authority's rate includes the PILOT/ROW fee totaling \$0.67 per Ccf (effective October 1, 2017) and the DOEE residential storm water rate of \$2.67 per ERU per month.
- (3) Some cities use property tax revenue or other revenues to pay for part of the cost of water, wastewater, or stormwater services, as indicated by \* in the graph above. In such situations, the user charge will not reflect the full cost of water, wastewater or stormwater services.

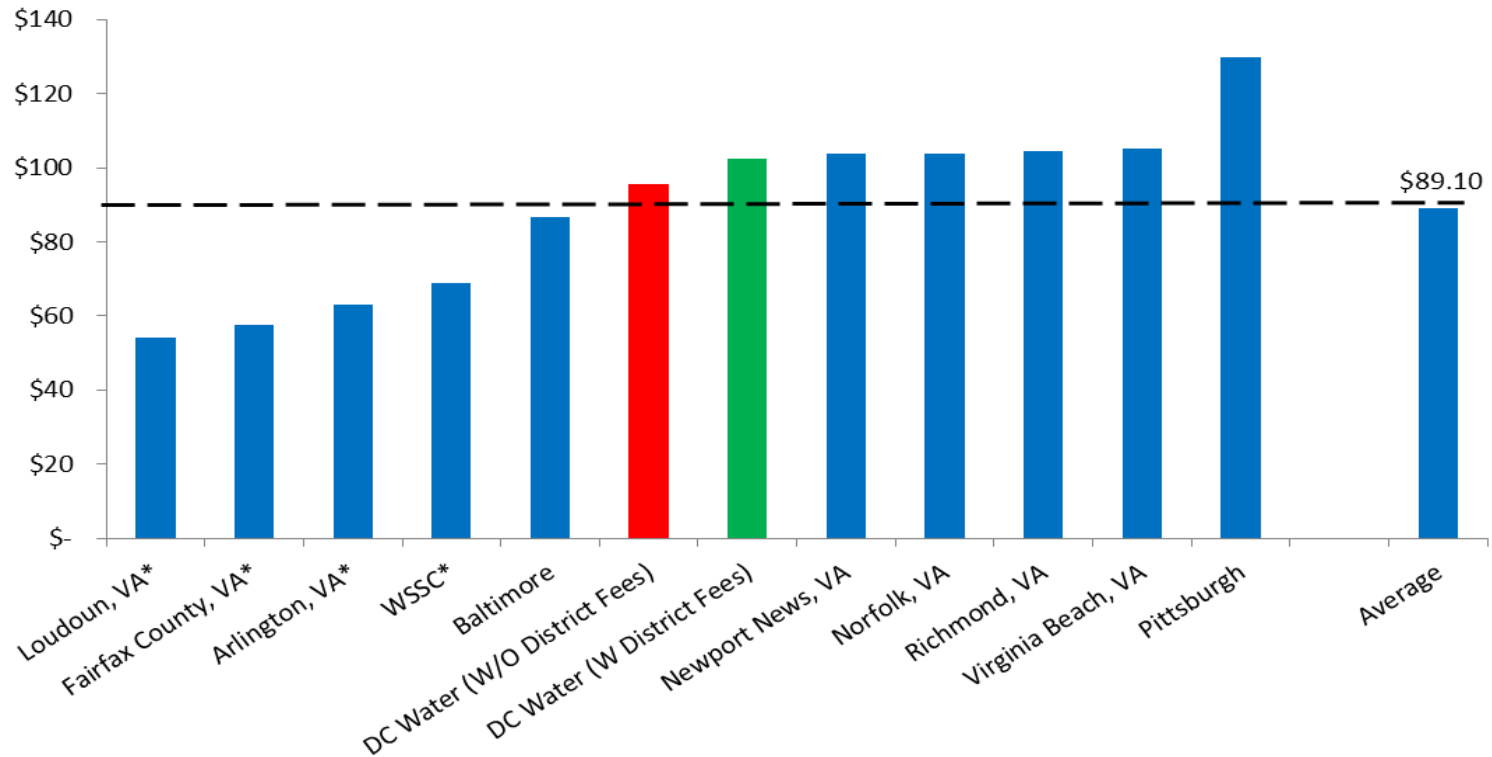
In the chart below, DC Water current charges rank at the median for bill comparison purposes for water and wastewater services compared to a select group of large, regional and CSO utilities, but well within US EPA guidance of 4 percent.

**Single Family Residential (SFR) Monthly Bill as % of Median Household Income - Large National Utilities (Based on Rates in effect Spring 2018)**



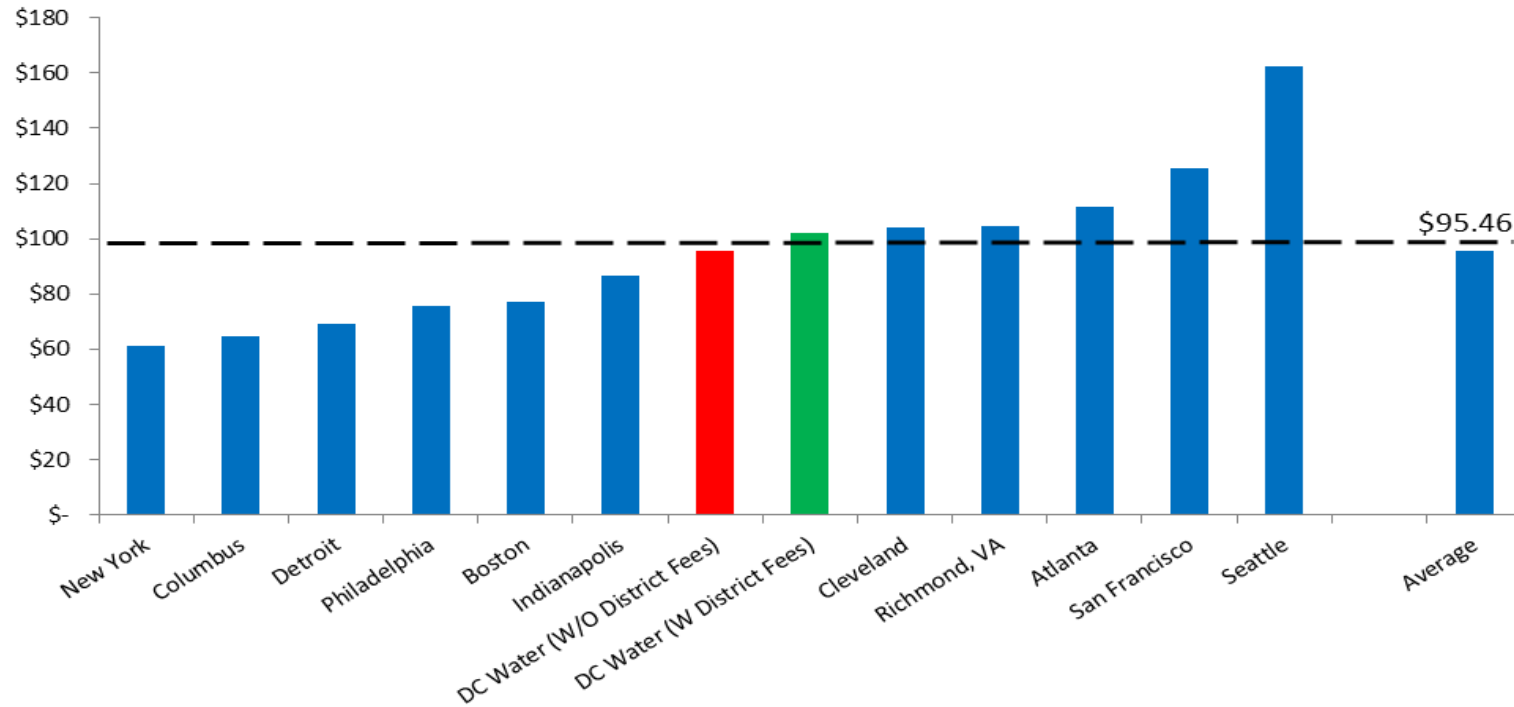
- 1) Assumes average residential consumption of 6.20 Ccf, or 4,638 gallons, per month. Ccf = hundred cubic feet, or 748 gallons
- 2) Reflects rates and fees in place as of March 1, 2018. The Authority's rate includes the PILOT/ROW fee totaling \$0.67 per Ccf (effective October 1, 2017) and the DDOE residential stormwater rate of \$2.67 per ERU per month. Some cities use property tax revenue or other revenues to pay for part of the cost of water, wastewater, or stormwater services, as indicated by \* in the graph above. In such situations, the user charge will not reflect the full cost of water, wastewater or stormwater services.

## DC Water Retail Rates Compared to Regional Utilities (Based on Rates in effect Spring 2018)



- 1) Assumes average residential consumption of 6.20 Ccf, or 4,638 gallons, per month. Ccf = hundred cubic feet, or 748 gallons
- 2) Reflects rates and fees in place as of March 1, 2018. Some cities use property tax revenue or other revenues to pay for part of the cost of water, wastewater, or stormwater services, as indicated by \* in the graph above. In such situations, the user charge will not reflect the full cost of water, wastewater or stormwater services.

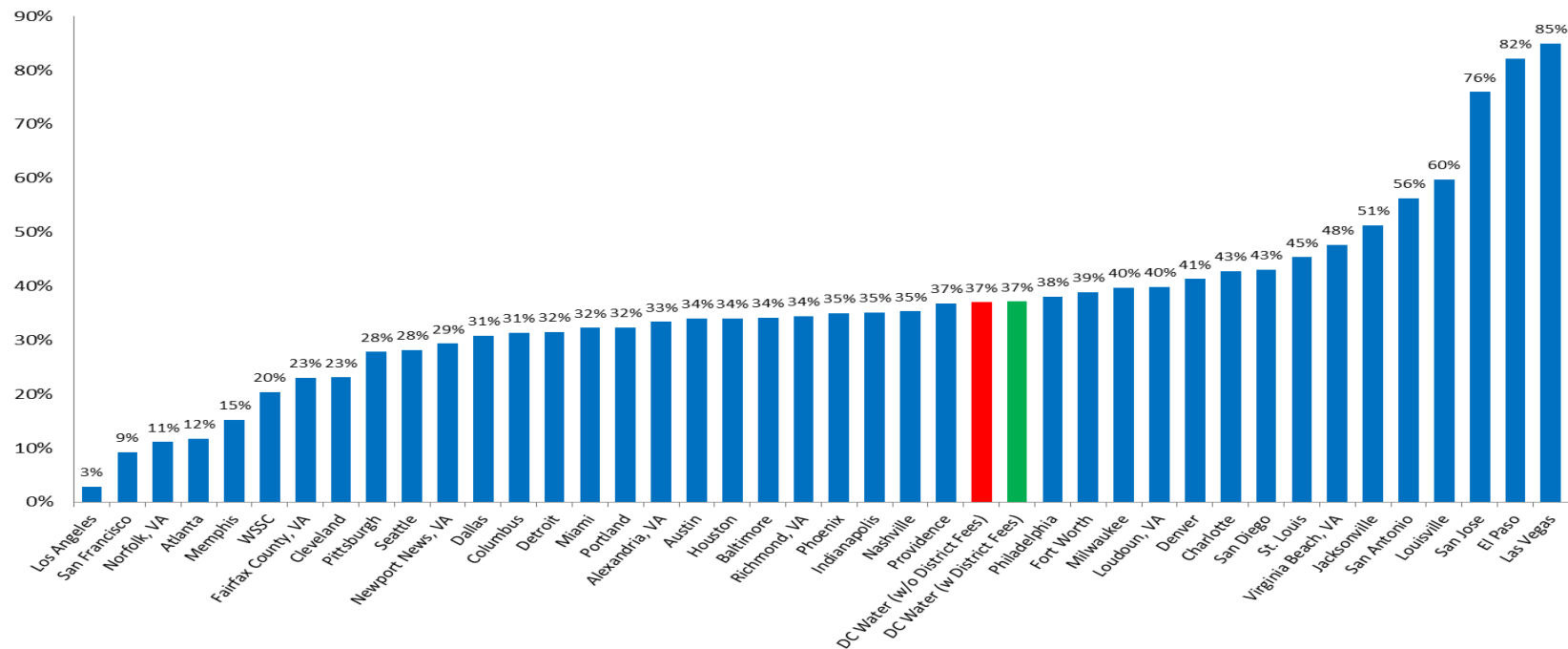
## DC Water Compared to CSO Communities (Based on Rates in effect Spring 2018)



- 1) Assumes average residential consumption of 6.20 Ccf, or 4,638 gallons, per month. Ccf = hundred cubic feet, or 748 gallons.
- 2) Reflects rates and fees in place as of March 1, 2018. The Authority's rate includes the PILOT/ROW fee totaling \$0.67 per Ccf (effective October 1, 2017) and the DDOE residential stormwater rate of \$2.67 per ERU per month.
- 3) Most CSO communities have implemented double digit rate increases to recover CSO-LTCP costs
- 4) Increases do not reflect other available dedicated taxes or state funding potentially available to some agencies
- 5) Chart reflects SFR monthly bill utilities with CSO programs without offsets to user charges

Fixed charges are a small component of the DC Water monthly bill and is less than median for large utilities. This provides the customer more opportunities to impact monthly bills through water conservation.

**Fixed Charge as % of Total Single-Family Residential Bills in Large Cities  
(Based on Rates in effect Spring 2018)**



- 1) User Charges are based upon information provided by the identified cities and standardized assumptions regarding water consumption, wastewater discharge, stormwater drainage area and other factors. Actual charges in each city will vary in accordance with local usage patterns. Some cities bill for sewer use on the basis of winter consumption which could affect sewer billings if a customer’s use was not uniform throughout the year. Sewer charges include stormwater charges in those cities where separate stormwater fees are assessed. Some cities use property tax revenue or other revenues to pay for the part of the cost of water, wastewater, or stormwater services. In such situations, the user charges will not reflect the full cost of water, wastewater or stormwater services.
- 2) DC Water rate schedule was effective October 1, 2017. Whereas, charges for all cities reflect rate schedules in effect March 1, 2018
- 3) DC Water PILOT and ROW fees are split between variable water charges and variable sewer charges
- 4) DC Water charges include the stormwater charges of the District
- 5) CSO/Stormwater charges may cover the cost of CSO abatement facilities in those cities with combined sewers; such charges can also cover the cost of stormwater-related facilities and services

Saint Elizabeth Water Tower

# APPROVED BUDGETS



DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

## Section V CAPITAL PROGRAMS



FY 2018 – FY 2027



*DC Water Blue Plains*



*Blue Plains Advanced Wastewater Treatment Plant*



*Enhanced Nitrification*

## OVERVIEW

DC Water’s Capital Improvement Program (CIP) supports the continuation of major capital asset investment in programs and projects that will upgrade the District’s water distribution system, improve the condition of our local waterways and create clean energy. The CIP includes all mandated projects as well as rehabilitation of assets required to meet permit and other regulatory requirements, and also immediate needs necessary to maintain existing service levels.

The CIP is presented on two different bases; 10-year disbursement plan and lifetime budget. Actual cash disbursements are critical to forecasting the anticipated level of rate increases, and the amount and timing of capital financing. The 10-year disbursement plan provides a more realistic projection of actual “cash out the door” excluding contingencies. It includes projected completion rates, program management and in-house labor costs. The CIP review process also includes an extensive review of the total project, or “lifetime” budget, which represents active projects prior to, during, and beyond the current 10-year period. Lifetime budgets are the primary area of focus in budget development and day-to-day monitoring. In addition to ‘active’ projects, projects for which all activities have been completed during the previous fiscal year are listed as ‘closed’ and is included in the CIP. Closed projects are dropped from the CIP in the next fiscal year.

Detailed information on the projects can be found online at [www.dcwater.com](http://www.dcwater.com)

## **CIP DEVELOPMENT AND APPROVAL PROCESS**

DC Water's capital budget review process begins each year in the spring. This process includes a review of major accomplishments, priorities, status of major projects, and emerging regulatory and related issues impacting the capital program by the Department of Engineering & Technical Services. Projections of changes in project lifetime budgets are also included. The review process involves the DC Water departments with responsibility for managing the operations, as well as staff from Finance, Accounting and Budget, and Executive Management. The CIP is integrated into DC Water's 10-year financial plan; and is the primary driver of projected rate increases over the 10-year planning period.

This review process spans over several months and culminates with the presentation of the updated CIP to DC Water's Board of Directors' Environmental Quality and Operations, Finance and Budget, and DC Retail Water and Sewer Rates Committees in January and February 2018. The operating budgets, CIP, and 10-year financial plan were adopted by the full Board in March 2018.

After adoption by the Board of Directors, DC Water is required to submit its annual operating and capital budget to the Mayor and the District of Columbia Council for review and comment. However, neither has the power to change DC Water's annual budgets. The District of Columbia includes DC Water's budgets in their submission to Congress.

## **CAPITAL AUTHORITY REQUEST**

Capital authority represents the amount of Congressionally-authorized funding that DC Water can use to administer its capital program. Sufficient authority is required to be in place prior to contracts being executed. Actual commitments within the eight service areas may vary up or down for a particular year. However, they are "not to exceed the total" FY 2019 capital authority request in the amount of \$3.61 billion.

It should be noted that the execution of contracts require the approval of General Manager, as Contracting Officer, or his delegee. Major projects and contracts valued at \$1 million or more require DC Water Board approval.

## CAPITALIZATION POLICY

DC Water’s capitalization policy determines how expenditures will be recognized and accounted. DC Water matches the financing of an asset to the projected useful life of an item, and the policy determines how projects will be financed.

### Definition:

- Capital Project – has an average life of 30 years and is financed with long term debt.
- Capital Equipment – has a life of at least 3 years, individual component cost of \$5,000 or more, and is financed with short-term debt or cash.

The following guidelines are used to categorize items as either capital equipment or an operating expense:

Expenditure Activity	Description	Accounting Treatment
Enhancement	Replacement of an asset, or addition/replacement of a sub-component of an asset, to improve the “attributes” of the asset.	Capitalize
Refurbishment	Expenditure on an asset that creates a material extension to the Estimated Operating Life (EOL) of the asset. It does not improve its attributes. This is distinct from maintenance work, which is carried out to ensure that an asset is able to perform its designated function for its normal EOL.	Capitalize
Replacement	Expenditure to replace substantially all of an asset.	Capitalize
Repair/Maintenance	Routine expense that neither extends the life of the asset nor increase its functionality.	Expense

# Capital Improvement Program

10-Year Disbursement Plan - projected annual cash disbursements; lifetime budget - total lifetime budget for projects active during 10-Year period, \$ in thousands

	FY 2018 - FY 2027 Disbursement Plan										10-Yr Total	Lifetime Budget
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027		
<b>NON PROCESS FACILITIES</b>												
Facility Land Use	\$32,194	\$33,107	\$18,907	\$7,860	\$1,551	\$25	\$6,615	\$7,773	\$0	\$0	\$108,032	\$169,147
Subtotal	32,194	33,107	18,907	7,860	1,551	25	6,615	7,773	0	0	108,032	169,147
<b>WASTEWATER TREATMENT</b>												
Liquid Processing	18,554	30,869	37,604	38,228	44,507	35,458	29,607	31,846	74,033	109,131	449,838	1,224,582
Plantwide	12,099	15,060	19,331	32,895	35,204	30,100	18,795	17,671	20,384	10,534	212,072	488,216
Solids Processing	11,229	13,942	18,154	15,302	8,770	1,953	1,288	723	533	555	72,448	802,911
Enhanced Nitrogen Removal Facilities	53,603	14,746	2,763	1,535	1,339	2,049	1,918	11,932	22,673	9,032	121,590	1,036,089
Subtotal	95,485	74,617	77,853	87,960	89,820	69,560	51,607	62,172	117,623	129,252	855,948	3,551,799
<b>COMBINED SEWER OVERFLOW</b>												
DC Clean Rivers	168,314	189,392	148,042	138,289	192,859	151,111	59,569	50,018	128,404	87,197	1,313,196	2,764,255
Program Management	1,934	1,969	2,518	3,495	4,373	4,339	3,012	1,821	0	0	23,460	64,663
Combined Sewer	11,568	8,982	9,993	6,337	5,853	9,058	17,112	13,772	7,393	5,622	95,691	323,002
Subtotal	181,816	200,343	160,554	148,121	203,086	164,508	79,692	65,611	135,797	92,819	1,432,348	3,151,920
<b>STORMWATER</b>												
Local Drainage	92	75	354	69	629	267	861	1,050	219	0	3,617	14,230
On-Going	375	1,074	668	617	744	722	760	464	752	736	6,912	11,315
Pumping Facilities	69	3,410	375	1,134	4,065	19	0	0	305	1,397	10,774	25,232
DDOT	0	0	0	0	0	0	0	0	0	0	0	3,237
Research and Program Management	314	156	36	115	402	204	163	128	0	0	1,517	12,013
Trunk/Force Sewers	95	194	966	377	0	0	0	0	0	0	1,632	15,365
Subtotal	945	4,909	2,400	2,312	5,839	1,212	1,784	1,642	1,276	2,133	24,452	81,392
<b>SANITARY SEWER</b>												
Collection Sewers	4,488	1,244	1,088	7,929	19,594	9,139	11,139	25,253	31,888	18,343	130,105	407,999
On-Going	10,001	9,618	9,475	10,399	9,982	10,535	11,079	11,402	11,589	12,023	106,103	206,045
Pumping Facilities	1,294	428	842	2,332	1,005	1,559	214	0	0	0	7,674	36,151
Program Management	2,999	3,075	7,205	5,032	6,410	6,977	6,128	5,151	1,624	115	44,716	124,972
Interceptor/Trunk Force Sewers	11,019	18,583	15,436	27,358	37,501	45,706	47,353	17,076	15,667	8,191	243,890	754,870
Subtotal	29,802	32,947	34,046	53,050	74,492	73,917	75,912	58,882	60,769	38,672	532,490	1,530,036
<b>WATER</b>												
Distribution Systems	28,353	22,924	56,015	35,946	23,051	29,648	52,339	79,039	81,503	69,487	478,306	1,235,949
Lead Program	3,422	1,487	1,252	1,422	1,528	1,658	1,718	903	235	75	13,700	209,245
On-Going	11,079	11,044	7,569	9,982	9,930	10,183	10,793	11,157	12,429	12,636	106,802	143,288
Pumping Facilities	3,286	1,857	4,561	4,248	4,193	1,840	8,023	1,668	211	0	29,887	118,394
DDOT	904	486	208	2	2	0	0	0	0	0	1,604	33,933
Storage Facilities	7,560	4,967	8,088	3,488	2,099	5,106	9,371	2,343	0	0	43,021	107,520
Program Management	3,441	2,982	6,563	7,252	7,438	5,035	5,812	4,551	6,966	7,312	57,352	90,944
Subtotal	58,044	45,747	84,256	62,341	48,241	53,471	88,055	99,661	101,344	89,510	730,672	1,939,272
<b>CAPITAL PROJECTS</b>												
	398,285	391,670	378,015	361,644	423,029	362,694	303,666	295,742	416,809	352,386	3,683,941	10,423,566
<b>CAPITAL EQUIPMENT</b>												
	39,898	34,518	29,383	27,998	9,579	10,306	10,850	11,177	12,122	12,303	198,133	198,133
<b>WASHINGTON AQUEDUCT</b>												
	11,768	12,930	12,944	13,039	13,039	12,312	11,768	11,441	10,496	10,315	120,052	120,052
<b>ADDITIONAL CAPITAL PROGRAMS</b>												
	51,665	47,448	42,327	41,037	22,618	22,618	22,618	22,618	22,618	22,618	318,185	318,185
<b>LABOR</b>												
												390,145
<b>TOTAL CAPITAL BUDGETS</b>												
	\$449,950	\$439,118	\$420,342	\$402,681	\$445,647	\$385,312	\$326,284	\$318,360	\$439,427	\$375,004	\$4,002,125	\$11,131,895

# Prioritization Schedule

\$ in thousands

The Authority evaluates and prioritizes capital projects based on specific criteria. These criteria are fundamental in developing a CIP based on demonstrated needs and are set forth in the following table and described below.

Approximately 35 percent of the ten-year disbursements CIP is for large regulatory mandates which includes the Clean Rivers Project.

	<b>Mandates</b>		<b>Health &amp; Safety</b>	<b>Board Policy</b>	<b>Potential Failure</b>	<b>High Profile Good Neighbor</b>	<b>Good Engineering High Payback</b>		<b>Good Engineering Lower Payback</b>	<b>Total</b>
	Agreements, Regulatory standards, Court orders, Issues and Permits requirements, Stipulated Agreements, Etc.		Required to address Public Safety	Undertaken as a result of the Board's commitment to outside agencies	Related to Facilities in danger of failing, or critical to meeting permit requirements	Address Public concerns	Need to fulfill Mission and upgrade Facilities		Lower priority Projects	
<b>FY 2018</b>	\$220,594	49%	\$10,328	\$32,116	\$36,138	\$5,812	\$92,413	21%	\$52,549	<b>\$449,950</b>
<b>FY 2019</b>	206,711	47%	7,019	43,217	47,806	3,663	76,930	18%	53,771	<b>439,118</b>
<b>FY 2020</b>	152,280	36%	7,041	63,657	57,981	4,152	87,635	21%	47,595	<b>420,342</b>
<b>FY 2021</b>	142,424	35%	11,344	37,695	37,540	1,122	119,039	30%	53,517	<b>402,681</b>
<b>FY 2022</b>	197,784	44%	9,496	10,087	38,155	165	133,632	30%	56,328	<b>445,647</b>
<b>FY 2023</b>	154,862	40%	4,883	19,363	39,348	303	122,177	32%	44,377	<b>385,312</b>
<b>FY 2024</b>	63,987	20%	7,251	38,615	30,456	2,206	129,966	40%	53,803	<b>326,284</b>
<b>FY 2025</b>	54,461	17%	1,296	60,417	33,961	389	121,212	38%	46,624	<b>318,360</b>
<b>FY 2026</b>	132,361	30%	1,503	61,314	34,272	-	116,760	27%	93,218	<b>439,427</b>
<b>FY 2027</b>	89,417	24%	1,021	47,707	15,336	-	85,510	23%	136,013	<b>375,004</b>
<b>Total</b>	<b>\$1,414,882</b>	<b>35%</b>	<b>\$61,181</b>	<b>\$414,188</b>	<b>\$370,993</b>	<b>\$17,812</b>	<b>\$1,085,274</b>	<b>27%</b>	<b>\$637,796</b>	<b>\$4,002,125</b>

FY 2018 – FY 2027



**New Headquarters Building (HQO)**



**Main Pumping Station**

FY 2018 - FY 2027 Disbursement Plan											Lifetime Budget
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	
\$32,194	\$33,107	\$18,907	\$7,860	\$1,551	\$25	\$6,615	\$7,773	\$0	\$0	\$108,032	\$169,147
											<i>(\$ in thousands)</i>

## OVERVIEW

The Non-Process Facilities Service Area accommodates projects approved under the Non-Process Facilities Master Plan (NPFMP) and related improvements necessary to support DC Water activities and critical operations. The goals of this CIP are the same as those in the NPFMP, which are designed to:

- Optimize efficient use of existing DC Water land and facilities
- Implement Green Strategies and Sustainable Design within DC Water infrastructure and facility planning
- Maximize flexibility throughout DC Water facilities for future treatment needs, distribution system operations, and innovative opportunities

## PROGRAM AREA

**Facility Land Use** – The primary objective of this service area is to implement the NPFMP and related improvements necessary to support DC Water’s activities and critical operations. The projects are designed to optimize efficient use of the Authority’s existing land and facilities; and maximize flexibility for future treatment needs, innovative opportunities, green strategies and sustainable designs throughout DC Water’s facilities. The major projects included in this program are:

- **New Headquarters Building (HQO)** – The new Administrative Headquarters Building, located above the historic Main Pumping Station, will be DC Water’s most sustainable construction project. The HQO will anchor DC Water’s new publicly-accessible campus along the Anacostia River. Currently, DC Water’s administrative offices are spread across the District of Columbia in multiple facilities, including leased space. By relocating nonessential personnel off of the Blue Plains industrial campus, DC Water will preserve remaining space – an irreplaceable commodity – for future process improvements if required by permit or desired for innovation.
- **Floatable Debris Dock Replacement** – This project was reallocated from the Combined Sewer Overflow Service Area due to an opportunity to blend the dock work with related facility and security improvements needed for staff and equipment. The existing docks are more than 25 years old and need to be replaced. The replacement slips (at least five) and associated new piles will provide flexibility and maneuverability of the boats, overcome the existing draft challenges of the river bottom, and most importantly, create safe conditions for the staff and their operations. Future improvements include the installation of a new boat ramp, updated fencing and lighting to further improve the efficiencies of skimmer boat operations.
- **Main & O Redevelopment Efforts** – This project relocates sewer and fleet operations from the Main & O Campus in order to accommodate the redevelopment plans for the District of Columbia in and around the Navy Yard. Some of the costs associated with the acquisition of new land and construction of new facilities will be reimbursed to DC Water by the District of Columbia.

## ACCOMPLISHMENTS

- DC Water successfully negotiated the Guaranteed Maximum Price (GMP) for the New Headquarters Building.

## OPERATIONAL IMPACT OF MAJOR CAPITAL INVESTMENTS

- **New Headquarters Building (HQO)** – This new building will be LEED® Platinum Class A certified, and incorporate environmentally sustainable features that will be used to capture rainfall onsite for irrigation and non-potable water needs inside the facility. Additionally, alternative energy will be supplied by an innovative sewer heat recovery system that will lower operating cost. This project is anticipated to avoid renovation and expansion, including construction of a parking garage, at Blue Plains Advanced Waste Water Treatment Plant (AWWTP).

# Non Process Facilities

10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

FACILITY LAND USE		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
DS	New Headquarters Building	FY 2009	Active	\$28,961	\$777	\$9	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$29,746	\$76,100	FY 2021
DU	Water System Laboratory Facilities	FY 2007	Active	52	113	0	0	0	0	0	0	0	0	165	647	FY 2020
HE	Bryant Street Pump Station Building Mod.	FY 2018	Active	733	1,367	7,880	1,047	0	0	0	0	0	0	11,027	14,370	FY 2021
HF	Fort Reno Pump Station	FY 2020	Active	0	0	187	570	1,551	25	0	0	0	0	2,333	3,150	FY 2023
HH	Main & O Redevelopment Efforts	FY 2015	Active	1,644	23,281	8,923	6,243	0	0	0	0	0	0	40,090	41,031	FY 2021
HJ	Central Operations Facility Renovation	FY 2018	Active	659	6,111	922	0	0	0	0	0	0	0	7,691	12,904	FY 2020
HK	CMF Renovations And Consolidation	FY 2019	Active	0	903	540	0	0	0	0	0	0	0	1,442	1,750	FY 2020
NZ	Floatable Debris Dock Replacement	FY 2018	Active	145	555	447	0	0	0	0	0	0	0	1,147	995	FY 2021
T4	District Energy Buzzard Point	FY 2024	New	0	0	0	0	0	0	6,615	7,773	0	0	14,388	18,200	FY 2025
<b>TOTAL FACILITY LAND USE BUDGETS</b>				<b>\$32,194</b>	<b>\$33,107</b>	<b>\$18,907</b>	<b>\$7,860</b>	<b>\$1,551</b>	<b>\$25</b>	<b>\$6,615</b>	<b>\$7,773</b>	<b>\$0</b>	<b>\$0</b>	<b>\$108,032</b>	<b>\$169,147</b>	
<b>TOTAL NON PROCESS FACILITIES BUDGETS</b>				<b>\$32,194</b>	<b>\$33,107</b>	<b>\$18,907</b>	<b>\$7,860</b>	<b>\$1,551</b>	<b>\$25</b>	<b>\$6,615</b>	<b>\$7,773</b>	<b>\$0</b>	<b>\$0</b>	<b>\$108,032</b>	<b>\$169,147</b>	





**Land Application of BLOOM**



**Plant Monitoring**



**Enhanced Nitrification**

FY 2018 - FY 2027 Disbursement Plan											Lifetime Budget
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027	10-Yr Total	
\$95,485	\$74,617	\$77,853	\$87,960	\$89,820	\$69,560	\$51,607	\$62,172	\$117,623	\$129,252	\$855,948	\$3,551,799

*(\$ in thousands)*

## OVERVIEW

Capital projects in the Wastewater Treatment Service Area are required to rehabilitate, upgrade or provide new facilities at Blue Plains to ensure that it can reliably meet its National Pollutant Discharge Elimination System (NPDES) permit requirements and produce a consistent, high-quality dewatered solids product. This permit requires wastewater treatment to a level that meets one of the most stringent NPDES discharge permits in the United States. The Blue Plains Enhanced Nitrogen Removal Facilities Program provides for projects necessary to meet the stringent total nitrogen discharge limit in the NPDES permit.

Blue Plains Advanced Wastewater Treatment Plant treats an annual average of 290 million gallons per day (MGD) and has a design capacity of 384 MGD, with a peak wet weather design capacity to treat one billion gallons per day. Wastewater flows in from the District of Columbia, and Montgomery and Prince George’s Counties in Maryland, and Fairfax and Loudoun counties in Virginia.

## PROGRAM AREA

**Liquid Processing** – Projects in this program area encompass upgrading and rehabilitating facilities involved in handling flows from the sanitary and combined sewer systems. These flows progress sequentially through the plant processes and ultimately discharge the treated effluents into the Potomac River.

**Plantwide** – This program provides for upgrading, rehabilitating, or installing support systems and facilities that are required for both the liquid processing and solids processing programs.

## PROGRAM AREA CONT.

**Solids Processing** – Biosolids processing involves reductions in volume along with treatment to meet applicable federal, state and local requirements for the ultimate disposal method. Treatment is provided by a system of processing facilities that include gravity thickening of primary sludge, flotation thickening of the biological waste sludge produced by the secondary and nitrification/denitrification processes, pre-dewatering of blended thickened solids by centrifuge, pre-treatment of solids by thermal hydrolysis, anaerobic digestion, and finally post-dewatering of Class A biosolids by belt filter press.

**Enhanced Nitrogen Removal Facilities** – Provides for new facilities and upgrades to existing facilities needed at Blue Plains to meet the total nitrogen discharge limit assigned to DC Water. The necessary facilities have been completed and are in operation. DC Water is fully compliant in meeting the reduced total nitrogen discharge limit, effective January 1, 2015. The facilities include more than 40 million gallons of additional capacity for nitrogen removal, new post-aeration facilities, an 890 mgd lift station, new channels and conveyance structures and new facilities to store and feed multiple carbon sources.

## ACCOMPLISHMENTS

- **Enhanced Nitrogen Removal Facility North** – This project improved the performance of the secondary treatment facilities by providing limited nitrogen removal and more consistent quality for the downstream denitrification processes. The facilities are in operation and construction was 97 percent complete as of September 2017.
- **Filtrate Treatment Facility** – This side-stream treatment project will utilize anammox bacteria to remove nitrogen from the filtrate, from the belt filter press facility resulting in lower use of methanol, which are otherwise necessary when the filtrate is processed through the plant. Facilities are in the commissioning process and construction was 92 percent complete as of September 2017.
- **Gravity Thickener Upgrades Phase II** – The project upgrades the aging mechanical/electrical equipment associated with the 10 gravity thickeners and primary sludge screening and degritting. Detailed design is 98% complete as of September 2017 and the project bid for construction in FY 2018. Construction is scheduled for completion in FY 2022.
- **Tunnel Dewatering Pump Station (TDPS)** – The project was designed and is being built in conjunction with the Enhanced Clarification Facility (ECF) to pump out the Blue Plains Tunnel for processing through the ECF or the Blue Plains plant mainstream as required by permit. The TDPS is scheduled to be operational by March 23, 2018.
- **Enhanced Clarification Facility** – The project provides facilities to treat up to 225 MGD of flow from the TDPS in excess of the capacity of the Blue Plains mainstream flow. The ECF portion of the design-build contract is 79 percent complete as of September 2017, and is scheduled to be operational by March 23, 2018.
- **Raw Wastewater Pumping Station 2** – The pumping station delivers wastewater from the wastewater collection system to the east preliminary treatment processes at Blue Plains. This project updates aging electrical equipment, replacing equipment that is beyond its useful life and relocating sensitive electronic equipment to a less corrosive environment to reduce the rate of deterioration on the equipment. The construction contract was issued in September 2016 and is scheduled to be completed in 2019.
- **Final Dewatering Facility (FDF)** – The FDF provides dewatering of stabilized Class A biosolids by the belt filter press prior to hauling for beneficial reuse.
- **Solar Power Purchase Agreement (PPA)** – The project will provide several megawatts of green energy from a solar photovoltaic system installed by a Provider at no capital cost to DC Water, under a Solar Power Purchase Agreement (PPA). The Request for Quotes (RFQ) and Request for Information (RFI) were issued and responses evaluated. The RFP and PPA are undergoing review and the system is anticipated to be operational in 2020.

## OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

***Biosolids Management Program*** – The Walter F. Bailey Bioenergy Facility, which is now operational, significantly reduces DC Water’s carbon footprint. The innovative CAMBI® thermal hydrolysis process uses intense heat and pressure to pre-treat wastewater solids prior to anaerobic digestion, and producing a much cleaner Class A biosolid and digester gas, that allows onsite generation of up to one third of Blue Plains’ electricity needs. This process has resulted in operational efficiencies in electricity, biosolids hauling and chemicals costs.

***Tunnel De-watering Pump Station/Enhanced Clarification Facility*** – These projects start where the DC Clean Rivers Project tunnels end at Blue Plains. When the Blue Plains tunnel is brought online, the TDPS will pump millions of gallons of combined sewer overflows and the ECF will treat the captured wet-weather flows that previously flowed into the District’s waterways during heavy rain storms.

***Filtrate Treatment Facility (FTF)*** – Also known as Centrate Treatment Facility, FTF is part of the Total Nitrogen Removal Wet Weather plan. The project assists in nitrogen removal from the water processed. This new facility uses six sequencing batch reactors to treat a nitrogen-rich stream from the Final Dewatering Facility’s belt filter presses. The de-ammonification process represents a major breakthrough in nitrogen removal, which lowers the use of methanol. It also has approximately 60 percent lower energy demand than the mainstream treatment and lowers greenhouse gas (GHG) emissions.

# Wastewater Treatment

## 10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

LIQUID PROCESSING		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
A2	Liquid Processing Program Management	FY 2001	Active	\$1,226	\$1,320	\$1,217	\$1,948	\$2,166	\$1,667	\$1,378	\$4,666	\$6,694	\$4,532	\$26,813	\$48,462	FY 2031
B6	Primary Sedimentation Tank Covers	FY 2021	Active	0	0	0	557	898	132	3,596	3,205	19,293	7,603	35,284	43,598	FY 2028
B7	Primary Sedimentation Tank Odor Scrubblers	FY 2024	Active	0	0	0	0	0	0	687	105	1,775	2,107	4,674	45,870	FY 2032
BC	Headworks Influent Structures	FY 2019	Active	0	425	522	2,753	4,158	1,802	0	0	0	0	9,659	12,190	FY 2023
BG	Dual Purpose Rehabilitation	FY 2009	Active	685	1,836	1,141	4	0	0	0	0	0	0	3,666	34,416	FY 2021
BP	Grit Chamber Facilities Phase II	FY 2018	Active	71	128	69	29	0	0	0	0	0	0	298	528	FY 2021
BQ	Grit and Screenings and Primary	FY 2018	Active	163	1,916	2,077	8,997	7,737	2,595	569	0	0	0	24,054	38,958	FY 2024
BR	Nitrification/Denitrification Facility	FY 2006	Active	1,508	1,486	1,250	1,022	670	243	0	0	0	0	6,179	51,986	FY 2023
BT	Filtration/Disinfection Facility Phase II	FY 2008	Active	257	580	1,106	1,603	330	0	0	0	0	0	3,877	24,885	FY 2027
BV	Raw Wastewater Pump Station No. 2 Upgrades	FY 2013	Active	10,038	4,995	235	0	0	0	0	0	0	0	15,268	43,799	FY 2019
DA	WWT Research/Pilot Projects	FY 2006	Active	0	0	0	0	0	0	0	0	0	0	0	4,121	FY 2017
I4	Grit Removal Facilities - 20 Year Rebuild	FY 2026	Active	0	0	0	0	0	0	0	0	1,976	8,110	10,086	52,500	FY 2032
I5	Raw Water Pump Stations I & 2 - 20 Year Rebuild	FY 2021	Active	0	0	0	592	7,135	7,228	7,380	3,711	0	0	26,046	29,000	FY 2025
I7	Primary Treatment - 20 Year Rebuild	FY 2024	Deferred	0	0	0	0	0	0	589	7,586	17,113	13,459	38,747	54,600	FY 2028
IX	Headworks HVAC Rehabilitation	FY 2013	Active	0	0	0	0	0	0	0	0	0	0	0	786	FY 2021
IY	Effluent Filter Upgrade	FY 2017	Active	1,149	5,589	4,081	9,295	7,223	9,444	9,730	8,281	10,408	40,043	105,243	164,753	FY 2030
IZ	Replace/Upgrade Influent Screens	FY 2016	Active	1,075	4,024	5,735	1,227	0	0	0	265	2,671	3,812	18,810	81,270	FY 2032
J2	Replace/Upgrade Primary Treatment Mechanisms	FY 2018	Active	72	408	1,323	3,094	4,420	2,853	1,523	0	0	1	13,694	22,704	FY 2031
J6	Deammonification Project	FY 2013	Active	0	18	212	429	1,333	835	34	0	0	0	2,859	3,503	FY 2024
JC	Secondary East and West - 20 Year Rebuild	FY 2025	Active	0	0	0	0	0	0	0	512	5,528	14,315	20,355	96,000	FY 2032
LC	Effluent Disinfection Upgrades	FY 2023	Active	0	0	0	0	0	1	700	5	263	441	1,411	8,011	FY 2030
LF	Nitrification Reactor/Sedimentation - 20 Year Rebuild	FY 2024	Active	0	0	0	0	0	0	9	3,509	8,313	14,708	26,540	138,000	FY 2033
OZ	Grit Chambers I & 2 Upgrades	FY 2017	Active	708	958	509	1,423	3,675	3,595	1,980	0	0	0	12,849	15,178	FY 2024
PD	Secondary East & West Upgrades	FY 2016	Active	258	0	0	2	1,992	4,180	1,430	0	0	0	7,862	9,639	FY 2024
PE	Nitrification Reactor/Sedimentation Upgrades	FY 2017	Active	54	943	1,176	2,151	2,770	884	0	0	0	0	7,977	10,400	FY 2023
TF	Grit Chamber Building I & 2	FY 1996	Active	0	0	0	0	0	0	0	0	0	0	0	71,170	FY 2017
UC	Filtration/Disinfection Facility	FY 2004	Active	1,291	6,243	16,952	3,101	0	0	0	0	0	0	27,587	102,419	FY 2022
UD	Raw Water Pump Stations I & 2	FY 1999	Active	0	0	0	0	0	0	0	0	0	0	0	15,838	FY 2017
<b>TOTAL LIQUID PROCESSING BUDGETS</b>				<b>\$18,554</b>	<b>\$30,869</b>	<b>\$37,604</b>	<b>\$38,228</b>	<b>\$44,507</b>	<b>\$35,458</b>	<b>\$29,607</b>	<b>\$31,846</b>	<b>\$74,033</b>	<b>\$109,131</b>	<b>\$449,838</b>	<b>\$1,224,582</b>	

# Wastewater Treatment

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## 10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

PLANTWIDE		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AL	Plantwide Project Program Management	FY 2001	Active	\$2,306	\$1,280	\$1,432	\$2,742	\$3,599	\$3,073	\$3,073	\$2,204	\$1,997	\$1,367	\$23,073	\$40,761	FY 2028
AZ	Central Operations Facility Renovation	FY 2002	Active	115	123	138	48	0	0	0	0	0	0	424	17,377	FY 2021
BY	Additional Chemical Systems Phase III	FY 2018	Active	0	0	0	0	0	0	109	406	751	815	2,081	3,822	FY 2029
CH	Miscellaneous Facility Projects	FY 2004	Active	64	55	54	18	0	0	0	0	0	0	192	7,965	FY 2021
CV	Laboratory Upgrades	FY 2006	Active	29	283	181	224	0	0	0	0	0	0	718	9,260	FY 2021
CW	Security at Blue Plains	FY 2005	Active	428	524	600	351	200	30	0	0	0	0	2,131	6,148	FY 2023
DQ	Non-OEM PLC Interfaces/Replacements	FY 2009	Active	0	0	0	0	0	0	0	0	0	0	0	2,185	FY 2017
EI	Plantwide Painting of Steel Pipes	FY 2012	Active	0	0	0	227	1,430	1,448	1,249	0	0	0	4,354	4,960	FY 2024
EN	Wastewater Treatment Plant - Central Fire Alarm System	FY 2008	Active	0	0	0	0	0	0	0	0	0	0	0	3,104	FY 2017
GP	Instrumentation & Control & Electric Program Management	FY 2011	Active	1,468	513	0	0	0	0	0	0	0	0	1,981	5,075	FY 2019
GW	Control Systems Replacement	FY 2021	Active	0	0	0	352	437	1,382	1,177	6,843	10,684	5,987	26,862	37,000	FY 2028
HL	DWT - Process and Operations Jobs	FY 2011	Active	385	376	604	1,090	0	0	0	0	0	0	2,455	6,869	FY 2021
HU	Blue Plains Logistics	FY 2011	Active	0	0	0	0	0	0	0	0	0	0	0	6,919	FY 2021
IC	Electrical Monitoring Systems	FY 2015	Active	0	321	486	2,648	1,540	0	0	0	0	0	4,995	7,250	FY 2022
IT	Hauled Waste Receiving Facility	FY 2023	New	0	0	0	0	0	4	1,519	1,524	1,429	0	4,478	5,000	FY 2026
IU	Solar Photovoltaic System	FY 2018	Active	0	236	981	626	131	0	0	0	0	0	1,974	2,500	FY 2022
IV	Blue Plains IT Backbone Fibre-Optic Cables Tubes	FY 2016	Active	14	697	1,569	0	0	0	0	0	0	0	2,280	5,542	FY 2020
JF	Construction of Flood Seawall	FY 2018	Active	18	236	3,161	2,607	3,463	1,410	10	0	0	0	10,905	13,668	FY 2024
JY	Information Technology - Data Center	FY 2010	Active	0	0	0	0	0	0	0	0	0	0	0	2,367	FY 2021
LP	Wastewater Asset Management Technical Support	FY 2013	Active	257	271	358	0	0	0	0	0	0	0	885	10,000	FY 2020
LS	Miscellaneous Facility Projects FY 2013	FY 2013	Active	1,187	1,225	1,708	1,357	265	268	616	412	387	393	7,818	15,303	FY 2030
LX	Process Control System Upgrade	FY 2021	Active	0	0	0	1,545	1,569	2	0	0	0	0	3,116	4,000	FY 2023
OD	Plantwide Paving	FY 2015	Active	145	171	1,362	862	840	851	869	871	206	0	6,176	7,950	FY 2026
OE	Plantwide Drainage & Runoff	FY 2016	Active	135	3,288	277	651	672	681	1,486	2,284	1,538	0	11,012	15,433	FY 2026
OG	City Water & Sewer Upgrades at Wastewater Treatment Plant	FY 2020	Active	0	0	1	535	539	0	0	0	0	0	1,074	1,250	FY 2022
OH	Plantwide Demolition	FY 2021	Active	0	0	0	2,414	4,716	1,985	598	0	0	0	9,714	11,100	FY 2024
OI	Plantwide Painting & Signage	FY 2018	Active	0	0	0	0	102	254	46	0	0	0	402	450	FY 2024
OK	Plantwide H2S Mitigation	FY 2021	Active	0	0	0	0	0	0	0	0	0	0	0	10,000	FY 2029
OM	Plantwide Hot Water System/ Loop Rehabilitation	FY 2017	Active	849	1,590	922	391	0	0	0	0	0	0	3,752	6,066	FY 2025
ON	Plantwide Grounding Upgrades	FY 2022	Active	0	0	0	0	87	317	899	989	1,538	863	4,693	5,500	FY 2028
OP	Plantwide Sump Pump Rehabilitation	FY 2023	Active	0	0	0	0	0	0	105	315	296	169	886	1,000	FY 2028
OQ	Plantwide Roofing Upgrades	FY 2022	Active	0	0	0	0	406	1,773	2,779	1,482	1,558	939	8,937	10,000	FY 2027
OS	Plantwide Lighting Upgrades	FY 2017	Active	375	917	571	228	0	0	0	0	0	0	2,092	3,000	FY 2023
PF	Chemical System/Building Upgrades	FY 2015	Active	2,589	1,197	1,998	3,716	2,749	2,104	1,161	11	0	0	15,525	21,593	FY 2025
TA	Process Computer Control System	FY 1997	Active	650	0	0	0	0	0	0	0	0	0	650	65,474	FY 2018
TZ	Electric Power System - Power Gear	FY 2001	Active	775	1,483	1,730	8,427	11,280	13,671	2,427	0	0	0	39,793	61,590	FY 2024
YD	Miscellaneous Projects	FY 1999	Active	310	274	1,200	1,835	1,181	846	670	329	0	0	6,646	50,735	FY 2026
<b>TOTAL PLANTWIDE BUDGETS</b>				<b>\$12,099</b>	<b>\$15,060</b>	<b>\$19,331</b>	<b>\$32,895</b>	<b>\$35,204</b>	<b>\$30,100</b>	<b>\$18,795</b>	<b>\$17,671</b>	<b>\$20,384</b>	<b>\$10,534</b>	<b>\$212,072</b>	<b>\$488,216</b>	

# Wastewater Treatment

## 10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

<b>SOLIDS PROCESSING</b>		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AM	Solids Processing Program Management	FY 2001	Active	\$706	\$44	\$450	\$465	\$673	\$802	\$842	\$723	\$533	\$555	\$5,792	\$13,042	FY 2028
BX	Gravity Thickener Upgrades Phase II	FY 2010	Active	1,740	6,355	14,099	8,586	340	0	0	0	0	0	31,119	50,696	FY 2022
EV	Area Substation No. 6	FY 2008	Active	165	12	0	0	0	0	0	0	0	0	177	22,103	FY 2019
I3	Biosolids Blending Development Center	FY 2015	Active	272	1,049	58	19	0	0	0	0	0	0	1,398	2,101	FY 2021
LD	Pre-Dewatering Additional Centrifuges	FY 2019	Active	0	177	426	3,457	2,859	0	0	0	0	0	6,919	10,156	FY 2022
LE	High Strength Waste Receiving Facility (Includes Fats, Oils & Grease)	FY 2020	Active	0	0	194	500	2,854	426	0	0	0	0	3,973	6,008	FY 2023
XA	New Digestion Facilities	FY 1999	Active	8,023	576	321	0	0	0	0	0	0	0	8,920	551,451	FY 2020
XB	Centrifuge Thickener Facility	FY 1999	Active	59	0	0	0	0	0	0	0	0	0	59	48,703	FY 2018
XZ	Solids Processing Building / Dewatered Sludge Loading Facility	FY 1999	Active	264	5,730	2,605	2,275	2,044	726	446	0	0	0	14,091	96,382	FY 2037
YZ	Digestion Facilities Site Preparation	FY 1999	Active	0	0	0	0	0	0	0	0	0	0	0	2,271	FY 2017
<b>TOTAL SOLIDS PROCESSING BUDGETS</b>				<b>\$11,229</b>	<b>\$13,942</b>	<b>\$18,154</b>	<b>\$15,302</b>	<b>\$8,770</b>	<b>\$1,953</b>	<b>\$1,288</b>	<b>\$723</b>	<b>\$533</b>	<b>\$555</b>	<b>\$72,448</b>	<b>\$802,911</b>	

<b>ENHANCED NITROGEN REMOVAL</b>		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BI	Enhanced Nitrogen Removal (ENR) North	FY 2008	Active	\$3,424	\$184	\$32	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,640	\$76,634	FY 2020
E8	Enhanced Clarification Facilities	FY 2009	Active	23,533	2,891	397	21	0	0	0	0	0	0	26,842	218,171	FY 2021
E9	Nitrogen Removal Facilities	FY 2008	Active	1,458	344	75	0	0	0	0	0	0	0	1,877	272,794	FY 2020
EE	Filtrate Treatment Facilities	FY 2009	Active	5,011	1,902	411	0	0	0	0	0	0	0	7,324	108,480	FY 2020
EG	Blue Plains Tunnel	FY 2008	Active	67	27	8	0	0	0	0	0	0	0	102	177,524	FY 2020
FG	Secondary Treatment Upgrades for Total Nitrogen	FY 2013	Active	0	441	0	0	7	1,280	914	11,049	22,203	8,555	44,449	57,160	FY 2029
FR	Blue Plains Tunnel Dewatering Pumping Station	FY 2010	Active	2,746	739	329	0	0	0	0	0	0	0	3,814	34,534	FY 2020
FS	Bolling Overflow & Diversion	FY 2010	Active	9,615	0	0	0	0	0	0	0	0	0	9,615	54,013	FY 2018
LM	Enhanced Nitrogen Removal Program Management	FY 2013	Active	7,750	8,217	1,512	1,514	1,332	768	1,004	883	470	478	23,926	36,780	FY 2031
<b>TOTAL ENHANCED NITROGEN REMOVAL BUDGETS</b>				<b>\$53,603</b>	<b>\$14,746</b>	<b>\$2,763</b>	<b>\$1,535</b>	<b>\$1,339</b>	<b>\$2,049</b>	<b>\$1,918</b>	<b>\$11,932</b>	<b>\$22,673</b>	<b>\$9,032</b>	<b>\$121,590</b>	<b>\$1,036,089</b>	

<b>TOTAL WASTEWATER TREATMENT BUDGETS</b>				<b>\$95,485</b>	<b>\$74,617</b>	<b>\$77,853</b>	<b>\$87,960</b>	<b>\$89,820</b>	<b>\$69,560</b>	<b>\$51,607</b>	<b>\$62,172</b>	<b>\$117,623</b>	<b>\$129,252</b>	<b>\$855,948</b>	<b>\$3,551,799</b>	
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**Fort Reno Green Roof**



**Tunnel Boring Machine**



**Combined Sewer Overflow**

FY 2018 - FY 2027 Disbursement Plan											Lifetime Budget
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	
\$181,816	\$200,343	\$160,554	\$148,121	\$203,086	\$164,508	\$79,692	\$65,611	\$135,797	\$92,819	\$1,432,348	\$3,151,920
											<i>(\$ in thousands)</i>

## OVERVIEW

Similar to more than 700 older communities in the Mid-Atlantic, Northeast, and Midwest portions of the country, a portion of the District of Columbia is served by a combined sewer system. Approximately one-third of the system is combined, mostly in the downtown and older parts of the city. In dry weather, the system delivers wastewater to the Blue Plains Advanced Wastewater Treatment Plant. In wet weather, rain water also enters the system and, if the conveyance capacity of the system is exceeded, the excess flow spills into the waterways of the District of Columbia. This discharge is called combined sewer overflow (CSO). There are 47 active CSO outfalls in the District.

DC Water has continued to implement its CSO Long Term Control Plan (LTCP), called the DC Clean Rivers Project, to reduce CSO's that discharge to the Anacostia and Potomac Rivers, as well as Rock Creek. DC Water obtained an amendment to the CSO Consent Decree in January of 2016, which will allow DC Water to include Green Infrastructure and extend the completion milestone to 2030. When fully implemented, CSO's will be reduced by a projected 96 percent during an average year (98 percent on the Anacostia River) resulting in improved water quality, and significantly reduce debris on our national capital's waterways.

## PROGRAM AREAS

**DC Clean Rivers** – The plan includes a variety of improvements throughout the District. The backbone of the plan includes constructing the Anacostia River Tunnel System to control CSO's to the Anacostia River and to relieve surface flooding, a tunnel dewatering pumping station to increased excess flow treatment during wet weather events with system completion in 2025. In addition, the amended plan includes constructing green infrastructure in large scale and a tunnel system to control Potomac River overflows with project completion in 2030. Green infrastructure will also be constructed to control CSOs to Piney Branch/Rock Creek with the first project scheduled to be completed in 2019.

**Program Management** – The CSO Program Manager is responsible for evaluation of combined sewer systems, as well as management for sewer pumping station replacement and other sewer infrastructure projects.

**Combined Sewer** – Projects within the Combined Sewer Program Area include rehabilitation and/or relocation of combined sewers, control of wet weather related pollution, and upgrades to pumping stations. Most projects in this Program Area are related to the Nine Minimum Controls and include planned upgrades to facilities based on our long term facilities plan.

## ACCOMPLISHMENTS

- Placed in operation the First Street Tunnel, which will reduce flooding in the Bloomingdale neighborhood of the District of Columbia
- Commissioned and placed in operation the Anacostia Tunnel System from Blue Plains to RFK Stadium including appurtenant structures south of RFK
- Placed in operation the new Poplar Point Pumping Station
- Issued Notice To Proceed (NTP) and began construction of the Northeast Boundary Tunnel. The final segment of the Anacostia River Tunnel System
- Continued construction of the first Rock Creek Green Infrastructure project
- Procured and awarded the first Potomac Green Infrastructure project
- Developing the Environmental Assessment (EA) and Facility Plan for Potomac River Tunnel
- Deployed all Clean Rivers Assets into the enterprise Asset Management System
- Completed emergency inspection and assessment of four miles of the Northeast Boundary Trunk Sewer
- Continued odor control upgrades at O Street Pumping Station
- Potomac Pumping Station Phase III upgrades nearing completion, including Pump No. 2 rehabilitation, new influent screens, and electrical replacement
- Modification to the 2005 LTCP Consent Decree in 2016 to include innovative green infrastructure practices to achieve the reduction of CSO volume by 96 percent system-wide for the Anacostia and Potomac Rivers and Rock Creek and offer additional community benefits.



## OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

**DC Clean Rivers** – This project aims to control CSO’s to the Anacostia and Potomac Rivers and Rock Creek to meet the District’s water quality standards, while improving the health of the Chesapeake Bay. This ongoing project includes green infrastructure initiatives that will divert stormwater runoff prior to entering the sewer system. The Anacostia River Tunnel System, between Blue Plains and CSO-019 is also complete. All structures south of RFK are ready to be put in operation by March 23, 2018. The tunnel system will improve operational flexibility by providing alternate means of transferring flow to Blue Plains, thereby allowing temporary diversion of flows to the tunnel to facilitate operation, maintenance and rehabilitation.

**Potomac Pump Station Upgrades** – Upgrades nearing completion address health & safety improvements and increase the reliability of the pumping station.

# Combined Sewer Overflow

## 10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

DC CLEAN RIVERS		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
CY	Anacostia Long Term Control Plan Projects	FY 2005	Active	\$126,476	\$156,776	\$132,951	\$121,241	\$145,383	\$83,989	\$0	\$0	\$0	\$0	\$766,815	\$1,943,834	FY 2023
CZ	Potomac Long Term Control Plan Projects	FY 2010	Active	20,418	24,790	14,510	16,484	29,739	42,178	53,825	36,900	104,145	75,496	418,486	562,323	FY 2029
DZ	Rock Creek CSS LTCP Project	FY 2010	Active	21,420	7,826	581	564	17,737	24,944	5,744	13,119	24,259	11,701	127,895	258,099	FY 2030
<b>TOTAL DC CLEAN RIVERS BUDGETS</b>				<b>\$168,314</b>	<b>\$189,392</b>	<b>\$148,042</b>	<b>\$138,289</b>	<b>\$192,859</b>	<b>\$151,111</b>	<b>\$59,569</b>	<b>\$50,018</b>	<b>\$128,404</b>	<b>\$87,197</b>	<b>\$1,313,196</b>	<b>\$2,764,255</b>	
PROGRAM MANAGEMENT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AV	Combined Sewer Overflow Program Management	FY 2001	Active	\$1,934	\$1,969	\$2,518	\$3,495	\$4,373	\$4,339	\$3,012	\$1,821	\$0	\$0	\$23,460	\$64,663	FY 2025
<b>TOTAL PROGRAM MANAGEMENT BUDGETS</b>				<b>\$1,934</b>	<b>\$1,969</b>	<b>\$2,518</b>	<b>\$3,495</b>	<b>\$4,373</b>	<b>\$4,339</b>	<b>\$3,012</b>	<b>\$1,821</b>	<b>\$0</b>	<b>\$0</b>	<b>\$23,460</b>	<b>\$64,663</b>	
COMBINED SEWER		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BA	DC Water Low Impact Development Projects	FY 2002	Active	\$312	\$74	\$17	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$403	\$2,870	FY 2020
BH	Rock Creek Combined Sewer Overflow Projects	FY 2004	Active	0	0	0	0	0	0	0	0	0	0	0	16,670	FY 2017
EJ	Potomac Pumping Station - Phase III Rehabilitation	FY 2010	Active	2,248	1,596	36	0	0	0	0	0	0	0	3,880	22,784	FY 2020
EK	Long Term Rehabilitation - Main & O Pump Station	FY 2021	Active	0	0	0	19	51	2,014	6,228	3,520	2,565	4,585	18,982	55,644	FY 2030
EL	Swirl Facility Rehabilitation	FY 2008	Active	26	67	2	0	0	0	0	0	0	0	96	4,450	FY 2020
EQ	Potomac Pumping Station-Phase IV Rehabilitation	FY 2019	Active	0	45	86	1,371	0	0	0	0	0	0	1,501	2,325	FY 2021
FQ	Main & O Street PS Intermediate Upgrade	FY 2010	Active	8,380	6,028	5,430	2,742	1,331	0	0	0	0	0	23,912	46,185	FY 2023
FX	Rehabilitation Northeast Boundary Sewer - Phase I	FY 2015	Active	228	4	157	513	547	5,236	4,216	69	43	37	11,051	18,591	FY 2030
FZ	Tiber Creek Sewer Lining - Phase I	FY 2018	Active	0	305	441	0	190	729	4,290	6,519	615	0	13,089	17,838	FY 2026
G7	Combined Sewers Under Buildings	FY 2010	Active	291	863	3,763	0	0	0	0	0	0	0	4,917	15,981	FY 2021
IH	Combined Sewer Rehabilitation 2	FY 2013	Active	82	0	61	1,692	3,626	652	0	0	0	0	6,113	24,833	FY 2023
IP	Tiber Creek Trunk Sewer Rehabilitation	FY 2022	Active	0	0	0	0	108	427	2,241	3,276	363	0	6,416	8,250	FY 2026
KI	Main & O Street Pump Stations	FY 2025	Closed	0	0	0	0	0	0	0	0	0	0	0	79,906	FY 2029
OB	FY 2024 - Inflatable Dams Replacement	FY 2024	Active	0	0	0	0	0	0	136	388	3,807	1,000	5,331	6,675	FY 2027
<b>TOTAL COMBINED SEWER BUDGETS</b>				<b>\$11,568</b>	<b>\$8,982</b>	<b>\$9,993</b>	<b>\$6,337</b>	<b>\$5,853</b>	<b>\$9,058</b>	<b>\$17,112</b>	<b>\$13,772</b>	<b>\$7,393</b>	<b>\$5,622</b>	<b>\$95,691</b>	<b>\$323,002</b>	
<b>TOTAL COMBINED SEWER OVERFLOW BUDGETS</b>				<b>\$181,816</b>	<b>\$200,343</b>	<b>\$160,554</b>	<b>\$148,121</b>	<b>\$203,086</b>	<b>\$164,508</b>	<b>\$79,692</b>	<b>\$65,611</b>	<b>\$135,797</b>	<b>\$92,819</b>	<b>\$1,432,348</b>	<b>\$3,151,920</b>	



CSO 19 Overflow Facility



CSO 21 Diversion Facilities



CSO 07 Diversion

FY 2018 - FY 2027 Disbursement Plan											Lifetime Budget
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY2027	10-Yr Total	
\$945	\$4,909	\$2,400	\$2,312	\$5,839	\$1,212	\$1,784	\$1,642	\$1,276	\$2,133	\$24,452	\$81,392

*(\$ in thousands)*

## OVERVIEW

Stormwater is the water generated by rain or melted snow on “impervious surfaces” or surfaces that do not allow the water to soak into the ground (such as roads, driveways, sidewalks, parking lots, and buildings). Stormwater runoff occurs when rain or snowmelt flows over these impervious surfaces.

Stormwater can pick up trash, excess nutrients (such as nitrogen and phosphorus), sediment and other pollutants that flow into the storm sewer system or directly to a lake, stream, river, or wetland. Untreated stormwater runoff ends up in the waterbodies we use for swimming, fishing and drinking water. Polluted stormwater runoff can have many adverse effects on plants, fish, animals and people. For example, trash can clog waterbodies, nutrients can cause algae blooms, and sediment impacts aquatic life.

The District’s Municipal Separate Storm Sewer System (MS4), has approximately storm sewer pipes, catch basins, inlets, special structures and related facilities. Some components of the existing storm sewer system are over 100 years old. DC Water is responsible for the maintenance and replacement of the publicly-owned collection and conveyance facilities that transport stormwater runoff to the Anacostia and Potomac Rivers, Rock Creek, and other receiving streams within the District of Columbia.

## PROGRAM AREAS

**Local Drainage** – Includes projects for the investigation, design and rehabilitation of sewers to relieve local flooding and to address short term needs for improvements to storm sewers located in the separate and combines sewer areas.

**On-Going** – This category includes annual planned projects for rehabilitation, improvements, and replacements to restore integrity and reliability of the stormwater system.

**Pumping Facilities** – DC Water’s 16 stormwater pumping stations serve critical areas of the District and are integral to the road network to maintain safe passage of vehicles through areas that do not drain without the assistance of mechanical means. DC Water has projects to rehabilitate 13 of the 16 stormwater pumping stations. The remaining three were recently upgraded by the District of Columbia Department of Transportation (DDOT).

**DDOT** – The annual program of stormwater infrastructure projects are coordinated with street rehabilitation or other construction work performed by DDOT. In an effort to ease public disruption and reduce paving costs, DC Water coordinates its activities with those of DDOT.

**Research and Program Management** – Provides engineering program management services for the stormwater service area capital projects, and required technical assessments, and hydraulic studies required to assess problems in the storm water system. It also provides engineering services for condition assessment to the storm sewer system.

**Trunk/Force Sewers** – Provides for the design and construction services for stormwater interceptors, trunk sewers and force mains that require upgrades. Sewers rehabilitated by this project are defined by the major planning and condition assessment program underway for the stormwater sewer system.

## ACCOMPLISHMENTS

- Stormwater Pollution Prevention Plan
- Watts Branch Sewer System Evaluation Study
- Detailed Inflow/Infiltration Modeling for Watts Branch Sewershed
- Construction began for the rehabilitation and improvement of the Watts Branch Storm Sewer Phase 3
- Received partial funding from FEMA grant, and began design for the rehabilitation of the following stormwater pumping stations: 14th Street Bridge SW, 9th Street and D Streets SE, Portland Street SE, Dean Avenue NE, and Eastern Avenue NE
- Began design on the following Stormwater pump stations: Kenilworth Stormwater Pumping Station and Eye Street and D Street SE

# Stormwater

## 10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

LOCAL DRAINAGE		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion	
A6	Lining 22nd & P Street NW/NWBSO Repair	FY 2001	Closed	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,537	FY 2015	
GY	Storm Sewer Rehabilitation at Various Location	FY 2013	Active	92	75	344	0	0	0	0	0	0	0	512	5,676	FY 2020	
IE	Storm Sewer Rehabilitation 3	FY 2020	Active	0	0	10	69	629	267	861	1,050	219	0	3,105	7,017	FY 2026	
<b>TOTAL LOCAL DRAINAGE BUDGETS</b>				<b>\$92</b>	<b>\$75</b>	<b>\$354</b>	<b>\$69</b>	<b>\$629</b>	<b>\$267</b>	<b>\$861</b>	<b>\$1,050</b>	<b>\$219</b>	<b>\$0</b>	<b>\$3,617</b>	<b>\$14,230</b>		
ON-GOING		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion	
BD	FY2011 - DSS Stormwater Projects	FY 2011	Closed	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$581	FY 2014	
CN	FY2013 - DSS Stormwater Projects	FY 2013	Closed	0	0	0	0	0	0	0	0	0	0	0	669	FY 2017	
DX	FY2016 - DSS Stormwater Projects	FY 2016	Active	0	0	0	0	0	0	0	0	0	0	0	787	FY 2018	
FN	FY2017 - DSS Stormwater Projects	FY 2017	Active	375	166	0	0	0	0	0	0	0	0	541	745	FY 2019	
H5	FY2018 - DSS Stormwater Projects	FY 2019	Active	0	536	68	0	0	0	0	0	0	0	604	770	FY 2020	
HM	FY2019 - DSS Stormwater Projects	FY 2019	Active	0	373	229	0	0	0	0	0	0	0	601	794	FY 2020	
JH	FY2020 - DSS Stormwater Projects	FY 2020	Active	0	0	371	237	0	0	0	0	0	0	608	820	FY 2021	
LO	FY2021 - DSS Stormwater Projects	FY 2021	Active	0	0	0	380	244	0	0	0	0	0	625	845	FY 2022	
M8	FY2022 - DSS Stormwater Projects	FY 2022	Active	0	0	0	0	500	201	0	0	0	0	701	820	FY 2023	
MG	FY2023 - DSS Stormwater Projects	FY 2023	Active	0	0	0	0	0	521	211	0	0	0	732	845	FY 2024	
NV	FY2024 - DSS Stormwater Projects	FY 2024	Active	0	0	0	0	0	0	550	216	0	0	766	870	FY 2025	
PI	FY2025 - DSS Stormwater Projects	FY 2025	Active	0	0	0	0	0	0	0	248	528	0	776	896	FY 2026	
QA	FY2026 - DSS Stormwater Projects	FY 2026	New	0	0	0	0	0	0	0	0	223	498	722	923	FY 2027	
T9	FY2027 - DSS Stormwater Projects	FY 2027	New	0	0	0	0	0	0	0	0	0	237	237	950	FY 2028	
<b>TOTAL ON-GOING BUDGETS</b>				<b>\$375</b>	<b>\$1,074</b>	<b>\$668</b>	<b>\$617</b>	<b>\$744</b>	<b>\$722</b>	<b>\$760</b>	<b>\$464</b>	<b>\$752</b>	<b>\$736</b>	<b>\$6,912</b>	<b>\$11,315</b>		
PUMPING FACILITIES		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion	
NG	Stormwater Pumping Station Rehabilitation	FY 2017	Active	\$69	\$3,410	\$375	\$1,134	\$4,065	\$19	\$0	\$0	\$305	\$1,397	\$10,774	\$25,232	FY 2028	
<b>TOTAL PUMPING FACILITIES BUDGETS</b>				<b>\$69</b>	<b>\$3,410</b>	<b>\$375</b>	<b>\$1,134</b>	<b>\$4,065</b>	<b>\$19</b>	<b>\$0</b>	<b>\$0</b>	<b>\$305</b>	<b>\$1,397</b>	<b>\$10,774</b>	<b>\$25,232</b>		
DDOT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion	
H4	FY 2018 - DDOT Stormwater Projects	FY 2018	Active	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,017	FY 2019	
HP	FY 2019 - DDOT Stormwater Projects	FY 2015	Active	0	0	0	0	0	0	0	0	0	0	0	220	FY 2015	
<b>TOTAL DDOT BUDGETS</b>				<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,237</b>		
RESEARCH & PROGRAM MANAGEMENT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion	
AT	Stormwater Program Management	FY 2001	Active	\$314	\$156	\$36	\$115	\$402	\$204	\$163	\$128	\$0	\$0	\$1,517	\$12,013	FY 2025	
<b>TOTAL RESEARCH &amp; PROGRAM MANAGEMENT BUDGETS</b>				<b>\$314</b>	<b>\$156</b>	<b>\$36</b>	<b>\$115</b>	<b>\$402</b>	<b>\$204</b>	<b>\$163</b>	<b>\$128</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,517</b>	<b>\$12,013</b>		
TRUNK/FORCE SEWERS		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion	
BO	Future Stormwater Projects	FY 2005	Active	\$95	\$194	\$966	\$377	\$0	\$0	\$0	\$0	\$0	\$0	\$1,632	\$15,365	FY 2021	
<b>TOTAL TRUNK/FORCE SEWERS BUDGETS</b>				<b>\$95</b>	<b>\$194</b>	<b>\$966</b>	<b>\$377</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,632</b>	<b>\$15,365</b>	
<b>TOTAL STORMWATER BUDGETS</b>				<b>\$945</b>	<b>\$4,909</b>	<b>\$2,400</b>	<b>\$2,312</b>	<b>\$5,839</b>	<b>\$1,212</b>	<b>\$1,784</b>	<b>\$1,642</b>	<b>\$1,276</b>	<b>\$2,133</b>	<b>\$24,452</b>	<b>\$81,392</b>		



**Work on Sewer Laterals**



**Sewer**



**Sewer Rehabilitation - Cured In Place Pipe Lining (CIPP)**

FY 2018 - FY 2027 Disbursement Plan											Lifetime Budget
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	
\$29,802	\$32,947	\$34,046	\$53,050	\$74,492	\$73,917	\$75,912	\$58,882	\$60,769	\$38,672	\$532,490	\$1,530,036
											<i>(\$ in thousands)</i>

## OVERVIEW

DC Water is responsible for wastewater collection and transmission in the District of Columbia including the operation and maintenance of the system. The sanitary sewer system includes over 1,900 miles of sewer pipes, large interceptor sewers, smaller gravity collection sewers, sewer lateral connections and the 50-mile Potomac Interceptor System which carries wastewater from areas in Virginia and Maryland to Blue Plains AWWTP. DC Water is also responsible for sewer lateral connections from the sewer mains to the property lines of residential, government, and commercial properties. The existing sewer system in the District dates back to 1871, and includes a variety of materials such as brick and concrete, vitrified clay, reinforced concrete, ductile iron, plastic, steel, brick, cast iron, cast-in-place concrete and even fiberglass.

## PROGRAM AREAS

**Collection Sewers** – Includes studies and projects to effectively eliminate stormwater, groundwater, and other infiltration and inflow to the sewer system; to separate stormwater flows; and to reduce other extraneous flows to Blue Plains. This category also includes projects to rehabilitate sanitary sewer pipes.

**On-Going** – This category is managed by the Department of Sewer Services (DSS) and includes annual planned projects for rehabilitation, improvements, and replacements to restore integrity and reliability of the sanitary system.

**Pumping Facilities** – Projects required for the upgrade of existing wastewater pumping stations, as well as projects for the engineering and construction of new wastewater pumping facilities to enhance reliability and integrity of DC Water’s sanitary sewer system.

**Program Management** – Engineering program management services for the sewer system including assessing system needs, developing facilities plan, developing design scopes of work, preparing cost estimates, task orders or agreements, and reviewing design documents.

**Interceptor/Trunk Force Sewers** – Provides for the design and construction services for large diameter sewers and force mains that require upgrades. Sewers rehabilitated by this project are defined by the major planning and condition assessment program underway for the sewer system.

## ACCOMPLISHMENTS

- Completed over 8 miles of Closed Circuit TV (CCTV) and sonar inspection of the Potomac Interceptor
- The temporary flow metering program was completed, including the compilation of flow data from more than 160 meters. This data is being used to develop an overarching coordination plan to link all monitoring efforts throughout the DC Water collection system, calibrate the system-wide sewer model, provide inflow/infiltration characterization, and assess rehabilitation effectiveness
- Design services began for portable generators to serve Main, O Street and Potomac pumping stations, with construction starting in 2018
- Construction of the sewer rehabilitation within the National Arboretum continued during FY 2017 for the Upper East Side Interceptor and local sewers within the property
- Began the calibration of a new sewer system hydraulic model which will greatly increase DC Water’s predictive capabilities for system performance and will support a variety of planning and O&M activities
- Completed revisions to existing pumping station Standard Operating Procedures (SOPs) with new SOPs anticipated in the future to enhance the standardization of typical pumping station operations, as well as a variety of preventive and corrective maintenance activities
- Completed the design of rehabilitation to sewer structures 24 & 35 which will improve operability and flexibility to manage flows in major sewers
- Design of the rehabilitation of the Low Area Trunk Sewer was completed. Construction to commence in 2018
- Design for the rehabilitation and cleaning of B Street/NJ Avenue Trunk Sewer was completed. Construction to commence in 2018
- In house design for rehabilitation of prior local sewers began. This project includes 14 miles of sewers ranging from 8-inches to 27-inches

## OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

***Potomac Interceptor Odor Abatement Facilities*** – The Potomac Interceptor (PI) is a 50-mile long sanitary sewer that starts at the Washington-Dulles International Airport and serving Loudoun and Fairfax Counties in Virginia, Montgomery County in Maryland, and the District of Columbia. The PI was constructed in the 1960's and carries greater than 50 million gallons each day to the Blue Plains Advanced Wastewater Treatment Plant. DC Water maintains this asset through regular internal inspections to identify segments needing rehabilitation, and subsequently undertakes CIP projects to rehabilitate and maintain the integrity of the PI.

DC Water operates six odor abatement facilities, located strategically along the PI. Four of these facilities are adjacent to the Chesapeake and Ohio (C&O) Canal; one facility in northwest Washington, DC, and three in Maryland, with the other two facilities in Virginia. These facilities use a vacuum blower to pull odorous air from the PI and push it through a dual-bed carbon filter before discharging to the atmosphere. Combined with passive treatment units (carbon canisters) located in various vents along the PI, these facilities help reduce the odorous air that is emitted from the sewer in public areas. This activity contributes to better public relations.



# Sanitary Sewer

## 10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

COLLECTION SEWERS			Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
G1	Small Local Sewer Rehabilitation 1	FY 2010	Active	\$2,319	\$16	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,335	\$28,452	FY 2019
G8	Small Local Sewer Rehabilitation 2	FY 2010	Active	14	0	0	0	0	0	0	0	0	0	0	14	2,869	FY 2018
G9	Small Local Sewer Rehabilitation 3	FY 2014	Active	3	0	0	0	0	0	0	0	0	0	0	3	368	FY 2018
GA	Small Local Sewer Rehabilitation 4	FY 2015	Active	220	0	0	0	0	0	0	0	0	0	0	220	8,557	FY 2018
J3	Sewer Upgrade - City Wide	FY 2001	Active	1,928	1,170	393	562	157	0	0	0	0	0	0	4,209	18,004	FY 2022
JS	Sanitary Sewer Rehabilitation 15	FY 2020	Active	0	0	55	499	3,999	1,330	0	0	0	0	0	5,883	13,830	FY 2023
JU	Sanitary Sewer Rehabilitation 13	FY 2019	Active	0	52	400	3,486	2,060	205	0	0	0	0	0	6,204	15,175	FY 2023
JX	Sanitary Sewer Rehabilitation 10	FY 2017	Active	3	6	6	2,185	2,528	106	0	0	0	0	0	4,834	13,600	FY 2023
LK	Sanitary Sewer Rehabilitation 17	FY 2020	Active	0	0	49	372	3,849	2,197	0	0	0	0	0	6,466	16,100	FY 2023
LL	Sanitary Sewer Rehabilitation 18	FY 2023	Active	0	0	0	0	0	453	942	6,633	133	0	0	8,162	16,582	FY 2026
MO	Sanitary Sewer Rehabilitation 20	FY 2024	Active	0	0	0	0	0	0	397	919	6,183	139	0	7,637	15,000	FY 2027
MP	Sanitary Sewer Rehabilitation 22	FY 2023	Active	0	0	0	0	0	381	1,229	7,113	30	0	0	8,753	17,600	FY 2026
MZ	Sanitary Sewer Rehabilitation 24	FY 2024	Active	0	0	0	0	0	0	377	1,092	7,478	107	0	9,054	18,100	FY 2027
NI	Sanitary Sewer Rehabilitation 21	FY 2024	Active	0	0	0	0	0	0	90	584	5,041	3,192	0	8,907	17,100	FY 2027
NC	Sanitary Sewer Rehabilitation 23	FY 2023	Active	0	0	0	0	0	0	104	681	5,003	3,073	0	8,861	17,600	FY 2026
NF	Sanitary Sewer Rehabilitation 19	FY 2021	Active	0	0	0	82	523	3,648	2,675	0	0	0	0	6,929	15,164	FY 2024
NX	Sanitary Sewer Rehabilitation 25	FY 2024	Active	0	0	0	0	0	0	123	759	6,986	1,488	0	9,356	18,664	FY 2027
NY	Sanitary Sewer Rehabilitation 26	FY 2025	Active	0	0	0	0	0	0	0	555	1,761	7,883	0	10,198	19,100	FY 2027
PY	Sanitary Sewer Rehabilitation 16	FY 2020	Active	0	0	186	743	5,741	69	0	0	0	0	0	6,739	16,100	FY 2023
QB	Sanitary Sewer Rehabilitation 27	FY 2026	Active	0	0	0	0	0	0	0	0	1,204	3,974	0	5,178	45,000	FY 2028
QC	Sanitary Sewer Rehabilitation 28	FY 2027	New	0	0	0	0	0	0	0	0	0	1,561	0	1,561	55,000	FY 2029
U3	B Street & New Jersey Avenue Trunk Sewer Rehab. - Phase 2	FY 2022	New	0	0	0	0	737	645	4,625	2,595	0	0	0	8,602	20,000	FY 2025
QE	Paving (Project Name TBD)	FY 2018	Active	0	0	0	0	0	0	0	0	0	0	0	0	34	FY 2028
<b>TOTAL COLLECTION SEWERS BUDGETS</b>					<b>\$4,488</b>	<b>\$1,244</b>	<b>\$1,088</b>	<b>\$7,929</b>	<b>\$19,594</b>	<b>\$9,139</b>	<b>\$11,139</b>	<b>\$25,253</b>	<b>\$31,888</b>	<b>\$18,343</b>	<b>\$130,105</b>	<b>\$407,999</b>	
ON-GOING			Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BF	FY2011 - DSS Sanitary Sewer Projects	FY 2011	Active	\$67	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$67	\$8,175	FY 2018
D6	FY2014 - DSS Sanitary Sewer Projects	FY 2014	Active	1,250	0	0	0	0	0	0	0	0	0	0	1,250	10,575	FY 2019
DI	FY2015 - DSS Sanitary Sewer Projects	FY 2015	Active	591	0	0	0	0	0	0	0	0	0	0	591	11,188	FY 2018
DW	FY2016 - DSS Sanitary Sewer Projects	FY 2015	Active	601	257	0	0	0	0	0	0	0	0	0	858	14,601	FY 2019
FP	FY2017 - DSS Sanitary Sewer Projects	FY 2017	Active	4,362	555	0	0	0	0	0	0	0	0	0	4,917	11,500	FY 2019
H6	FY2018 - DSS Sanitary Sewer Projects	FY 2018	Active	2,971	2,880	0	0	0	0	0	0	0	0	0	5,851	11,845	FY 2019
HN	FY2019 - DSS Sanitary Sewer Projects	FY 2019	Active	\$0	\$5,925	\$4,417	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,343	\$12,200	FY 2020
JL	FY2020 - DSS Sanitary Sewer Projects	FY 2020	Active	0	0	5,058	5,754	0	0	0	0	0	0	0	10,812	12,568	FY 2021
LN	FY2021 - DSS Sanitary Sewer Projects	FY 2021	Active	0	0	0	4,645	5,358	0	0	0	0	0	0	10,003	12,945	FY 2022
M9	FY2022 - DSS Sanitary Sewer Projects	FY 2022	Active	0	0	0	0	4,624	5,658	0	0	0	0	0	10,283	13,335	FY 2023
MF	FY2023 - DSS Sanitary Sewer Projects	FY 2023	Active	0	0	0	0	0	4,877	5,886	0	0	0	0	10,763	13,735	FY 2024
NW	FY2024 - DSS Sanitary Sewer Projects	FY 2024	Active	0	0	0	0	0	0	5,192	6,074	0	0	0	11,266	14,225	FY 2025
OX	FY2025 - DSS Sanitary Sewer Projects	FY 2025	Active	0	0	0	0	0	0	0	5,328	6,143	0	0	11,470	14,650	FY 2026
PZ	FY2026 - DSS Sanitary Sewer Projects	FY 2026	New	0	0	0	0	0	0	0	0	5,447	6,317	0	11,764	15,090	FY 2027
Q3	FY2003 - DSS Sanitary Sewer Projects	FY 2003	Active	159	0	0	0	0	0	0	0	0	0	0	159	13,863	FY 2019
T8	FY2027 - DSS Sanitary Sewer Projects	FY 2027	New	0	0	0	0	0	0	0	0	0	5,706	0	5,706	15,550	FY 2028
<b>TOTAL ON-GOING BUDGETS</b>					<b>\$10,001</b>	<b>\$9,618</b>	<b>\$9,475</b>	<b>\$10,399</b>	<b>\$9,982</b>	<b>\$10,535</b>	<b>\$11,079</b>	<b>\$11,402</b>	<b>\$11,589</b>	<b>\$12,023</b>	<b>\$106,103</b>	<b>\$206,045</b>	

# Sanitary Sewer

## 10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

PUMPING FACILITIES			Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
CX	Sewer Facilities Security Upgrades	FY 2010	Active	\$102	\$0	\$14	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$116	\$1,334	FY 2020
GZ	Sewer Instrumentation & Control	FY 2012	Active	609	212	0	0	0	0	0	0	0	0	0	821	8,785	FY 2019
HB	DSS Sewer Pumping Project	FY 2010	Active	0	0	0	0	0	0	0	0	0	0	0	0	3,953	FY 2020
LY	Sewer Facilities Security Upgrades	FY 2020	Active	0	0	14	46	48	29	0	0	0	0	0	137	2,000	FY 2023
MB	3rd Street & Constitution Ave NW - Pumping Station	FY 2014	Active	36	11	11	10	662	1,326	214	0	0	0	0	2,271	7,374	FY 2024
MC	Additional Sewer SCADA System Sites	FY 2016	Active	548	139	626	953	157	0	0	0	0	0	0	2,422	8,000	FY 2022
PM	East Side Pumping Station	FY 2019	Active	0	66	170	1,308	55	0	0	0	0	0	0	1,599	4,000	FY 2022
PT	Existing Sewer Facilities Building Optimization	FY 2020	Active	0	0	6	15	83	205	0	0	0	0	0	308	705	FY 2023
<b>TOTAL PUMPING FACILITIES BUDGETS</b>					<b>\$1,294</b>	<b>\$428</b>	<b>\$842</b>	<b>\$2,332</b>	<b>\$1,005</b>	<b>\$1,559</b>	<b>\$214</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,674</b>	<b>\$36,151</b>	
PROGRAM MANAGEMENT			Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AU	Sanitary Sewer Program Management	FY 2001	Active	\$1,506	\$998	\$1,311	\$3,071	\$4,052	\$4,437	\$3,386	\$2,566	\$0	\$0	\$0	\$21,327	\$75,901	FY 2025
DN	Sewer Inspection Program	FY 2010	Active	1,294	1,875	5,894	1,961	2,358	2,540	2,742	2,585	1,624	115	0	22,989	44,071	FY 2027
LR	Sanitary Sewer Asset Management	FY 2014	Active	199	201	0	0	0	0	0	0	0	0	0	400	5,000	FY 2019
<b>TOTAL PROGRAM MANAGEMENT BUDGETS</b>					<b>\$2,999</b>	<b>\$3,075</b>	<b>\$7,205</b>	<b>\$5,032</b>	<b>\$6,410</b>	<b>\$6,977</b>	<b>\$6,128</b>	<b>\$5,151</b>	<b>\$1,624</b>	<b>\$115</b>	<b>\$44,716</b>	<b>\$124,972</b>	
INTERCEPTOR/TRUNK FORCE			Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
A4	Future Sewer System Upgrades	FY 2004	Active	\$2,000	\$1,676	\$1,009	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,684	\$43,669	FY 2021
DM	Upper Anacostia Main Interceptor Relief Sewer	FY 2010	Active	0	231	318	47	3,186	3,976	11	0	0	0	0	7,769	17,126	FY 2024
DR	Low Area Trunk Sewer Rehabilitation	FY 2009	Active	547	4,172	2,593	0	0	0	0	0	0	0	0	7,313	22,674	FY 2020
FW	Rehab Piney Branch Trunk Sewer	FY 2011	Active	0	34	470	1,712	9,405	4,930	907	0	0	0	0	17,458	40,456	FY 2024
FY	Rehab Upstream Rock Creek Main Interceptor	FY 2013	Active	63	57	0	36	538	1,145	7,020	2,869	0	0	0	11,727	29,553	FY 2025
G2	Sewer Structure Rehabilitation 1	FY 2010	Active	8	723	81	129	1,245	0	0	0	0	0	0	2,186	9,224	FY 2022
G4	Upper Potomac Intercept Sewer Rehabilitation	FY 2001	Active	287	27	0	77	791	2,247	1,388	0	0	0	0	4,817	13,520	FY 2024
G5	Sewer Rehab Near Creek Beds	FY 2010	Active	1,011	454	3,216	5,707	6,870	2,602	1,249	168	0	0	0	21,277	60,133	FY 2025
G6	Sanitary Sewers Under Buildings 1	FY 2010	Active	17	270	1,209	0	0	0	0	0	0	0	0	1,496	6,749	FY 2020
GG	Large Sewer Rehabilitation 2	FY 2013	Active	4	0	0	0	0	0	0	0	0	0	0	4	452	FY 2018
GH	Large Sewer Rehabilitation 3	FY 2012	Active	47	0	0	0	0	53	7,800	1,680	0	0	0	9,581	20,195	FY 2025
HS	Rehabilitation of Influent Sewers	FY 2019	Active	0	787	717	471	2,358	6,701	5,409	2,094	1,188	5,287	0	25,013	97,430	FY 2030
HT	Rehabilitation of Anacostia Force Main	FY 2012	Active	25	0	54	321	190	846	1,640	258	0	0	0	3,333	11,290	FY 2025
IF	Sanitary Sewer Rehabilitation 2	FY 2015	Active	122	0	0	0	0	0	0	0	0	0	0	122	1,540	FY 2018
IK	Potomac Force Main Rehabilitation	FY 2013	Active	63	262	104	81	914	1,076	23	0	0	0	0	2,522	6,074	FY 2024
IL	Creekbed Sewer Rehabilitation 2	FY 2013	Active	4,437	4,292	1,273	3,221	74	31	2,195	0	0	0	0	15,523	56,600	FY 2028
IM	Creekbed Sewer Rehabilitation 3	FY 2013	Active	0	0	88	399	1,006	191	2,646	1,117	1,139	4	0	6,591	15,462	FY 2028
IN	Upper East Side Trunk Sewer Rehabilitation	FY 2013	Active	0	0	583	918	183	1,597	5,600	0	0	0	0	8,881	19,002	FY 2024
IQ	Slash Run Sewer Rehabilitation	FY 2021	Active	0	0	0	231	466	3,999	326	0	0	0	0	5,021	10,000	FY 2024
IR	Anacostia Main Interceptor Rehabilitation	FY 2021	Active	0	0	0	109	1,148	3,403	2,105	0	0	0	0	6,764	14,250	FY 2024
J0	B Street New Jersey Avenue Trunk Sewer Rehab	FY 2004	Active	755	4,108	1,270	0	0	0	0	0	0	0	0	6,133	16,200	FY 2020
J1	Oxon Run Sewer Rehabilitation	FY 2004	Active	185	0	0	0	0	162	976	546	364	756	0	2,988	30,051	FY 2031
JK	Little Falls Rehabilitation Project	FY 2026	Active	0	0	0	0	0	0	0	0	72	190	263	4,000	FY 2029	
JM	Northwest Major Sewer Rehabilitation	FY 2024	Active	0	0	0	0	0	0	242	502	3,143	70	0	3,957	7,000	FY 2027
LZ	Potomac Interceptor Projects - Rehab. Phase 2	FY 2015	Active	772	1,255	1,598	5,453	8,164	7,350	5,562	5,910	3,032	1,025	0	40,121	99,190	FY 2029

# Sanitary Sewer

## 10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

INTERCEPTOR/TRUNK FORCE, CONT.			FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
N7	Potomac Sewer System Rehabilitation	FY 2000	Active	452	100	101	0	0	0	0	0	0	654	48,089	FY 2020
O4	Southwest Interceptor Rehabilitation	FY 2024	Active	0	0	0	0	0	153	182	1,316	744	2,396	4,530	FY 2027
O7	East Rock Creek Diversion Rehabilitation	FY 2021	Active	0	0	0	145	412	2,676	67	0	0	3,300	6,600	FY 2024
OA	West Rock Creek Diversion Rehabilitation	FY 2022	Active	0	0	0	0	13	141	1,205	705	0	2,065	3,810	FY 2025
PJ	Re-Activation of Anacostia Force Main/Gravity Main as Relief to Anacostia Force Main	FY 2018	Active	225	135	751	7,952	60	0	0	0	0	9,122	20,000	FY 2022
PU	Easby Point Trunk Sewer	FY 2021	Active	0	0	0	348	476	2,582	73	0	0	3,479	7,000	FY 2024
PV	Broad Branch Trunk Sewer	FY 2024	Active	0	0	0	0	0	758	1,045	5,413	114	7,330	13,000	FY 2027
<b>TOTAL INTERCEPTOR/TRUNK FORCE SEWER BUDGETS</b>				<b>\$11,019</b>	<b>\$18,583</b>	<b>\$15,436</b>	<b>\$27,358</b>	<b>\$37,501</b>	<b>\$45,706</b>	<b>\$47,353</b>	<b>\$17,076</b>	<b>\$15,667</b>	<b>\$8,191</b>	<b>\$243,890</b>	<b>\$754,870</b>
<b>TOTAL SANITARY SEWER BUDGETS</b>				<b>\$29,802</b>	<b>\$32,947</b>	<b>\$34,046</b>	<b>\$53,050</b>	<b>\$74,492</b>	<b>\$73,917</b>	<b>\$75,912</b>	<b>\$58,882</b>	<b>\$60,769</b>	<b>\$38,672</b>	<b>\$532,490</b>	<b>\$1,530,036</b>



**Small Diameter Water Main Replacement**



**Bryant Street Pumping Station**



**Large Valve Replacement**

FY 2018 - FY 2027 Disbursement Plan											Lifetime Budget
FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	
\$58,044	\$45,747	\$84,256	\$62,341	\$48,241	\$53,471	\$88,055	\$99,661	\$101,344	\$89,510	\$730,672	\$1,939,272
											<i>(\$ in thousands)</i>

**OVERVIEW**

Delivery of safe, clean, high-quality drinking water is one of DC Water's highest priorities. Drinking water in the District of Columbia comes from the Potomac River. The U.S. Army Corps of Engineers, Washington Aqueduct (Aqueduct), is a federally owned agency that is responsible for treating the drinking water. DC Water purchases treated water from the Aqueduct and is responsible for maintaining the distribution system that delivers drinking water to customers. DC Water maintains approximately 1,310 miles of interconnected pipe, four pumping stations, five reservoirs, three water tanks, over 43,000 valves of various sizes, and 9510 fire hydrants in public space. The authority distributes drinking water to more than 681,000 residents and businesses in the District of Columbia.

The DC Water distribution system begins at the water treatment plant and ends at private service lines. Customer service lines connect to the water mains in the streets and deliver water to residents and commercial buildings, eventually reaching taps. Water is continuously moving through our distribution system, typically at a high water flow rate that keeps the water fresh. However, once the water leaves the main and enters a customer's service line, the flow of water is dependent on individual water usage.

## OVERVIEW, CONT.

DC Water is committed to providing customers with the highest quality drinking water and continuously works to deliver water that goes beyond federal standards. We accomplish this goal by aiming to meet target levels that are stricter than water quality standards required by the United States Environmental Protection Agency (USEPA). We have a dedicated Drinking Water division that collects and analyzes water samples throughout the District of Columbia. These monitoring programs include sampling and analyses that are required by EPA and additional sampling programs conducted voluntarily by DC Water.

DC Water conducts compliance monitoring on a daily basis to ensure that water quality meets EPA standards. Water quality technicians collect and analyze samples for lead and copper, total coliform (bacteria) and disinfection byproduct levels. Compliance monitoring ensures that drinking water treatment effectively prevents pipe corrosion, removes bacteria and other contaminants, and minimizes potentially harmful treatment byproducts.

DC Water operates voluntary sampling programs to support our commitment to providing high-quality drinking water to our customers. Water quality technicians collect and analyze hundreds of water samples throughout the District of Columbia. The Drinking Water division responds quickly to customer complaints and conducts water quality monitoring among the District's most vulnerable populations. DC Water operates two mobile laboratories that allow technicians to conduct on-site water quality tests and respond to emergencies. The Drinking Water division also distributes over a thousand lead test kits each year to residents and assists residents with identifying lead sources.

## PROGRAM AREAS

**Distribution Systems** – Provides for the rehabilitation, replacement or extension of the water distribution system through several projects. The distribution systems program area is the largest for drinking water and includes three primary elements: small diameter water main renewal; large diameter water main rehabilitation; and valve replacements.

**Lead Program** – The replacement of approximately 20,960 lead water service lines with copper piping has been completed. Additional replacement continues throughout the water distribution system as part of water main renewals projects and for customers that request full replacement.

**On-Going** – Includes small projects for repairing water main breaks, replacing valves and fire hydrants, replacing water service connections, and other minor water main rehabilitation work.

**Pumping Facilities** – Rehabilitate or upgrade water-pumping stations in the system.

**DDOT** – Projects for the relocation, rehabilitation, replacement and extension of water mains, for which the work is completed under the District of Columbia's District Department of Transportation (DDOT) construction contracts for street paving or reconstruction. This program is being closed and combined with distribution projects.

**Storage Facilities** – Rehabilitation or upgrade of elevated tanks and reservoirs. Studies to the system have identified needs that support changing development patterns, regulatory compliance, additional water pressure to certain areas of the District, and provide emergency backup service.

**Program Management** – Provides engineering program management services, including asset management. Developing facilities plans, conceptual designs, design scopes of work, cost estimates, task orders or agreements, and design document review.

## ACCOMPLISHMENTS

- Continued installation of small diameter water mains to meet the DC Water Board goal of renewing one (1%) percent of the system annually. This renewal includes a combination of replacement with new water mains and rehabilitation of existing water mains using cleaning and cement mortar lining.
- DC Water continued its Pipe Condition Assessment (PCA) of large diameter water mains. The assessments include detailed field inspection and leak detection of five miles of high-risk water transmission mains annually. Recommendations for rehabilitation result in targeted capital projects to address the identified pipe sections in need of repairs.
- The construction of emergency repairs to the 78-inch North Clear Well water main was completed. This project addressed pipe defects and leaks identified as part of the large diameter water main PCA program and required close coordination with the Washington Aqueduct so that repairs could be completed while the McMillan North Clear Well was out of service.
- A pressure increase project for the 4<sup>th</sup> High zone in Wards 3 and 4 was completed by finishing upgrades to the Fort Reno pumping station. This project satisfies agreements with DC Fire and Emergency Medical Services (DC FEMS) to increase fire flows in the same area. Customers with lower than average pressure now have improved service, and residential customers that had high pressures were provided with interior Pressure Relief Valves (PRVs) to maintain compliance with the plumbing code.
- There was significant progress towards creating the new Anacostia 2<sup>nd</sup> High pressure zone in Ward 8, centered on the Saint Elizabeth's campus. The new 2 million gallon elevated storage facility and associated transmission mains are beyond 70% constructed, and continued coordination with the District led development of the campus, will result in an on-time opening of the new facilities in 2018.
- Remote pressure sensors, transient sensors, leak detection, and water quality monitoring equipment has been installed throughout selected areas of the District in early implementation of the water and sewer sensor program (WaSSP). Real time monitoring capabilities of the equipment have already resulted in adjustments in operational activities.
- There was significant progress towards recalibration of the water system hydraulic model. When completed a calibrated model will more accurately represent customer demands in the system for extended period simulations and provide a stronger interface with the Enterprise GIS database.
- DC Water conducted water age tracer studies in two pressure zones, to provide detailed analysis of water movement and age issues in those zones.

## OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

**Water Mains** – The primary goal of both small diameter water main renewal and rehabilitation of large water mains is to reduce operating expenses to maintain the distribution system. The capital expenditures to fix and replace water mains yields reduced reactive maintenance due to breaks and other unscheduled repairs, which is more costly than planned maintenance. Reducing the amount of unlined water main through this program also reduces the need for distribution system flushing, which is costly both in crew time and in drinking water dumped to waste. Replacing valves that are in-operable reduces the number of customers out of service during both planned and unplanned shutdowns of the system.

**Water Pumping and Storage** – Reservoir upgrade projects are continuing, which accomplishes both regulatory upgrades as well as operational improvements. Maintenance costs are expected to be reduced due to improved access for water sampling equipment as well as Supervisory Control and Data Acquisition (SCADA) improvements that monitor reservoir water quality remotely. Increased pressure in new areas will reduce the frequency of low pressure complaints and crew time responding to investigate and remedy issues found. The installation of remote monitoring sensors is intended to reduce the number of times that crews will need to mobilize to investigate water pressure, quality, leaks, and other related operational monitoring requirements.

10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

DISTRIBUTION SYSTEMS		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BZ	Large Valve Replacement (Contracts 8 - 9 & 10)	FY 2009	Closed	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,010	FY 2017
C9	Large Diameter Water Mains I	FY 2014	Active	803	5,223	1,891	2,629	0	0	0	0	0	0	10,546	19,667	FY 2021
DE	Small Diameter Water Main Rehabilitation 12	FY 2014	Active	8,211	9,073	4,405	109	0	0	0	0	0	0	21,797	42,812	FY 2021
F1	Small Diameter Water Main Rehabilitation 13	FY 2014	Active	186	2,757	13,077	3,821	0	0	0	0	0	0	19,842	35,126	FY 2021
F2	Small Diameter Water Main Rehabilitation 14	FY 2018	Active	102	380	11,888	12,266	0	0	0	0	0	0	24,635	43,489	FY 2022
F6	Steel Water Main Rehabilitation - Rehabilitation I	FY 2009	Active	0	0	93	205	3,360	838	0	0	0	0	4,496	12,121	FY 2023
FE	20 Low Service Main & Pressure Reducing Valve	FY 2012	Active	529	0	0	0	0	0	0	0	0	0	529	8,393	FY 2018
FT	Water Mains Rehabilitation Phase II	FY 2014	Active	1,309	1,242	1,806	2,420	7,872	4,246	722	153	0	0	19,770	35,478	FY 2025
GQ	Fire Hydrant Replacement Program - Phase II	FY 2010	Active	345	51	51	30	21	0	0	0	0	0	498	28,302	FY 2022
GR	Small Diameter Water Main Rehabilitation 15	FY 2018	Active	766	1,116	16,905	8,088	1,028	0	0	0	0	0	27,903	52,000	FY 2022
HX	Small Diameter Water Main Rehabilitation 16	FY 2019	Active	0	813	207	0	37	1,158	4,842	18,442	9,028	0	34,528	52,000	FY 2026
I8	Large Valve Replacement (Contract 11-13)	FY 2012	Active	1,382	0	0	0	0	0	0	0	0	0	1,382	19,138	FY 2019
J7	Small Diameter Water Main Rehabilitation 17	FY 2020	Active	0	0	4,157	1,043	0	45	1,428	4,253	14,367	7,398	32,691	46,650	FY 2027
JZ	Large Diameter Water Main Replacement 3 - 4 & 5	FY 2021	Active	0	0	0	1,008	3,448	7,000	14,251	17,436	11,709	2,563	57,414	81,320	FY 2027
K7	Large Diameter Water Main Replacement 6 - 7 & 8	FY 2024	Active	0	0	0	0	0	0	469	1,937	8,714	18,862	29,981	89,140	FY 2030
K8	Large Diameter Water Main Replacement 9 - 10 & 11	FY 2027	New	0	0	0	0	0	0	0	0	0	431	431	76,400	FY 2033
KE	Small Diameter Water Main Rehabilitation 18	FY 2021	Active	0	0	0	4,327	2,623	8,292	12,778	3,483	0	0	31,504	46,340	FY 2025
KF	Small Diameter Water Main Rehabilitation 19	FY 2022	Active	0	0	0	0	4,663	2,846	8,982	13,543	3,582	0	33,616	47,730	FY 2026
KG	Small Diameter Water Main Rehabilitation 20	FY 2023	Active	0	0	0	0	0	5,221	3,098	9,632	13,864	3,812	35,628	49,160	FY 2027
KH	Small Diameter Water Main Rehabilitation 21	FY 2024	Active	0	0	0	0	0	0	5,769	3,297	9,588	14,393	33,047	50,640	FY 2028
KI	Small Diameter Water Main Rehabilitation 22	FY 2025	Active	0	0	0	0	0	0	0	6,862	3,595	10,592	21,049	52,160	FY 2029
KJ	Small Diameter Water Main Rehabilitation 23	FY 2026	Active	0	0	0	0	0	0	0	0	7,056	3,867	10,923	53,720	FY 2030
KK	Small Diameter Water Main Rehabilitation 24	FY 2027	New	0	0	0	0	0	0	0	0	0	7,571	7,571	55,330	FY 2031
MU	Small Diameter Water Main Rehabilitation 2	FY 2002	Active	0	0	0	0	0	0	0	0	0	0	0	12,667	FY 2017
MV	Small Diameter Water Main Rehabilitation 3	FY 2006	Active	38	31	1,534	0	0	0	0	0	0	0	1,603	15,676	FY 2021
NA	Clean & Line 20 4th High Water Main	FY 2002	Active	81	22	0	0	0	0	0	0	0	0	103	4,607	FY 2018
O0	Small Diameter Water Main Rehabilitation 8	FY 2011	Active	0	0	0	0	0	0	0	0	0	0	0	21,038	FY 2018
O1	Small Diameter Water Main Rehabilitation 9	FY 2012	Active	2,155	0	0	0	0	0	0	0	0	0	2,155	26,087	FY 2018
O2	Small Diameter Water Main Rehabilitation 10	FY 2013	Active	2,198	869	0	0	0	0	0	0	0	0	3,066	38,223	FY 2019
O3	Small Diameter Water Main Rehabilitation 11	FY 2014	Active	10,240	1,348	0	0	0	0	0	0	0	0	11,588	39,989	FY 2019
PK	Large Meter Vault and Piping Improvements	FY 2016	Active	11	0	0	0	0	0	0	0	0	0	11	980	FY 2018
S3	Large Valve Replacement (Contract 3-7)	FY 1999	Active	0	0	0	0	0	0	0	0	0	0	0	23,167	FY 2018
S5	Large Diameter Water Main Installation	FY 2001	Active	0	0	0	0	0	0	0	0	0	0	0	17,299	FY 2018
GX	Large Diameter Water Main Replacement II	FY 2023	Closed	0	0	0	0	0	0	0	0	0	0	0	30,090	FY 2029
<b>TOTAL DISTRIBUTION SYSTEMS BUDGETS</b>				<b>\$28,353</b>	<b>\$22,924</b>	<b>\$56,015</b>	<b>\$35,946</b>	<b>\$23,051</b>	<b>\$29,648</b>	<b>\$52,339</b>	<b>\$79,039</b>	<b>\$81,503</b>	<b>\$69,487</b>	<b>\$478,306</b>	<b>\$1,235,949</b>	

## 10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

LEAD PROGRAM			Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
BW	Lead Service Replacement Program		FY 2003	Active	\$3,422	\$1,487	\$1,252	\$1,422	\$1,528	\$1,658	\$1,718	\$903	\$235	\$75	\$13,700	\$209,245	FY 2030
<b>TOTAL LEAD PROGRAM BUDGETS</b>					<b>\$3,422</b>	<b>\$1,487</b>	<b>\$1,252</b>	<b>\$1,422</b>	<b>\$1,528</b>	<b>\$1,658</b>	<b>\$1,718</b>	<b>\$903</b>	<b>\$235</b>	<b>\$75</b>	<b>\$13,700</b>	<b>\$209,245</b>	
ON-GOING			Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
D5	FY 2014 - DWS Water Projects		FY 2014	Active	\$491	\$0	\$87	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$578	\$10,229	FY 2020
DG	FY 2015 - DWS Water Projects		FY 2015	Active	2	0	0	0	0	0	0	0	0	0	2	9,876	FY 2018
DY	FY 2016 - DWS Water Projects		FY 2016	Active	623	307	0	0	0	0	0	0	0	0	930	9,846	FY 2019
FK	FY2017 - DWS Water Projects		FY 2016	Active	3,097	1,302	0	0	0	0	0	0	0	0	4,399	9,630	FY 2019
GS	FY 2018 - DWS Water Projects		FY 2018	Active	4,766	781	0	0	0	0	0	0	0	0	5,546	9,630	FY 2019
HY	FY 2019 - DWS Water Projects		FY 2019	Active	0	6,088	108	0	0	0	0	0	0	0	6,197	9,630	FY 2020
JA	FY 2020 - DWS Water Projects		FY 2020	Active	0	0	4,654	839	0	0	0	0	0	0	5,492	9,630	FY 2021
KW	FY 2021 - DWS Water Projects		FY 2021	Active	0	0	0	6,389	1,168	0	0	0	0	0	7,557	9,630	FY 2022
KX	FY 2022 - DWS Water Projects		FY 2022	Active	0	0	0	0	5,950	1,124	0	0	0	0	7,073	9,664	FY 2023
KY	FY 2023 - DWS Water Projects		FY 2023	Active	0	0	0	0	0	6,126	1,144	0	0	0	7,270	10,150	FY 2024
KZ	FY 2024 - DWS Water Projects		FY 2024	Active	0	0	0	0	0	0	6,571	1,197	0	0	7,768	10,452	FY 2025
L1	FY 2025 - DWS Water Projects		FY 2025	Active	0	0	0	0	0	0	0	6,772	1,194	0	7,966	10,780	FY 2026
L2	FY 2026 - DWS Water Projects		FY 2026	Active	0	0	0	0	0	0	0	0	8,041	872	8,913	11,890	FY 2027
L6	FY 2027 - DWS Water Projects		FY 2027	New	0	0	0	0	0	0	0	0	0	8,419	8,419	12,250	FY 2028
QE	Paving/Surface Restoration		FY 2018	Active	2,101	2,565	2,720	2,754	2,812	2,934	3,078	3,188	3,194	3,344	28,691	0	FY 2027
<b>TOTAL ON-GOING BUDGETS</b>					<b>\$11,079</b>	<b>\$11,044</b>	<b>\$7,569</b>	<b>\$9,982</b>	<b>\$9,930</b>	<b>\$10,183</b>	<b>\$10,793</b>	<b>\$11,157</b>	<b>\$12,429</b>	<b>\$12,636</b>	<b>\$106,802</b>	<b>\$143,288</b>	
PUMPING FACILITIES			Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
AY	Upgrades to Fort Reno Pumping Station		FY 2002	Active	\$487	\$226	\$68	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$781	\$13,978	FY 2020
F8	16th & Alaska Avenue Pumping Station Upgrades		FY 2010	Active	101	3	0	0	0	0	0	0	0	0	104	4,990	FY 2019
FD	Water Facility Security System Upgrades		FY 2010	Active	53	62	38	25	0	0	0	0	0	0	177	2,100	FY 2021
FH	Discharge Piping Bryant Street Pumping Station		FY 2009	Active	0	0	0	0	0	0	0	0	0	0	0	14,482	FY 2018
HA	DWS Water Pumping Projects		FY 2010	Closed	0	0	0	0	0	0	0	0	0	0	0	1,463	FY 2017
HI	Bryant Street Pump Station Phase III		FY 2020	Active	\$0	\$0	\$42	\$86	\$215	\$987	\$2,533	\$0	\$0	\$0	\$3,864	\$5,920	FY 2024
HR	Anacostia Pump Station Improvements Phase II		FY 2021	Active	0	0	0	42	165	303	2,206	389	0	0	3,106	4,700	FY 2025
HV	Bryant Street Pump Station - Spill Header Flow Control		FY 2013	Active	25	838	2,081	371	0	0	0	0	0	0	3,315	6,641	FY 2021
JB	Bryant Street PS Improvements - Phase II		FY 2012	Active	2,223	475	254	1,295	2,905	0	0	0	0	0	7,152	12,298	FY 2022
LT	Water System SCADA		FY 2014	Active	356	179	1,690	1,951	595	0	0	0	0	0	4,771	8,296	FY 2022
LU	Water Facilities Security System Upgrades 2		FY 2016	Active	0	0	0	0	88	287	465	309	211	0	1,359	2,000	FY 2026
M7	Replacement of Anacostia Pump Station		FY 2002	Active	40	7	0	0	0	0	0	0	0	0	47	33,461	FY 2019
OR	Fort Reno Pump Station Improvements Phase II		FY 2021	Active	0	0	0	49	181	263	2,820	969	0	0	4,283	6,430	FY 2025
PS	Existing Water Facilities Building Optimization		FY 2020	Active	0	0	145	217	44	0	0	0	0	0	407	695	FY 2022
S6	West Venturi Meter - Bryant Street Pumping Station		FY 2019	Active	0	67	242	212	0	0	0	0	0	0	520	940	FY 2021
<b>TOTAL PUMPING FACILITIES BUDGETS</b>					<b>\$3,286</b>	<b>\$1,857</b>	<b>\$4,561</b>	<b>\$4,248</b>	<b>\$4,193</b>	<b>\$1,840</b>	<b>\$8,023</b>	<b>\$1,668</b>	<b>\$211</b>	<b>\$0</b>	<b>\$29,887</b>	<b>\$118,394</b>	



10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

DDOT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
B0	B0 FY 2010 - DDOT Water Projects	FY 2010	Active	\$27	\$5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32	\$17,171	FY 2020
BN	FY 2011 - DDOT Water Projects	FY 2011	Active	551	343	113	0	0	0	0	0	0	0	1,007	8,738	FY 2020
CJ	FY 2012 - DDOT Water Projects	FY 2011	Active	127	90	83	2	2	0	0	0	0	0	305	6,474	FY 2022
CM	FY 2013 - DDOT Water Projects	FY 2013	Active	199	48	12	0	0	0	0	0	0	0	260	1,549	FY 2020
<b>TOTAL DDOT BUDGETS</b>				<b>\$904</b>	<b>\$486</b>	<b>\$208</b>	<b>\$2</b>	<b>\$2</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,604</b>	<b>\$33,933</b>	
STORAGE FACILITIES		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
FA	Water Storage Facility Upgrades	FY 2009	Active	\$1,992	\$1,971	\$3,527	\$1,328	\$450	\$0	\$0	\$0	\$0	\$0	\$9,268	\$36,481	FY 2022
HW	Rehabilitation of Elevated Water Tanks	FY 2020	Active	0	0	105	304	741	2,070	1,289	538	0	0	5,048	7,000	FY 2025
MA	Saint Elizabeth Water Tank	FY 2002	Active	5,377	2,826	3,617	1,079	0	0	0	0	0	0	12,899	37,291	FY 2021
MQ	2MG 4th High Storage Tank	FY 2004	Active	191	55	322	418	491	1,637	1,925	0	0	0	5,040	9,716	FY 2024
MR	2nd High Water Storage	FY 2009	Active	0	115	517	358	416	1,399	6,157	1,805	0	0	10,767	17,031	FY 2025
<b>TOTAL STORAGE FACILITIES BUDGETS</b>				<b>\$7,560</b>	<b>\$4,967</b>	<b>\$8,088</b>	<b>\$3,488</b>	<b>\$2,099</b>	<b>\$5,106</b>	<b>\$9,371</b>	<b>\$2,343</b>	<b>\$0</b>	<b>\$0</b>	<b>\$43,021</b>	<b>\$107,520</b>	
PROGRAM MANAGEMENT		Start	Status	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	Lifetime	Completion
KV	Water Program Management Services 2F	FY 2020	Active	\$0	\$0	\$3,809	\$5,013	\$6,150	\$5,035	\$3,915	\$0	\$0	\$0	\$23,921	\$30,610	FY 2024
LB	Water Program Management Services 2G	FY 2024	Active	0	0	0	0	0	0	1,897	4,551	6,966	7,312	20,727	35,480	FY 2029
LQ	Water Service Area Asset Management	FY 2013	Active	408	56	0	0	0	0	0	0	0	0	465	5,000	FY 2019
ME	Water System Program Management Services	FY 1999	Active	3,032	2,925	2,755	2,238	1,289	0	0	0	0	0	12,239	19,854	FY 2022
<b>TOTAL PROGRAM MANAGEMENT BUDGETS</b>				<b>\$3,441</b>	<b>\$2,982</b>	<b>\$6,563</b>	<b>\$7,252</b>	<b>\$7,438</b>	<b>\$5,035</b>	<b>\$5,812</b>	<b>\$4,551</b>	<b>\$6,966</b>	<b>\$7,312</b>	<b>\$57,352</b>	<b>\$90,944</b>	
<b>TOTAL WATER BUDGETS</b>				<b>\$58,044</b>	<b>\$45,747</b>	<b>\$84,256</b>	<b>\$62,341</b>	<b>\$48,241</b>	<b>\$53,471</b>	<b>\$88,055</b>	<b>\$99,661</b>	<b>\$101,344</b>	<b>\$89,510</b>	<b>\$730,672</b>	<b>\$1,939,272</b>	



**Maintenance Services**



**DC Water Skimmer Boat**



**Washington Aqueduct**

	FY 2018 - FY 2027 Disbursement Plan											Lifetime Budget
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total	
CAPITAL EQUIPMENT	\$39,898	\$34,518	\$29,383	\$27,998	\$9,579	\$10,306	\$10,850	\$11,177	\$12,122	\$12,303	\$198,133	\$198,133
WASHINGTON AQUEDUCT	11,768	12,930	12,944	13,039	13,039	12,312	11,768	11,441	10,496	10,315	120,052	120,052
<b>ADDITIONAL CAPITAL PROGRAMS</b>	<b>51,665</b>	<b>47,448</b>	<b>42,327</b>	<b>41,037</b>	<b>22,618</b>	<b>22,618</b>	<b>22,618</b>	<b>22,618</b>	<b>22,618</b>	<b>22,618</b>	<b>318,185</b>	<b>318,185</b>

## OVERVIEW

Additional Capital Programs is a subset of the CIP, and is comprised of Capital Equipment and the Washington Aqueduct.

**Capital Equipment** – This category includes capital purchases that have a life of at least three years and an individual component cost of \$5,000 or more. The current capital equipment disbursement budget includes the following cluster groups:

- **Blue Plains** – This cluster is comprised of the Departments of Wastewater Operations, Process Engineering, and Maintenance Services. These departments’ activities are within the Blue Plains AWWTP. Activities/purchases include: major pump rebuild/replacements, large electric motors, high priority rehabilitation program, centrifuge rebuild/replacements, membrane diffuser/mechanical replacements, electrical replacements, lab equipment, process computer control systems, actuators, flow meters, and programmable logic controllers.
- **Finance, Accounting and Budget** – The Projects are primarily for the enhancements to DC Water’s existing financial and payroll software solutions. This group also manages reserve funds to support additional capital equipment needs throughout DC Water.
- **Customer Care and Operations** – This cluster is comprised of the Departments of Customer Service, Distribution and Conveyance Systems, Water Quality and Technology, Water Services, and Sewer Services. Work within this group is for rehabilitating and replacing equipment outside of Blue Plains in the distribution and collection systems. Activities/purchases include: pipes/fittings, manhole covers/frames, pumps, flow meters, catch basins, sewer cameras, cured-in-place pipe, locators, emergency generators, water mains, service lines, valves, water sample lab equipment, backflow preventers, SCADA hardware, and fire hydrant custodial locks. In addition to these items, this cluster supports replacement of residential and commercial water meters through the Automated Meter Reading (AMR) and On-going Replacement Programs.

## OVERVIEW, CONT.

- **Independent Offices** – Capital equipment projects within this cluster are primarily infrastructure projects for the Department of Information Technology (IT). Activities/purchases include: computer replacements, cabling, radios, uninterruptible power system, server hardware, SCADA core switches, and telephony upgrades. In addition, IT also manages enterprise technology projects as approved by the IT Steering Committees.
- **Support Services** – This cluster is comprised of capital equipment activities for the Departments of Facilities, Security and Fleet Management. Activities/purchases include: cameras, card readers, door/window/hatch sensors, fence-line detection systems, vehicles, buses, vac-trucks, boats, backhoes, cranes, trailers, forklifts, HVAC systems, fire suppression systems, elevators, plumbing, rollup doors, photocopiers, appliances, furniture, fixtures, signage, roofing, and general facility improvements.

**Washington Aqueduct** – The Washington Aqueduct, managed by the U.S. Army Corps of Engineers (USACE), provides wholesale water treatment services to DC Water and two wholesale customers in Northern Virginia, Arlington County and Fairfax Water. DC Water purchases approximately 73 percent of the water produced by the Aqueduct's two treatment facilities, the Dalecarlia and McMillan Treatment Plants, and thus is responsible for approximately 73 percent of the Aqueduct's operating and capital costs. Under federal legislation and a memorandum of understanding enacted in 1997 and updated in 2013 when Fairfax Water replaced the City of Falls Church, DC Water and the Aqueduct's wholesale customers in Northern Virginia have a much greater role in oversight of the Aqueduct's operations and its Capital Improvement Program than prior to 1997. The Aqueduct's CIP is divided into six primary areas, with specific projects under each area.

- Dalecarlia Plant
- Aqueduct Wide
- McMillan Plant
- Appurtenant Transmission and Storage Facilities
- Advanced Treatment
- Emerging Projects Fund

The USACE, in accordance with Federal procurement regulations, requires DC Water to remit cash in an amount equal to the total project cost in advance of advertising contracts, and these funds are transferred immediately to a USACE/U.S. Treasury account to be drawn down during the execution of the project, through completion, with no interest going to DC Water. Over the years, extensive discussions with the U.S. Office of Management and Budget (OMB) and the USACE resulted in a proposal in the President's FY 2006 and FY 2007 budgets that would allow Aqueduct customers to deposit funds for any projects required by their National Pollutant Discharge Elimination System (NPDES) permit (including the residuals project) to a separate escrow account, allowing the Aqueduct customers to retain interest on these funds. The proposal was submitted in May 2006 to the Senate and House. During FY 2006, the USACE briefed the Senate Environment and Public Works Committee staff and in conjunction with DC Water briefed the Senate Homeland Security and Government Affairs committee staff. Additionally, DC Water and Washington Aqueduct staff provided DC Delegate Norton's office with the Administration's proposal. Neither committees acted on the proposal.

We continue to pursue other options that would be more favorable to DC Water, including transferring dollars on a phased basis, utilizing taxable bonds, or taxable commercial paper. In the past, some of these options have not been viewed favorably by the U.S. Treasury, but we will continue our outreach efforts to Congressional staff, federal agencies and the Corps on this critical issue. We expect to develop a more efficient financing system in the near future.

## OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

***Automated Meter Reading (AMR) Replacement Program*** - This program aims to replace approximately 90,000 small water meters throughout the city. The program started in FY 2016 and is expected to be completed within the next two years. Data received from the water meters will better serve DC Water customers by providing timely and accurate meter reads for billing information.

# Additional Capital Programs

10-Year Disbursement Plan & Lifetime Budget by project, \$ in thousands

CAPITAL EQUIPMENT		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Yr Total
<b>BLUE PLAINS</b>												
EQP4710	Wastewater Operations	\$100	\$100	\$100	\$100	\$0	\$0	\$0	\$0	\$0	\$0	\$399
EQP4730	Wastewater Process Engineering	850	550	350	350	0	0	0	0	0	0	2,100
EQP4830	Maintenance Services	3,600	3,600	3,770	3,770	0	0	0	0	0	0	14,740
Subtotal		4,550	4,250	4,220	4,220	0	0	0	0	0	0	17,239
<b>FINANCE, ACCOUNTING &amp; BUDGET</b>												
EQP2410	Finance, Accounting & Budget	300	800	100	0	0	0	0	0	0	0	1,200
EQP2411	Reserve Fund	8,550	7,000	5,500	5,500	6,961	7,688	8,232	8,559	9,504	9,685	77,179
Subtotal		8,850	7,800	5,600	5,500	6,961	7,688	8,232	8,559	9,504	9,685	78,379
<b>CUSTOMER CARE &amp; OPERATIONS</b>												
EQP2340	Customer Service	9,343	2,618	2,618	2,618	2,618	2,618	2,618	2,618	2,618	2,618	32,905
EQP4100	Water Quality and Technology	150	150	125	150	0	0	0	0	0	0	575
EQP4210	Distribution & Conveyance Systems	1,700	1,700	1,700	1,700	0	0	0	0	0	0	6,800
EQP4410	Water Services	590	590	610	610	0	0	0	0	0	0	2,400
EQP4610	Sewer Services	225	225	260	260	0	0	0	0	0	0	970
Subtotal		12,008	5,283	5,313	5,338	2,618	2,618	2,618	2,618	2,618	2,618	43,650
<b>INDEPENDENT OFFICES</b>												
EQP2110	IT Infrastructure	2,400	3,050	2,600	2,600	0	0	0	0	0	0	10,650
EQP2115	IT Enterprise Technology	5,700	6,245	4,810	4,000	0	0	0	0	0	0	20,755
Subtotal		8,100	9,295	7,410	6,600	0	0	0	0	0	0	31,405
<b>SUPPORT SERVICES</b>												
EQP3410	Facilities Management	1,855	2,855	2,305	1,805	0	0	0	0	0	0	8,820
EQP3610	Security	515	515	515	515	0	0	0	0	0	0	2,060
EQP5610	Fleet Management	4,000	4,500	4,000	4,000	0	0	0	0	0	0	16,500
Subtotal		6,370	7,870	6,820	6,320	0	0	0	0	0	0	27,380
<b>CHIEF ENGINEER</b>												
EQP4310	Engineering & Technical Services	20	20	20	20	0	0	0	0	0	0	80
Subtotal		20	20	20	20	0	0	0	0	0	0	80
<b>TOTAL CAPITAL EQUIPMENT</b>		<b>\$39,898</b>	<b>\$34,518</b>	<b>\$29,383</b>	<b>\$27,998</b>	<b>\$9,579</b>	<b>\$10,306</b>	<b>\$10,850</b>	<b>\$11,177</b>	<b>\$12,122</b>	<b>\$12,303</b>	<b>\$198,133</b>
<b>WASHINGTON AQUEDUCT</b>		<b>11,768</b>	<b>12,930</b>	<b>12,944</b>	<b>13,039</b>	<b>13,039</b>	<b>12,312</b>	<b>11,768</b>	<b>11,441</b>	<b>10,496</b>	<b>10,315</b>	<b>120,052</b>
<b>TOTAL ADDITIONAL CAPITAL PROGRAMS</b>		<b>\$51,665</b>	<b>\$47,448</b>	<b>\$42,327</b>	<b>\$41,037</b>	<b>\$22,618</b>	<b>\$22,618</b>	<b>\$22,618</b>	<b>\$22,618</b>	<b>\$22,618</b>	<b>\$22,618</b>	<b>\$318,185</b>



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# APPROVED BUDGETS



DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

## Section VI CAPITAL FINANCING, CASH AND DEBT

New administrative headquarters  
for DC Water under construction

\$ in thousands

## Sources of Funds

	<b>Amount</b>	<b>Percentage</b>
Debt Financing <sup>(1)</sup>	\$ 1,552,364	39.4%
Wholesale Capital Payments	727,398	18.5%
EPA Grants & CSO Appropriations	245,683	6.2%
Interest Income on Bond Proceeds	17,262	0.4%
Pay-Go Financing <sup>(2)</sup>	937,860	23.8%
CRIAC	389,782	9.9%
System Availability Fee (SAF)	65,450	1.7%
<b>Total Sources</b>	<b>\$ 3,935,798</b>	<b>100.0%</b>

<sup>(1)</sup> Debt financing refers to the borrowing of funds through long-term revenue bonds, commercial paper and other short-term notes

<sup>(2)</sup> Pay-go financing is any funds available after meeting the reserves and rate stabilization fund deposits



# Sources & Uses of Funds

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\$ in thousands

	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2018 Revised</b>	<b>FY 2019 Approved</b>
<b>Sources</b>				
Beginning Balance	\$ 106,057	\$ 133,720	\$ 172,706	\$ 249,878
New Debt Proceeds / Commercial Paper/ EMCP (I)	332,373	154,938	300,000	110,000
Environmental Impact Bond	25,000	-	-	-
System Availability Fee	-	1,925	1,925	3,850
CRIAC	-	-	13,513	30,824
Pay-Go Financing	117,272	93,589	87,803	65,948
EPA Grants	14,246	23,093	23,620	44,339
CSO Appropriations	14,021	-	8,500	-
Wholesale Customer Capital Payments	107,288	80,043	90,214	65,851
Interest Income	1,764	1,365	1,549	2,981
<b>Total Sources</b>	<b>\$ 611,964</b>	<b>\$ 354,953</b>	<b>\$ 527,124</b>	<b>\$ 323,793</b>
<b>Uses</b>				
Water Projects	\$ 47,309	\$ 51,738	\$ 58,044	\$ 45,747
WasteWater Treatment	148,104	98,423	95,485	74,617
Sanitary Sewer Projects	40,059	39,294	29,802	32,947
Combined Sewer & LTCP Projects	229,425	130,475	181,816	200,343
Stormwater Projects	1,384	2,682	945	4,909
Non Process Facilities	25,189	20,030	32,194	33,107
Washington Aqueduct	15,483	11,768	11,768	12,930
Capital Equipment	18,324	23,586	27,135	27,400
Meter Replacement / AMR / CIS	20,038	9,311	12,763	7,118
<b>Total Uses</b>	<b>\$ 545,315</b>	<b>\$ 387,307</b>	<b>\$ 449,952</b>	<b>\$ 439,118</b>
<b>Sources Minus Uses</b>	<b>\$ 66,649</b>	<b>\$ (32,354)</b>	<b>\$ 77,172</b>	<b>\$ (115,325)</b>

(I) Commercial Paper and Extendable Municipal Commercial Paper is used for interim financing and capital equipment

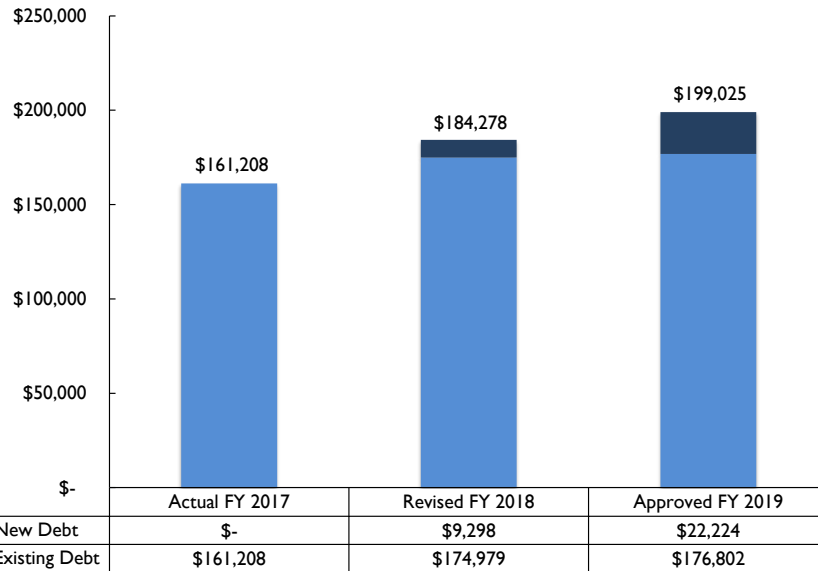
# Cash Reserve Summary

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*\$ in thousands*

	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2018 Revised</b>	<b>FY 2019 Approved</b>
Beginning O&M Reserve Balance (Net of Rate Stabilization Fund)	\$ 162,652	\$ 140,000	\$ 147,212	\$ 140,000
Operating Surplus	117,601	75,822	80,449	84,520
Wholesale Customer Prior Year Billing Reconciliation	(10,906)	(7,000)	(7,000)	(1,500)
Project Billing Refund	-	-	(4,000)	(4,000)
Transfer to Rate Stabilization Fund	(10,000)	-	-	-
Federal Customer Prior Year Billing Reconciliation	(19,201)	(9,019)	(9,019)	(5,821)
Interest Earned from Bond Proceeds	140	452	340	424
Pay-Go Capital Financing	(93,073)	(60,255)	(67,982)	(73,624)
<b>Ending O&amp;M Reserve Balance (Net of Rate Stabilization Fund)</b>	<b>\$ 147,212</b>	<b>\$ 140,000</b>	<b>\$ 140,000</b>	<b>\$ 140,000</b>
Rate Stabilization Fund	\$ 61,450	\$ 51,450	\$ 61,450	\$ 61,450

\$ in thousands



## INTEREST RATE ASSUMPTIONS

Budget Appropriation and Financial Plan

- Variable rate
  - 2.50% for FY 2017 and FY 2018
- Fixed rate
  - 5.00% for FY 2018 and 5.50% for FY 2019
  - Plus cost of issuance and insurance

## CAPITAL FINANCING PLAN

DC Water's comprehensive capital financing plan contains three key goals:

1) minimize cost of capital; 2) increase operational flexibility; and 3) optimize asset/liability matching through:

- Interim financing
- Permanent bond financing
- Pay-Go financing
- Federal grants

## SENIOR BOND RATINGS

Moody's Investor Service	Aa1	Stable Outlook
Standard & Poor's Corporation	AAA	Stable Outlook
Fitch's Rating	AA	Stable Outlook

DEBT SERIES	Actual FY 2017			Revised FY 2018			Approved FY 2019		
	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total
<b>Senior Lien</b>									
1998*	14,750	7,721	\$ 22,471	15,565	7,802	\$ 23,367	16,420	6,946	23,366
Series 2009 A	3,815	348	4,163	4,225	211	4,436	-	-	-
Series 2014 A	-	16,849	16,849	-	16,849	16,849	-	16,849	16,849
Series 2017 A & B	-	8,488	8,488	3,045	14,027	17,072	3,195	13,874	17,069
<b>Total Senior Lien</b>	<b>\$ 18,565</b>	<b>\$ 33,406</b>	<b>\$ 51,971</b>	<b>\$ 22,835</b>	<b>\$ 38,889</b>	<b>\$ 61,724</b>	<b>\$ 16,420</b>	<b>\$ 23,795</b>	<b>\$ 57,284</b>
<b>Subordinate</b>									
Jennings Randolph Bonds	387	418	\$ 805	400	405	\$ 805	413	392	\$ 805
WASA Bonds	-	-	-	9,298	-	9,298	22,224	-	22,224
Series 2008 A	6,735	657	7,392	6,865	343	7,208	-	-	-
Series 2010 A	-	10,744	10,744	-	11,094	11,094	-	11,094	11,094
Series 2012 A, B-1, B-2, C	5,140	15,848	20,988	5,345	15,713	21,058	5,590	15,471	21,061
Series 2013 A	-	14,940	14,940	-	14,994	14,994	-	14,994	14,994
Series 2014 B	-	698	698	-	3,250	3,250	-	3,250	3,250
Series 2014 C	-	17,444	17,444	-	17,468	17,468	530	17,468	17,998
Series 2015 A,B	-	17,511	17,511	580	17,521	18,101	2,000	17,503	19,503
Series 2016 A	-	17,397	17,397	-	17,420	17,420	11,535	17,420	28,955
Series 2016 B	-	863	863	-	858	858	-	858	858
EMCP	-	455	455	-	500	500	-	500	500
Commercial Paper	-	-	-	-	500	500	-	500	500
<b>Total Subordinate Lien Debt</b>	<b>\$ 12,262</b>	<b>\$ 96,975</b>	<b>\$ 109,237</b>	<b>\$ 22,488</b>	<b>\$ 100,065</b>	<b>\$ 122,554</b>	<b>\$ 42,292</b>	<b>\$ 99,450</b>	<b>\$ 141,741</b>
<b>Total Debt</b>	<b>\$ 30,827</b>	<b>\$ 130,381</b>	<b>\$ 161,208</b>	<b>\$ 45,323</b>	<b>\$ 138,954</b>	<b>\$ 184,278</b>	<b>\$ 58,712</b>	<b>\$ 123,245</b>	<b>\$ 199,025</b>

\* Revenue Bond

# Outstanding Debt

\$ in thousands

	Interest Rates (%)	Final Maturity	Amount Outstanding*
<b>Senior Debt</b>			
Series 1998	5.50-6.00	2028	\$ 141,855
Series 2009A	3.00-5.50	2018	4,225
Series 2014A	4.814	2114	350,000
Series 2017A	4.00-5.00	2052	100,000
Series 2017B	4.00-5.00	2044	200,000
<b>Total Senior Debt</b>			<b>\$796,080</b>
<b>Subordinate Debt</b>			
Series 2008A	5.00	2018	\$ 6,865
Series 2010A	4.07-5.52	2044	300,000
Series 2012A	3.00-5.00	2037	153,600
Series 2012C	4.00-5.00	2033	163,215
Series 2013A	4.75-5.00	2048	300,000
Series 2014B	VR	2050	100,000
Series 2014C	3.00-5.00	2044	377,110
Series 2015A	2.00-5.00	2045	100,000
Series 2015B	5.00-5.25	2044	250,000
Series 2016A	5.00-5.25	2039	389,110
Series 2016B	3.43	2046	25,000
<b>Government Notes</b>			
Jennings Randolph Reservoir Debt	3.25	2041	\$ 12,453
<b>Commercial Paper Notes ("CP Notes")</b>			
Series C CP Notes (taxable)	VR	N/A	\$ 29,200
<b>Extendable Municipal Commercial Paper Notes ("EMCP Notes")</b>			
Series A EMCP Notes	VR	N/A	\$ 50,000
<b>Total Subordinate Debt</b>			<b>\$ 2,256,553</b>
<b>Total Debt Outstanding</b>			<b>\$3,052,633</b>

\* Amount outstanding as of 9/30/2017

**DEBT LIMIT:** DC Water is not subject to any legal debt limitations. However, prior to any new debt issuance, DC Water must meet an additional bonds test and certify revenue sufficiency

**PUBLIC UTILITY SENIOR LIEN REVENUE BONDS:** 1) Series 1998, (fixed-rate, Aaa/AAA/AAA, FSA insured, March 1998); and 2) Series 2009A (fixed-rate, Aa3/AA/AA-, January 2009)

**PUBLIC UTILITY SUBORDINATE LIEN REVENUE BONDS:** Series 2013A (fixed rate, Aa3/AA/AA-, July 2013)

**PUBLIC UTILITY SUBORDINATE LIEN REVENUE BONDS (FEDERALLY TAXABLE ISSUER SUBSIDY BUILD AMERICA BONDS):** 1) Series 2010A (fixed-rate, Aa3/AA-/AA, October 2010)

**PUBLIC UTILITY SUBORDINATE LIEN REVENUE REFUNDING BONDS:** 1) Series 2008A: (refunded Series 2004, fixed-rate, Aaa/AAA/AAA, Assured Guaranty insured, April 2008; 2) Series C taxable commercial paper: (refunded Series 2007B, April 2008); and 3) Series 2012C: (advance refunded Series 2003, fixed-rate, Aa3/AA/AA-, March 2012)

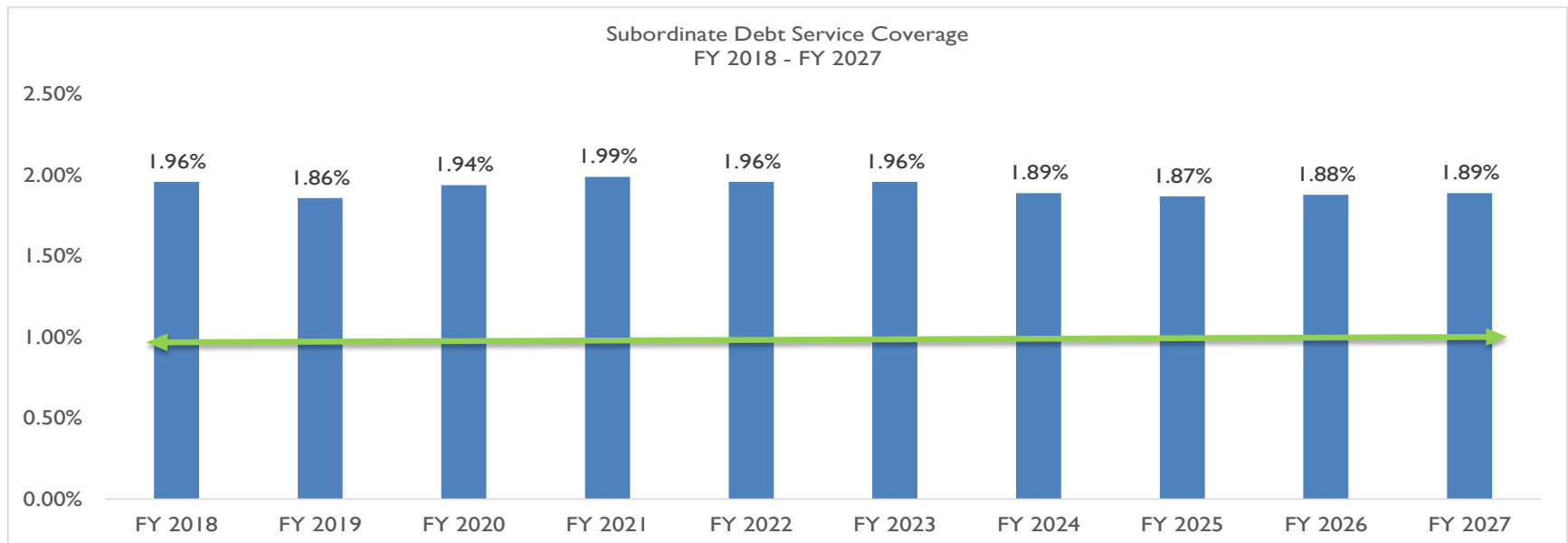
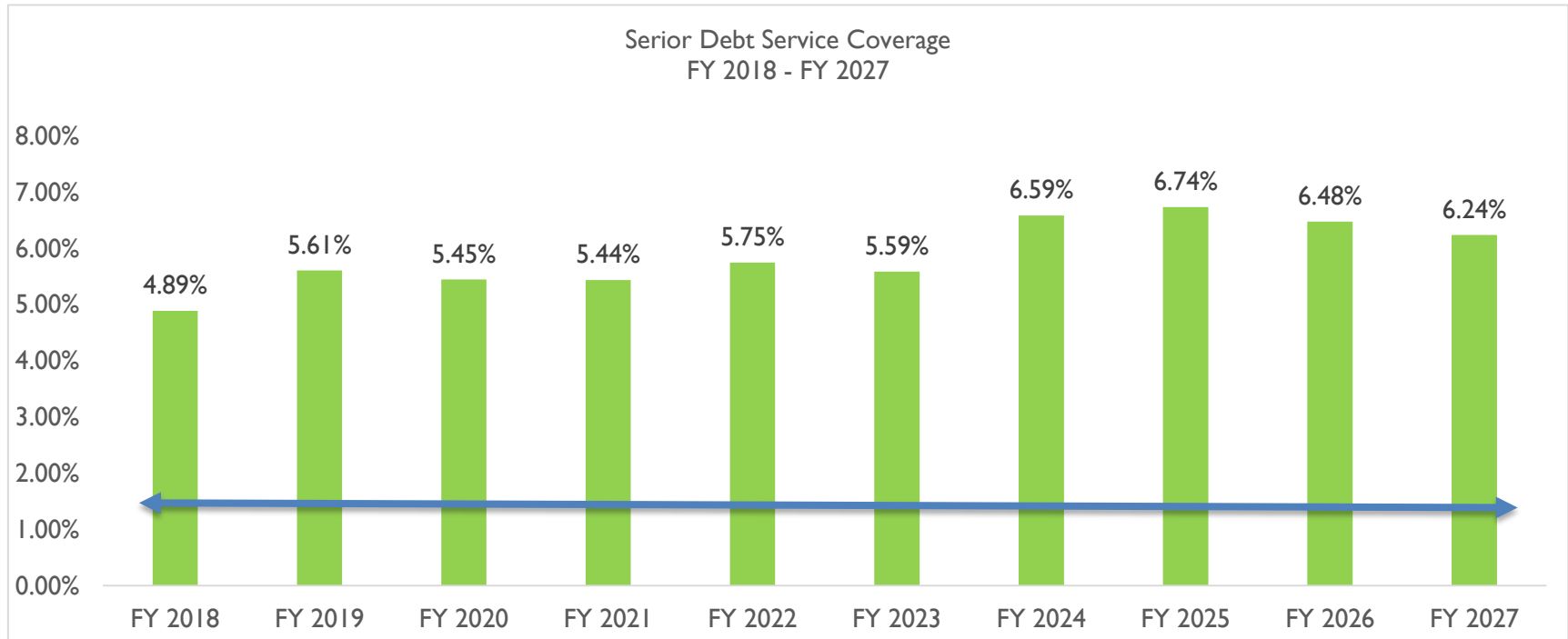
**NOTES FOR JENNINGS RANDOLPH RESERVOIR:** The note payable to the Federal government for improvements to the Jennings Randolph Reservoir is considered subordinate debt under the Master Indenture of Trust. The notes were issued to provide a backup water supply facility for the Authority. DC Water's share of operating and capital cost is 30 percent

**NOTES FOR LITTLE SENECA RESERVOIR:** The note payable to Washington Suburban Sanitary Commission (WSSC) is considered subordinate debt under the Master Indenture of Trust. The notes were issued by WSSC for construction of the Little Seneca Dam and Lake for backup and peak-day water supply for the Authority. DC Water's share of operating and capital costs is 40 percent. DC Water prepaid the note in full in August 2013

**COMMERCIAL PAPER:** These notes issued are considered subordinate debt under the Master Indenture of Trust. DC Water's commercial paper program is issued in increments with maturities less than 270 days. As described in Section III, the Board approved the commercial paper program in early FY 2002; proceeds from the sale of the notes are used for interim bond financing, short-term financing for capital equipment and certain taxable costs for the Washington Aqueduct. Each new bond issuance is evaluated to determine the most cost effective way of reducing the amount of taxable commercial paper. Normal market conditions for commercial paper carries significantly lower interest rates than long-term debt. In April 2013, DC Water successfully extended the Letter of Credit with JP Morgan Chase Bank and US Bank. The \$250 million commercial paper program includes: 1) Series A (tax-exempt) aggregate principal amount not to exceed \$100 million; 2) Series B (tax-exempt) aggregate principal amount not to exceed \$100 million; and (3) Series C (taxable) aggregate principal amount not to exceed \$50 million.

**DEBT POLICY:** DC Water's comprehensive debt policy can be found on our website at [www.dewater.com](http://www.dewater.com).

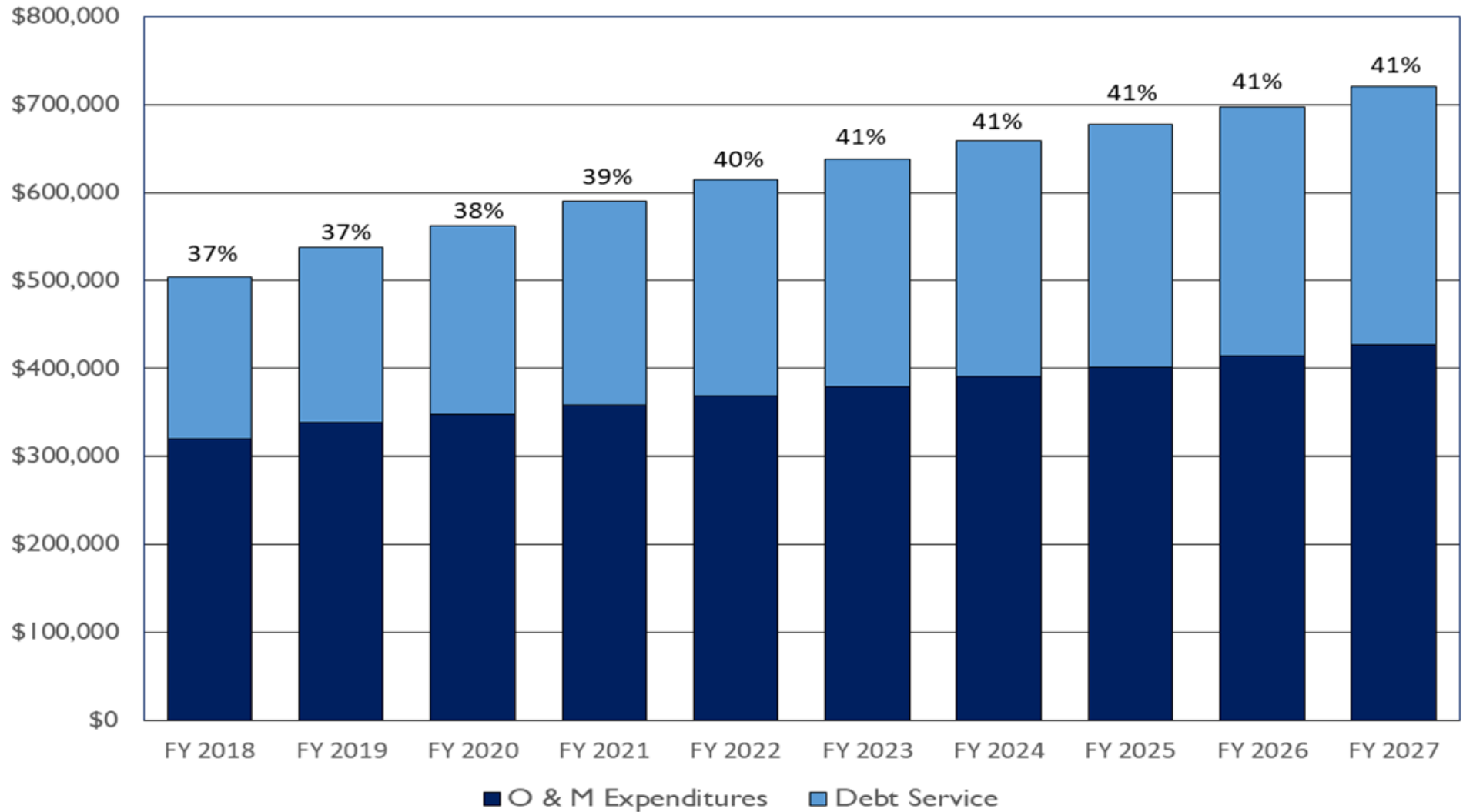
# Senior & Subordinate Debt Service Coverage



# Debt Service as Percentage of O&M Expenditures

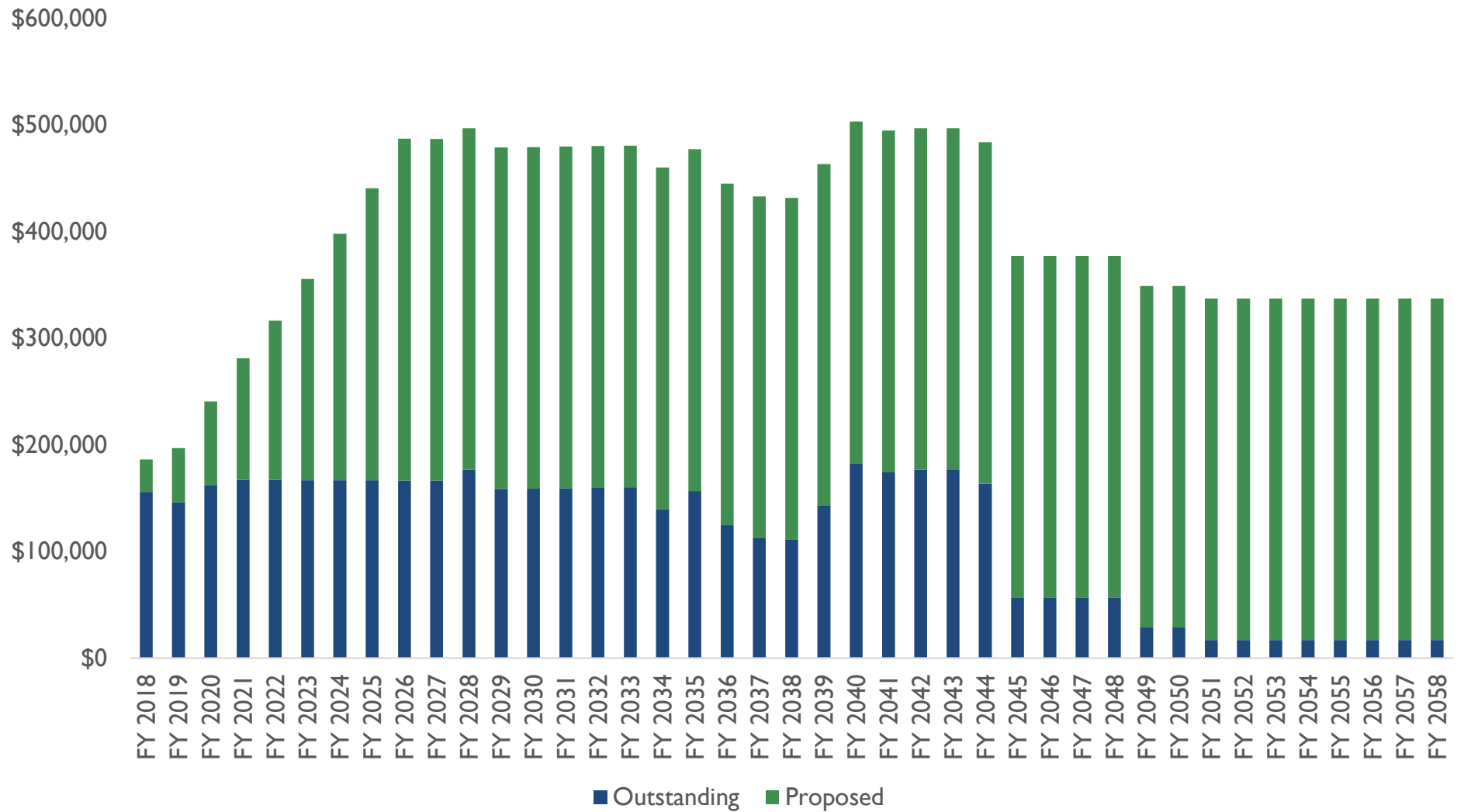
[summary](#)[overview](#)[financial plan](#)[rates&rev](#)[capital](#)[financing](#)[departmental](#)[glossary](#)

\$ in thousands



# Total Proposed and Outstanding Debt

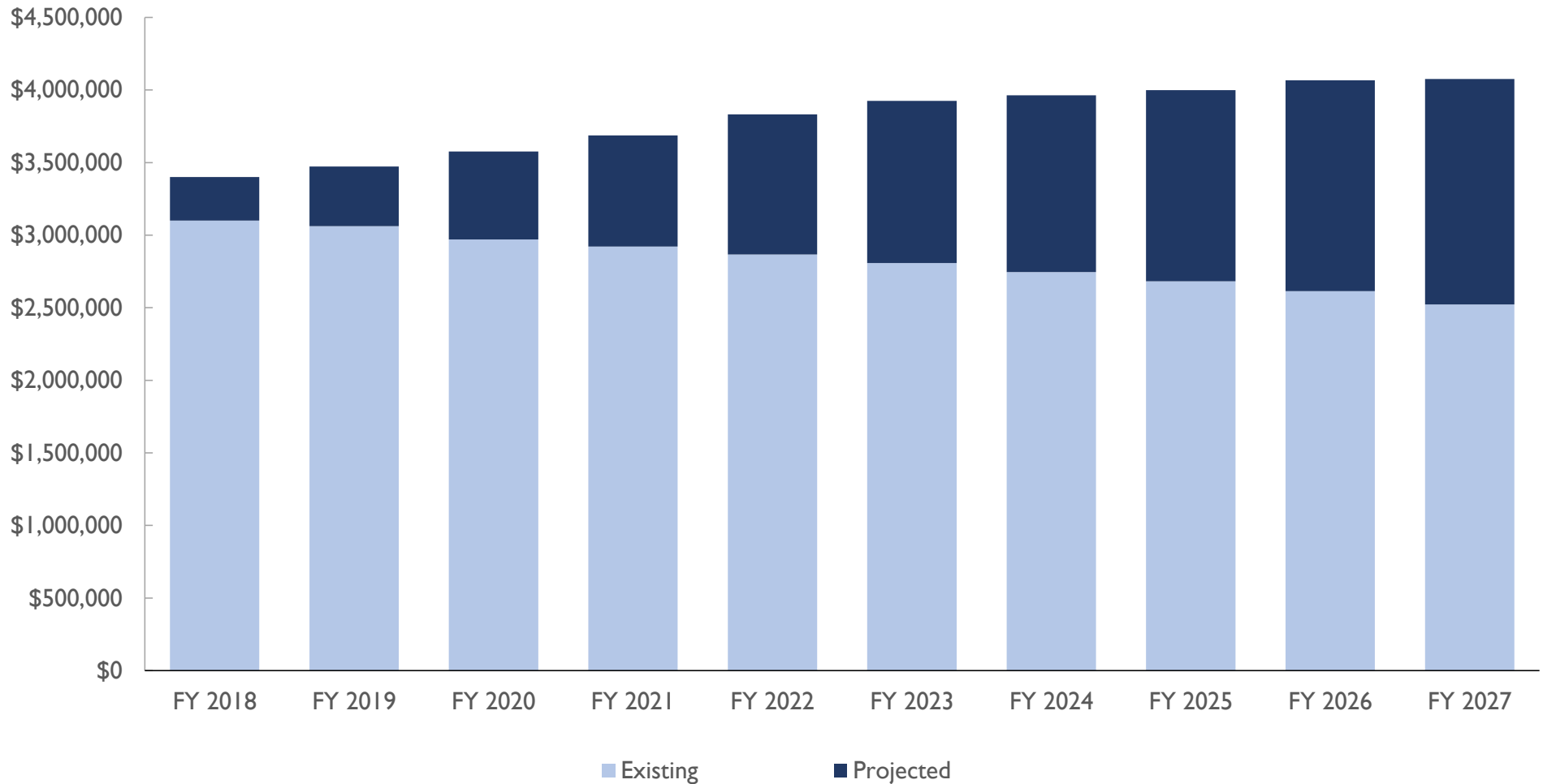
\$ in thousands





# Principal Debt Outstanding

\$ in thousands

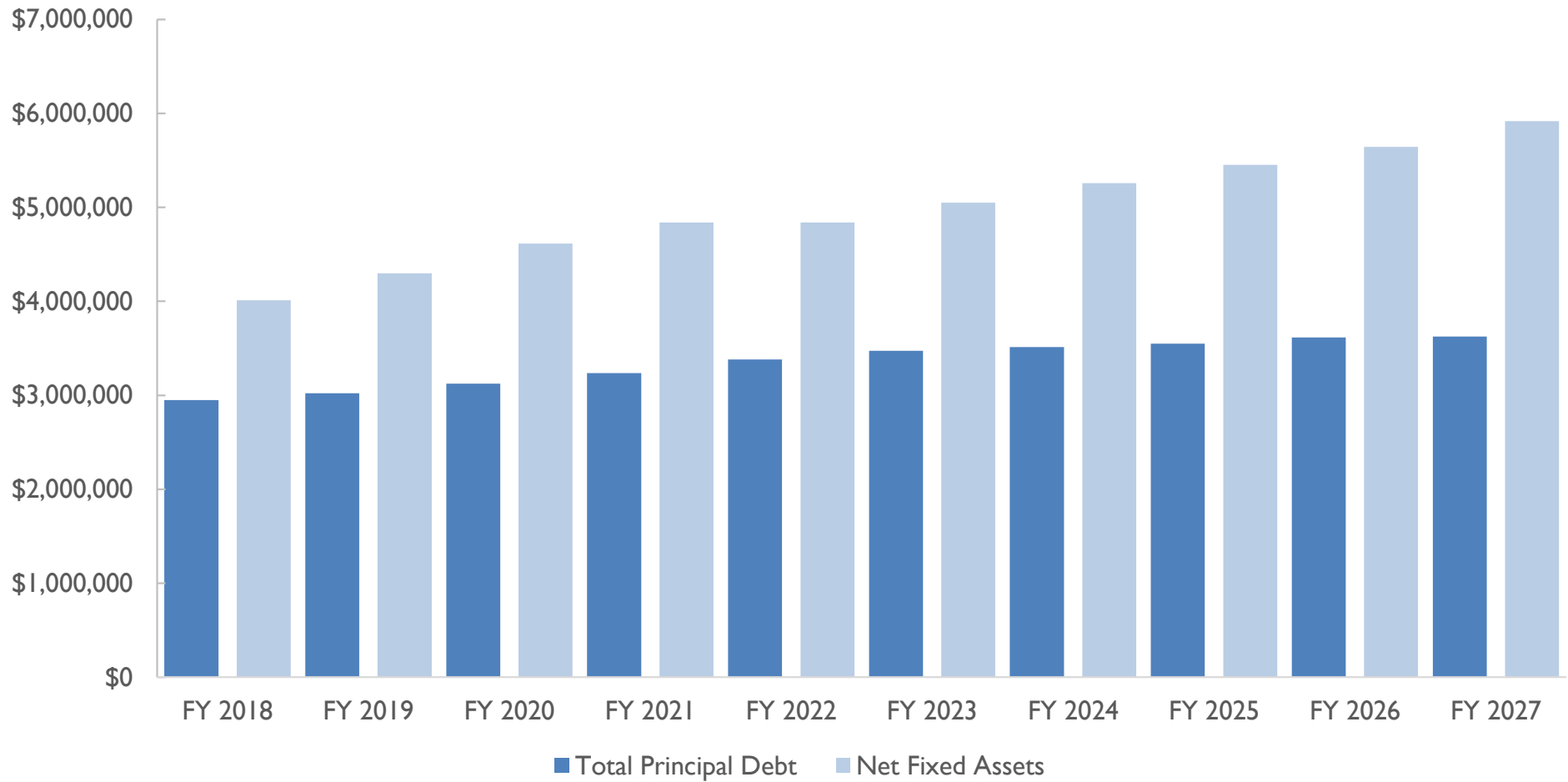


-The largest source of funding for DC Water’s Capital Improvement Program is debt.

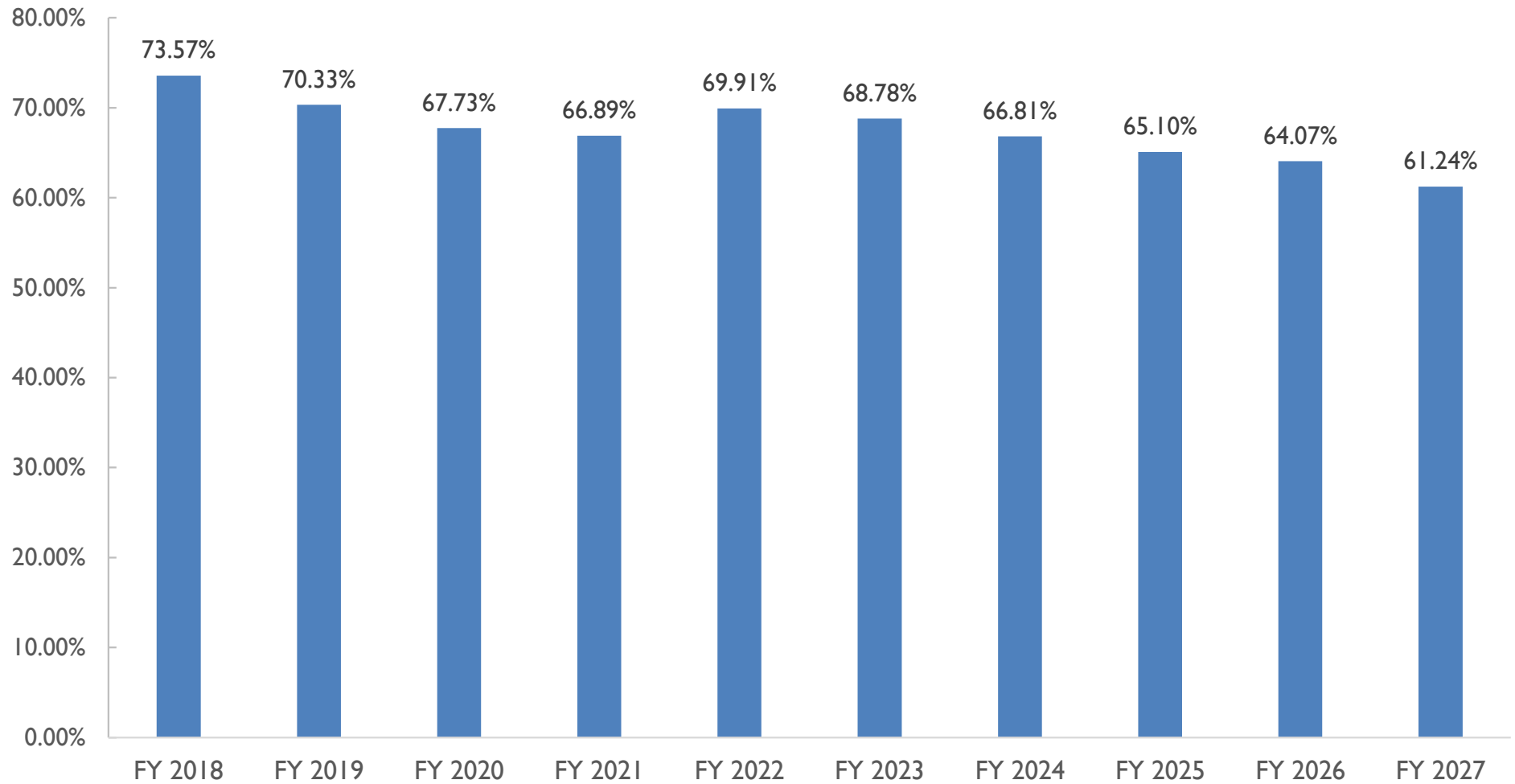
-Over the next 10-years, DC Water will issue approximately \$2.5 Billion in debt (this includes the funding of Reserves and Costs of Issuance), increasing total Debt Outstanding to \$4.6 Billion at the end of FY 2027.

# Principal vs. Net Fixed Assets

\$ in thousands



# Debt to Net Fixed Assets Ratio





Water main break repair

# APPROVED BUDGETS



DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

## Section VII DEPARTMENTAL SUMMARIES

## Introduction to DC Water’s Operational and Administrative (Support) Departments

DC Water’s organizational structure is a key tool for ensuring that the organizational mission is achieved. The structure consists of twenty-six departments that are defined primarily along functional roles and further grouped along service lines (Operational or Administrative) or reporting clusters of authority.

**Service Lines:** Operational departments include: Water Services, Water Quality & Technology, Sewer Collection and Wastewater Treatment services (including maintenance of these facilities). These departments are responsible for the day-to-day operations of the DC Water’s extensive infrastructure and facilities that provide direct services to our customers. Similarly, the Customer Service Department is classified as an operational department due to the integrated nature of their work to operations (i.e., customer care, metering and billing). Provision of first-line customer care to our customers includes 24 hour emergency service. Engineering and Technical Services (DETS), Clean Rivers and Permit Operations Departments are responsible for ongoing reinvestment of the system infrastructure, compliance with various mandates and provide services to the development community throughout the District of Columbia.

All other departments provide critical administrative and technical support to ensure the safe and reliable continuity of our vital services through short and long-term planning, asset management, leadership and all financial and human capital support requirements. An organizational chart can be found on page VII-13.

**Reporting Lines:** Departments are grouped within clusters to ensure accountability and to enhance efficiency and delivery of various services. A member of the Executive Team\* heads each departmental cluster group and carries the accountability for service delivery and performance metrics of the departments within their cluster.

As DC Water strives in its mission to be a “world-class” utility, it also continues to make organizational changes and improvement to enhance efficiencies, improve processes and best utilize all assets with the goal to better serve the public and protect the environment. In FY 2017, this resulted in various departmental and cluster group reorganization across the Authority, including:

- Customer Care and Operations Cluster – continuing efforts to improve operations and processes resulted in the creation of Water Quality and Technology Department. The primary role is to oversee federally required drinking water quality programs related to Environmental Protection Agency (EPA) Safe Drinking Water Act, and all elements related to drinking water treatment, distribution, and system research & development.
- Chief Engineer Cluster – creation of the Department of Wastewater Engineering (DWE) from DETS, provides the structural capability needed to begin the in-sourcing process of the design and construction management functions, with reliance on outside consultants for specialized expertise as part of the delivery of the Capital Improvement Program.

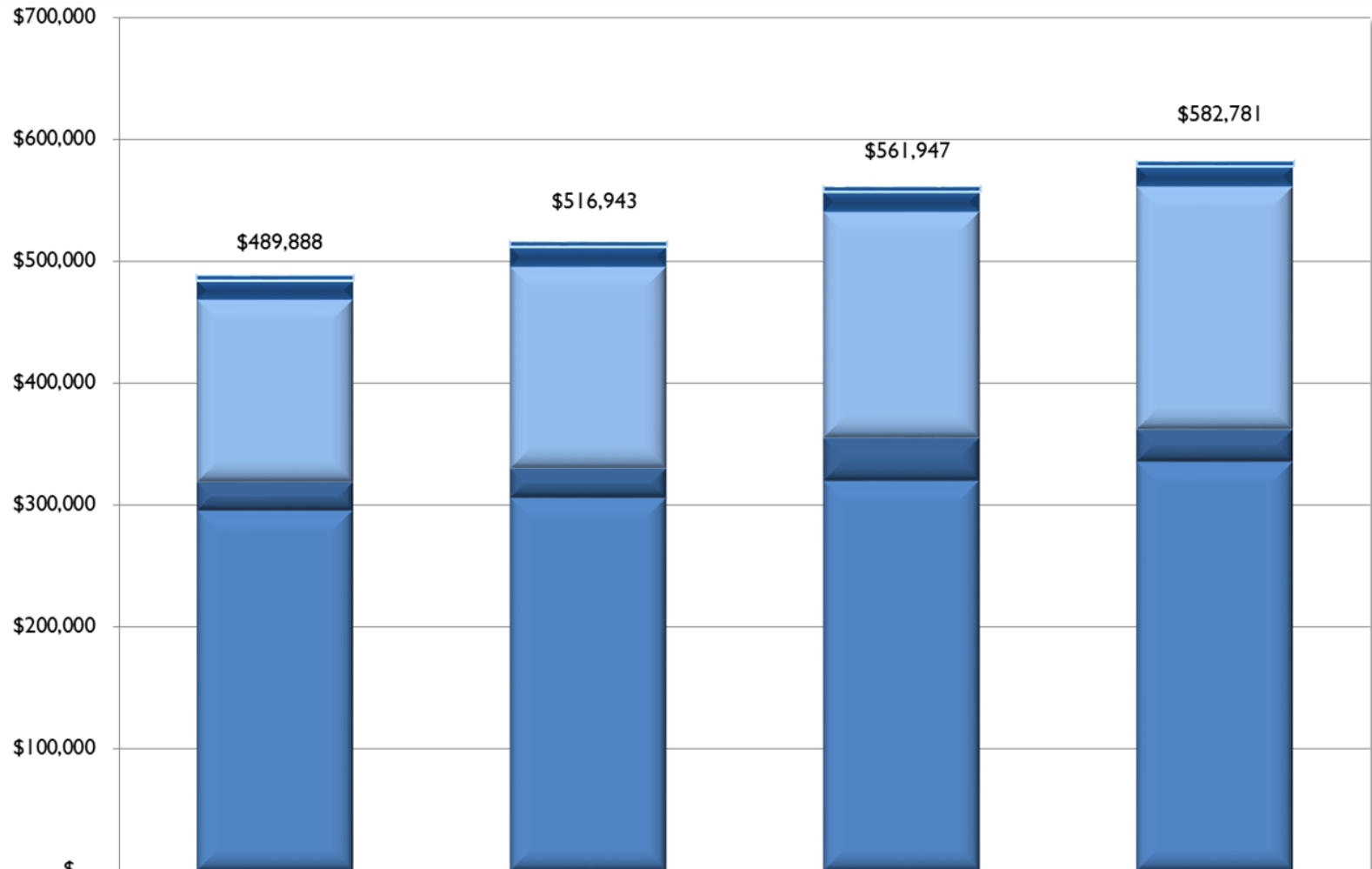
### \*Executive Team

<b>CEO &amp; General Manager</b>	<b>Chief Engineer</b>	<b>Chief External Affairs</b>	<b>Chief Financial Officer</b>	<b>Chief Information Officer</b>	<b>Chief Marketing Officer</b>	<b>Chief Operating Officer</b>	<b>Chief Procurement Officer</b>	<b>Chief of Staff</b>	<b>General Counsel</b>
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# Comparative Operating Expenditure Budgets

[summary](#)
[overview](#)
[financial plan](#)
[rates&rev](#)
[capital](#)
[financing](#)
[departmental](#)
[glossary](#)

\$ in thousands



	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
■ ROW	\$5,100	\$5,100	\$5,100	\$5,100
■ PILOT	\$15,644	\$15,957	\$16,276	\$16,602
■ Debt Service	\$149,781	\$165,836	\$185,480	\$199,025
■ Cash Financed Capital Improvements	\$23,475	\$24,199	\$35,260	\$26,999
■ Operations & Maintenance	\$295,888	\$305,851	\$319,831	\$335,055

# Operations and Maintenance Expenditures by Category

summary

overview

financial plan

rates&rev

capital

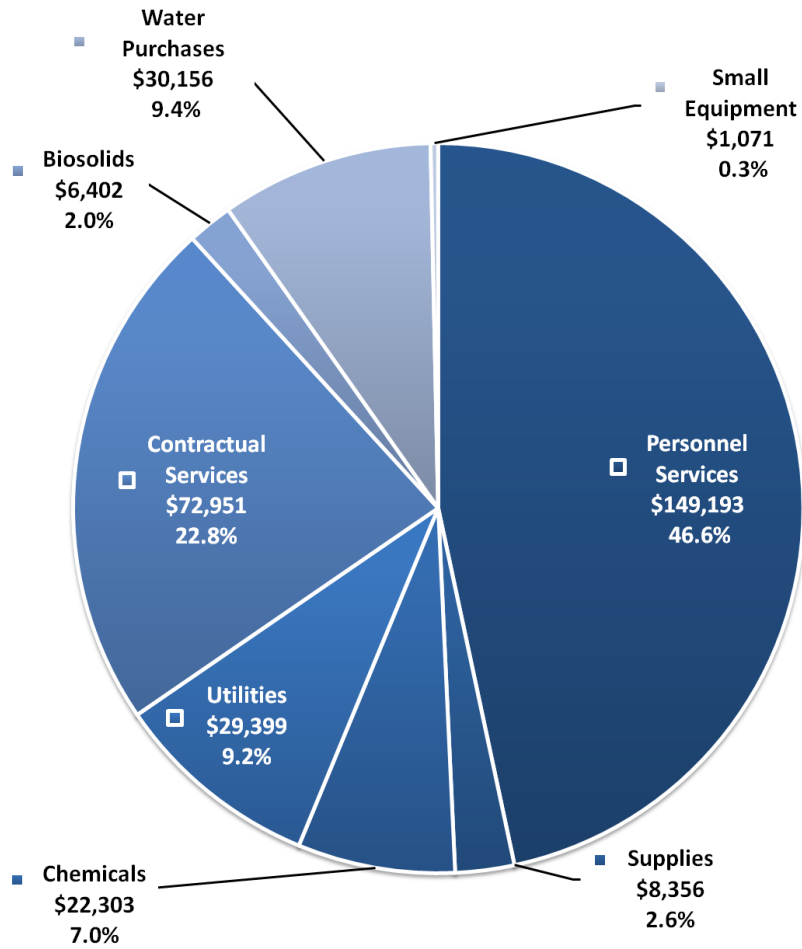
financing

departmental

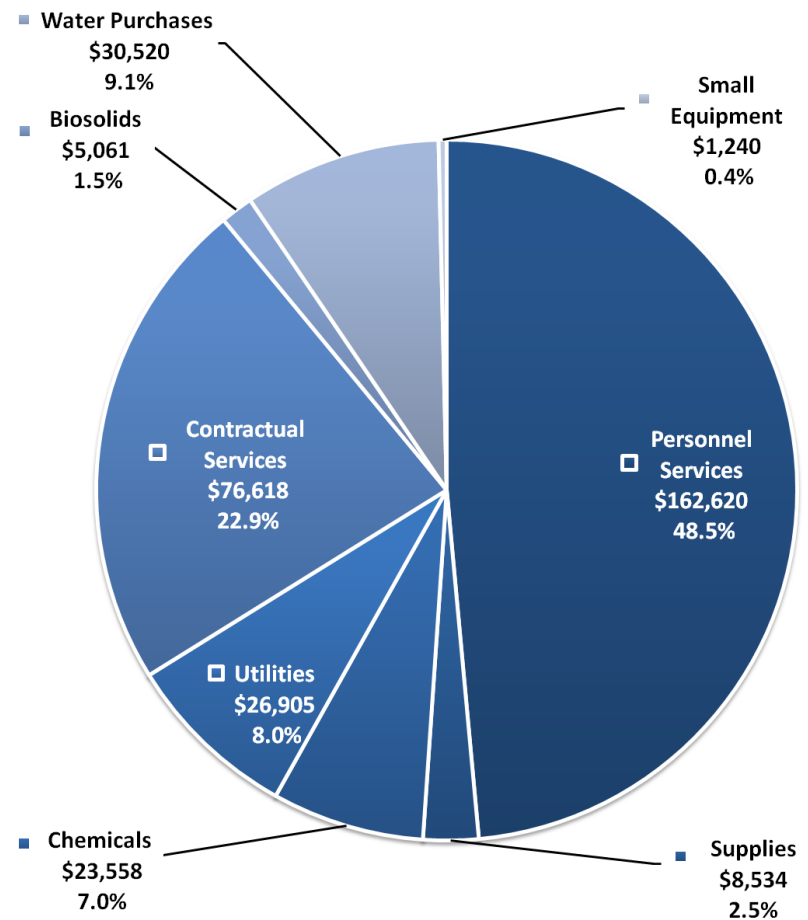
glossary

\$ in thousands

**FY 2018 Approved  
\$319,831**



**FY 2019 Approved  
\$335,055**



# Operating Expenditures by Object

[summary](#)
[overview](#)
[financial plan](#)
[rates&rev](#)
[capital](#)
[financing](#)
[departmental](#)
[glossary](#)

FY 2016 - FY 2019, \$ in thousands

Object	FY 2016 ACTUAL	FY 2017 ACTUAL	FY 2018 APPROVED	FY 2019 APPROVED
Personnel Services	\$ 141,886	\$ 149,293	\$ 149,193	\$ 162,620
Contractual Services	74,087	72,951	79,354	81,679
Water Purchases	26,345	26,796	30,156	30,520
Chemicals and Supplies	28,965	31,373	30,658	32,091
Utilities	23,934	24,260	29,399	26,905
Small Equipment	672	1,178	1,071	1,240
<b>Subtotal Operations &amp; Maintenance Expenditures</b>	<b>295,888</b>	<b>305,851</b>	<b>319,831</b>	<b>335,055</b>
Debt Service	149,781	165,836	185,480	199,025
Cash Financed Capital Improvements	23,475	24,199	35,260	26,999
Payment in Lieu of Taxes	15,644	15,957	16,276	16,602
Right of Way Fees	5,100	5,100	5,100	5,100
<b>Total Operating Expenditures</b>	<b>\$ 489,888</b>	<b>\$ 516,943</b>	<b>\$ 561,947</b>	<b>\$ 582,781</b>
Personnel Services charged to Capital Projects	(17,648)	(17,231)	(21,061)	(18,259)
<b>Total Net Operating Expenditures</b>	<b>\$ 472,240</b>	<b>\$ 499,712</b>	<b>\$ 540,886</b>	<b>\$ 564,522</b>



# Operating Expenditures by Department & Cluster

FY 2016 - FY 2019, \$ in thousands

Departments & Clusters	FY 2016 ACTUAL	FY 2017 ACTUAL	FY 2018 APPROVED	FY 2019 APPROVED
<b>BLUE PLAINS</b>	\$ 90,467	\$ 98,792	\$ 101,917	\$ 101,869
Maintenance Services	18,564	18,719	19,558	19,567
WWT-Operations	64,983	73,066	74,686	75,115
WWT-Process Engineering	6,921	7,008	7,673	7,187
<b>CHIEF ENGINEER</b>	<b>29,203</b>	<b>30,695</b>	<b>32,018</b>	<b>33,661</b>
DC Clean Rivers	2,835	2,757	2,995	3,046
Engineering & Technical Services	24,319	25,706	26,728	24,790
Wastewater Engineering				3,064
Permit Operations	2,049	2,233	2,295	2,760
<b>CHIEF FINANCIAL OFFICER</b>	<b>13,141</b>	<b>13,296</b>	<b>15,299</b>	<b>16,341</b>
Finance, Accounting & Budget	13,141	13,296	15,299	16,341
<b>CUSTOMER CARE &amp; OPERATIONS</b>	<b>101,232</b>	<b>103,993</b>	<b>106,180</b>	<b>114,791</b>
Customer Service	17,677	19,195	19,281	20,340
Sewer Services	14,846	13,513	14,315	14,342
Water Services	23,407	24,700	23,619	25,079
Water Quality and Technology			475	3,419
Distribution & Conveyance System	45,302	46,585	48,490	51,611
<b>INDEPENDENT OFFICES</b>	<b>39,896</b>	<b>36,821</b>	<b>40,480</b>	<b>42,374</b>
Board Secretary	526	559	599	599
External Affairs	2,146	2,137	2,531	2,470
General Counsel	9,003	6,905	7,332	8,557
General Manager	3,844	4,053	4,138	4,301
Human Capital Management	7,780	7,107	7,986	8,281
Information Technology	10,992	10,354	11,315	11,541
Internal Audit	997	579	907	940
Procurement	4,608	5,128	5,672	5,685
<b>SUPPORT SERVICES</b>	<b>21,950</b>	<b>22,254</b>	<b>23,936</b>	<b>26,020</b>
Assistant General Manager - Support Services	473	506	513	578
Fleet Management	5,365	5,184	5,321	5,773
Occupational Safety & Health	1,556	1,878	1,871	2,247
Facilities Management	8,013	7,830	8,695	9,615
Security	6,545	6,855	7,536	7,807
<b>Subtotal O &amp; M Expenditures</b>	<b>295,888</b>	<b>305,851</b>	<b>319,831</b>	<b>335,055</b>
Debt Service	149,781	165,836	185,480	199,025
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# FY 2018 Approved Budget by Department by Category

\$ in thousands

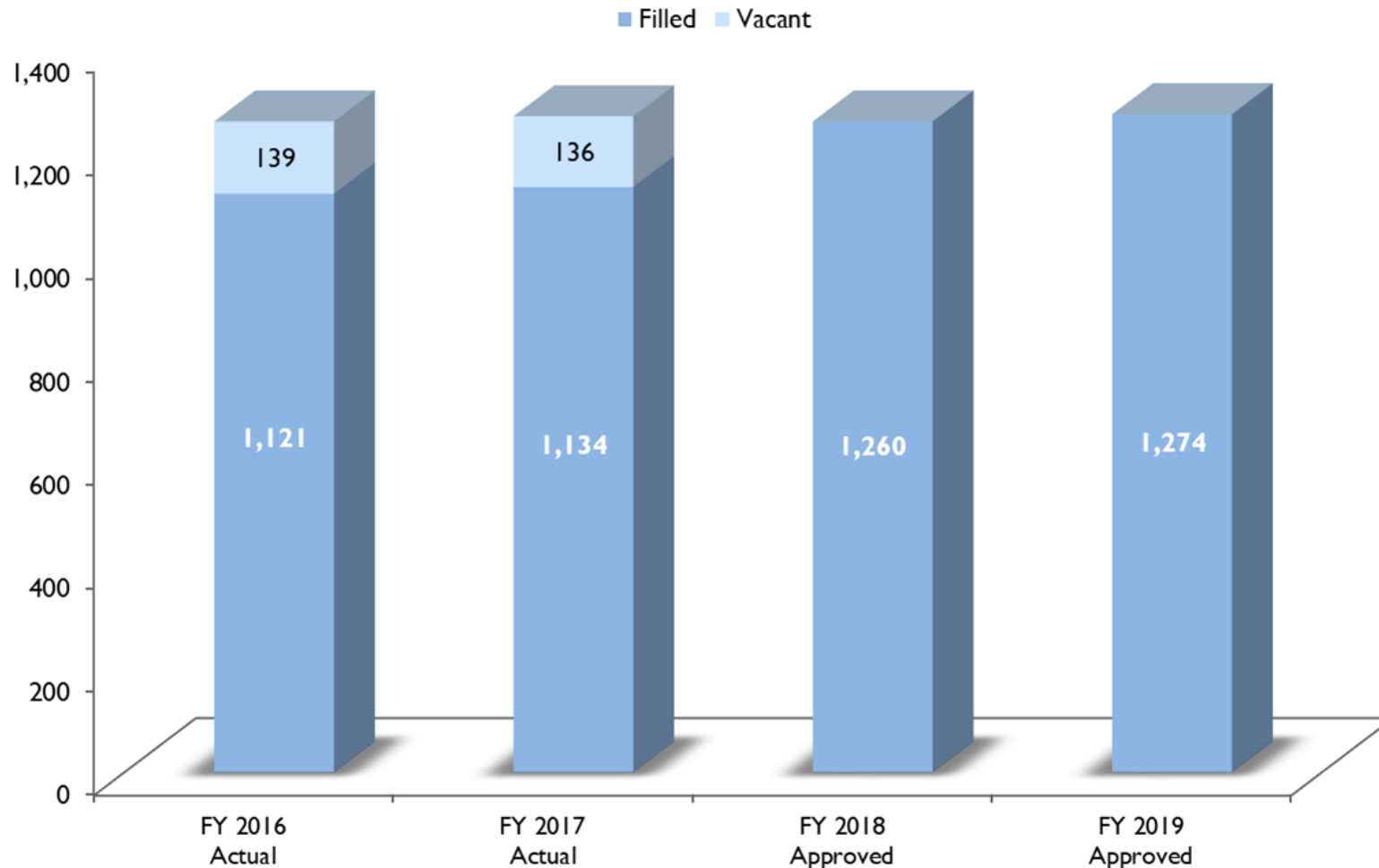
	Pos	Pay	Fringe	Overtime	Personnel Services	Supplies	Chemicals	Utilities	Contracts	Biosolids	Water Purchases	Equipment	Total Non-Personnel Services	Total Dept.	
O	Wastewater Treatment - Operations	122	\$ 10,306	\$ 3,232	\$ 1,463	\$ 15,001	\$ 1,234	\$ 22,109	\$ 19,968	\$ 9,838	\$ 6,402	\$ 134	\$ 59,685	\$ 74,686	
p	Wastewater Treatment - Process Engineering	39	3,542	1,172	64	4,778	452	-	59	2,371	-	14	2,895	7,673	
e	Maintenance Services	115	8,778	2,794	500	12,072	3,545	-	159	3,571	-	210	7,486	19,558	
r	Water Services	190	13,352	4,454	1,047	18,853	617	-	300	3,750	-	100	4,766	23,619	
a	Water Quality and Technology	-	-	-	-	-	71	15	-	339	-	50	475	475	
t	Sewer Services	115	7,968	2,665	900	11,533	534	25	815	1,372	-	35	2,782	14,315	
i	Customer Service	126	9,348	3,091	260	12,700	171	-	1,258	5,090	-	63	6,582	19,281	
o	Distribution & Conveyance Systems	88	6,915	2,276	541	9,732	622	154	4,168	3,608	-	50	38,758	48,490	
n	Engineering and Technical Services	166	16,773	5,547	1,024	23,344	196	-	490	2,592	-	106	3,384	26,728	
s	D.C. Clean Rivers	15	2,017	675	-	2,691	19	-	41	244	-	-	304	2,995	
	Permit Operations	15	1,331	459	2	1,791	31	-	332	130	-	10	503	2,295	
	<b>Subtotal Operations</b>	<b>991</b>	<b>80,329</b>	<b>26,366</b>	<b>5,801</b>	<b>112,496</b>	<b>7,491</b>	<b>22,303</b>	<b>27,589</b>	<b>32,905</b>	<b>6,402</b>	<b>30,156</b>	<b>772</b>	<b>127,619</b>	<b>240,115</b>
A	General Manager	16	2,412	799	9	3,221	13	-	37	868	-	-	917	4,138	
d	Office of the Secretary (Board)	2	215	73	8	296	18	-	7	278	-	-	303	599	
m	Internal Audit	-	-	-	-	-	-	-	5	902	-	-	907	907	
i	General Counsel	14	1,538	526	2	2,066	9	-	21	5,236	-	-	5,266	7,332	
n	External Affairs	14	1,421	488	27	1,936	10	-	26	551	-	7	594	2,531	
s	Human Capital Management	25	3,092	925	4	4,020	34	-	43	3,889	-	-	3,965	7,986	
t	Information Technology	28	3,111	1,041	15	4,167	59	-	179	6,817	-	94	7,148	11,315	
r	Procurement	36	3,461	1,140	30	4,631	34	-	57	945	-	5	1,041	5,672	
a	Finance, Accounting and Budget	49	5,211	1,787	40	7,038	40	-	171	8,045	-	4	8,261	15,299	
t	AGM - Support Services	3	366	124	-	490	1	-	4	18	-	-	23	513	
i	Facilities Management	57	4,187	1,367	238	5,792	548	-	217	2,242	-	69	3,076	8,868	
o	Security	9	657	220	-	876	53	-	266	6,118	-	50	6,486	7,362	
n	Occupational Safety and Health	9	967	323	1	1,292	28	-	32	514	-	5	580	1,871	
	Fleet Management	7	650	217	3	871	18	-	743	3,625	-	65	4,450	5,321	
	<b>Subtotal Administration</b>	<b>269</b>	<b>27,289</b>	<b>9,031</b>	<b>377</b>	<b>36,697</b>	<b>864</b>	<b>-</b>	<b>1,809</b>	<b>40,046</b>	<b>-</b>	<b>299</b>	<b>43,018</b>	<b>79,715</b>	
	<b>Subtotal O &amp; M Expenditures</b>	<b>1,260</b>	<b>\$ 107,618</b>	<b>\$ 35,397</b>	<b>\$ 6,178</b>	<b>\$ 149,193</b>	<b>\$ 8,356</b>	<b>\$ 22,303</b>	<b>\$ 29,399</b>	<b>\$ 72,951</b>	<b>\$ 6,402</b>	<b>\$ 30,156</b>	<b>\$ 1,071</b>	<b>\$ 170,638</b>	<b>\$ 319,831</b>
	Debt Service													185,480	
	Cash Financed Capital Improvements													35,260	
	Payment in Lieu of Taxes													16,276	
	Right of Way													5,100	
	<b>Total OPERATING EXPENDITURES</b>													<b>\$ 561,947</b>	
	Personnel Services charged to Capital Projects													(21,061)	
	<b>TOTAL NET OPERATING EXPENDITURES</b>													<b>\$ 540,886</b>	

# FY 2019 Approved Budget by Department by Category

\$ in thousands

	Pos	Pay	Fringe	Overtime	Personnel Services	Supplies	Chemicals	Utilities	Contracts	Biosolids	Water Purchases	Equipment	Total Non-Personnel Services	Total Dept.	
Oper	Wastewater Treatment - Operations	127	\$ 11,065	\$ 3,013	\$ 1,831	\$ 15,909	\$ 1,147	\$ 23,449	\$ 18,006	\$ 11,410	\$ 5,061	\$ -	\$ 134	\$ 59,206	\$ 75,115
	Wastewater Treatment - Process Engineering	39	3,682	1,006	45	4,733	475	-	60	1,902	-	18	2,454	7,187	
	Maintenance Services	110	8,827	2,620	545	11,991	3,581	-	164	3,516	-	315	7,575	19,567	
	Water Services	182	15,020	5,051	1,522	21,593	709	-	322	2,365	-	90	3,486	25,079	
	Water Quality and Technology	22	2,008	616	30	2,653	74	30	-	612	-	50	766	3,419	
	Sewer Services	104	7,858	2,745	1,068	11,671	533	25	669	1,411	-	33	2,671	14,342	
	Customer Service	126	10,273	3,366	311	13,950	178	-	843	5,291	-	78	6,389	20,340	
	Distribution & Conveyance Systems	90	8,055	2,422	800	11,276	690	54	3,965	4,979	-	126	40,335	51,611	
	Engineering and Technical Services	150	16,133	4,992	864	21,989	193	-	636	1,910	-	62	2,802	24,791	
	WasteWater Engineering	15	1,710	564	36	2,310	13	-	736	-	-	5	754	3,064	
	D.C. Clean Rivers	15	2,072	589	-	2,661	26	-	110	249	-	-	385	3,046	
	Permit Operations	15	1,580	526	99	2,205	38	-	353	153	-	11	555	2,760	
	<b>Subtotal Operations</b>	<b>995</b>	<b>88,282</b>	<b>27,510</b>	<b>7,151</b>	<b>122,943</b>	<b>7,656</b>	<b>23,558</b>	<b>25,127</b>	<b>34,534</b>	<b>5,061</b>	<b>30,520</b>	<b>922</b>	<b>127,377</b>	<b>250,320</b>
Admin	General Manager	16	2,653	732	9	3,394	13	-	36	858	-	-	907	4,301	
	Office of the Secretary (Board)	2	243	41	9	293	18	-	6	281	-	1	306	599	
	Internal Audit	-	-	-	-	-	-	-	7	933	-	-	940	940	
	General Counsel	16	2,020	502	3	2,525	8	-	22	6,003	-	-	6,032	8,557	
	External Affairs	13	1,448	394	5	1,846	2	-	33	576	-	12	623	2,470	
	Human Capital Management	28	3,604	935	6	4,545	34	-	48	3,655	-	-	3,737	8,281	
	Information Technology	28	3,401	913	15	4,330	42	-	152	6,923	-	94	7,211	11,541	
	Procurement	36	3,574	975	30	4,579	41	-	63	997	-	5	1,106	5,685	
	Finance, Accounting and Budget	53	6,184	1,874	40	8,097	40	-	67	8,132	-	4	8,244	16,341	
	AGM - Support Services	3	409	95	1	504	4	-	8	61	-	-	74	578	
	Facilities Management	56	4,207	1,325	300	5,832	553	-	223	2,930	-	77	3,783	9,615	
	Security	9	877	242	-	1,119	66	-	304	6,268	-	50	6,688	7,807	
	Occupational Safety and Health	11	1,255	348	1	1,604	29	-	43	566	-	5	643	2,247	
	Fleet Management	8	754	250	4	1,009	19	-	775	3,900	-	70	4,764	5,773	
	<b>Subtotal Administration</b>	<b>279</b>	<b>30,628</b>	<b>8,627</b>	<b>423</b>	<b>39,677</b>	<b>867</b>	<b>-</b>	<b>1,787</b>	<b>42,085</b>	<b>-</b>	<b>318</b>	<b>45,057</b>	<b>84,734</b>	
	<b>Subtotal O &amp; M Expenditures</b>	<b>1,274</b>	<b>\$ 118,909</b>	<b>\$ 36,137</b>	<b>\$ 7,575</b>	<b>\$ 162,620</b>	<b>\$ 8,524</b>	<b>\$ 23,558</b>	<b>\$ 26,915</b>	<b>\$ 76,618</b>	<b>\$ 5,061</b>	<b>\$ 30,520</b>	<b>\$ 1,240</b>	<b>\$ 172,435</b>	<b>\$ 335,055</b>
	Debt Service														199,025
	Cash Financed Capital Improvements														26,999
	Payment in Lieu of Taxes														16,602
	Right of Way														5,100
	<b>Total OPERATING EXPENDITURES</b>														<b>\$ 582,781</b>
	Personnel Services charged to Capital Projects														(18,259)
	<b>TOTAL NET OPERATING EXPENDITURES</b>														<b>\$ 564,522</b>

## FY 2016 - FY 2019



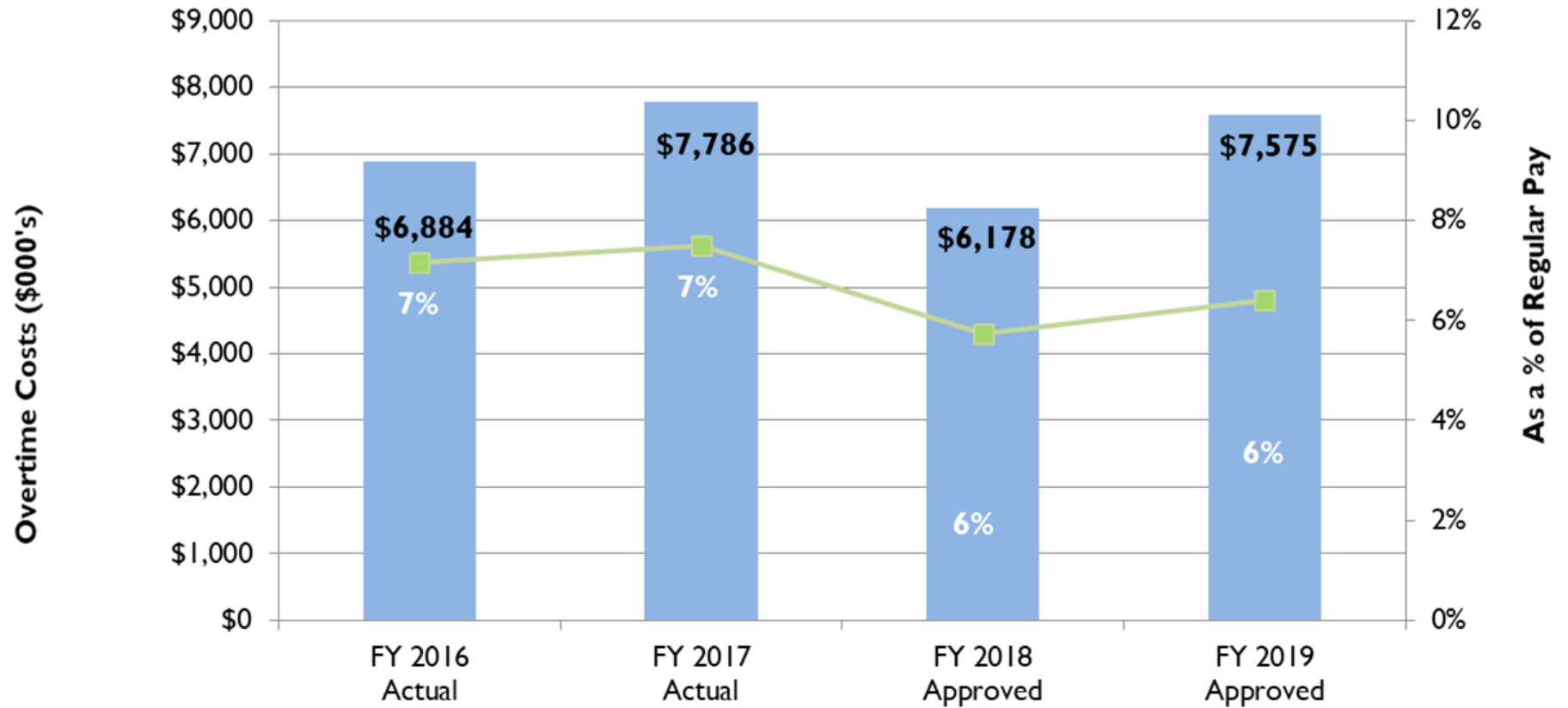
Due to the high historical vacancy rate, DC Water made a strategic decision in FY 2014 to maintain the authorized head count to reduce aged vacancies and achieve lower vacancy rate. In FY 2017, DC Water achieved its goal of single-digit vacancy rate as a result of increased hiring efforts. Starting FY 2019, DC Water will begin to increase the authorized headcount in areas of need throughout the Authority to cover additional operational activities.

# Authorized Positions by Department

		FY 2016				FY 2017				FY 2018	FY 2019
		Authorized	Average Filled	Average Vacant	Year -End Filled	Authorized	Average Filled	Average Vacant	Year -End Filled	Approved	Approved
O	Wastewater Treatment - Operations	121	114	7	113	122	113	9	111	122	127
p	Wastewater Treatment - Process Engineering	40	27	13	31	39	31	8	30	39	39
e	Maintenance Services	116	104	12	102	115	98	17	91	115	110
r	Water Services	190	168	22	172	195	182	13	191	190	182
a	Sewer Services	119	105	14	92	110	95	15	91	115	104
t	Customer Service	124	108	16	104	125	109	16	114	126	126
i	Distribution & Conveyance Systems	88	75	13	75	89	79	10	77	88	90
o	Water Quality & Technology										22
n	Engineering and Technical Services	166	155	11	156	166	152	14	147	166	150
s	Wastewater Engineering										15
	D.C. Clean Rivers	16	14	2	14	15	13	2	13	15	15
	Permit Operations	15	14	1	13	15	13	2	13	15	15
	<b>Subtotal</b>	<b>995</b>	<b>883</b>	<b>112</b>	<b>872</b>	<b>991</b>	<b>885</b>	<b>106</b>	<b>878</b>	<b>991</b>	<b>995</b>
A	General Manager	15	15	0	16	16	15	1	15	16	16
d	Office of the Secretary (Board)	2	2	0	2	2	2	0	2	2	2
m	Internal Audit	-	-	-	-	-	-	-	-	-	-
i	General Counsel	15	13	2	14	14	14	0	14	14	16
n	External Affairs	13	12	1	12	14	12	2	12	14	13
i	Human Capital Management	25	23	2	21	25	25	0	26	25	28
s	Information Technology	28	26	2	25	28	26	2	27	28	28
t	Procurement	34	29	5	31	36	32	4	35	36	36
r	Finance, Accounting and Budget	48	47	1	48	49	48	1	48	49	53
a	Assistant General Manager - Support Services	3	3	0	3	3	3	0	3	3	3
t	Facilities Management	59	55	4	55	59	52	7	50	57	56
i	Security	7	7	0	7	7	9	-2	8	9	9
o	Occupational Safety and Health	9	9	-	9	9	9	0	10	9	11
n	Fleet Management	7	7	0	6	7	7	0	6	7	8
	<b>Subtotal</b>	<b>265</b>	<b>247</b>	<b>17</b>	<b>249</b>	<b>269</b>	<b>253</b>	<b>16</b>	<b>256</b>	<b>269</b>	<b>279</b>
	<b>Total Positions</b>	<b>1,260</b>	<b>1,130</b>	<b>130</b>	<b>1,121</b>	<b>1,260</b>	<b>1,138</b>	<b>122</b>	<b>1,134</b>	<b>1,260</b>	<b>1,274</b>

Year-round interns, short-term temps and summer temps are not included in the filled count.

\$ in thousands



The Authority's overtime target is 6 percent of regular pay. Overtime costs in FY 2017 increased due to support for the Automated Meter Reading (AMR) replacement project and unusually high water main breaks from fluctuations in temperature experienced during the winter season.

# Overtime by Department

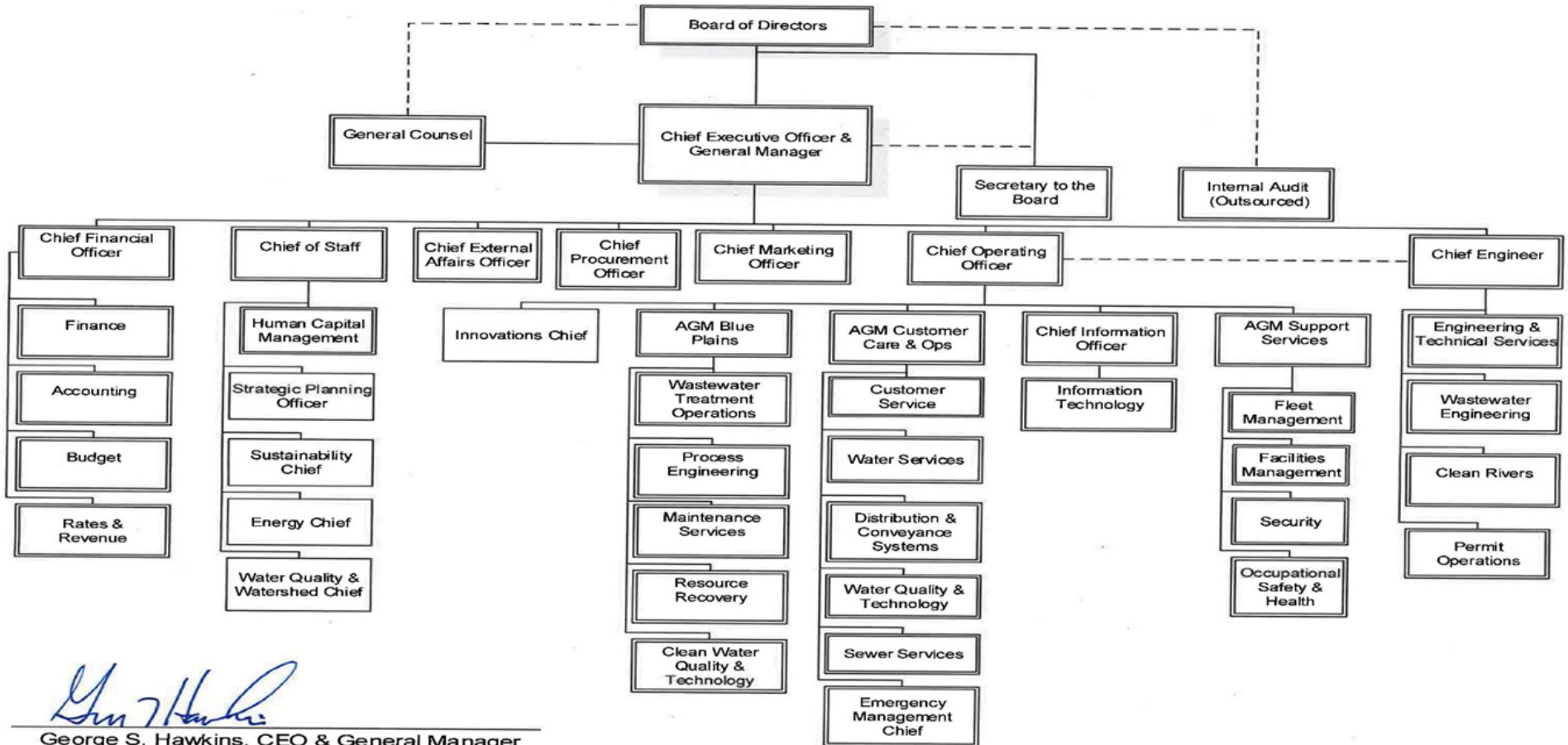
\$ in thousands

Department	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Wastewater Treatment - Operations	\$ 1,625	\$ 1,859	\$ 1,463	\$ 1,831
Wastewater Treatment - Process Engineering	30	25	64	45
Maintenance Services	393	764	500	545
Water Services	1,591	1,664	1,047	1,522
Sewer Services	1,010	1,172	900	1,068
Customer Service	316	615	260	311
Distribution and Conveyance Systems	759	862	541	800
Water Quality & Technology				30
Engineering and Technical Services	740	438	1,024	864
Wastewater Engineering				36
DC Clean Rivers	0	0	-	-
Permit Operations	4	11	2	99
General Manager	11	11	9	9
Office of the Board Secretary	13	13	8	9
Internal Audit	-	-	-	-
General Counsel	0	0	2	3
External Affairs	0	1	27	5
Information Technology	10	14	15	15
Finance, Accounting & Budget	27	25	40	40
Assistant General Manager - Support Services	1	0	-	1
Human Capital Management	3	5	4	6
Facilities Management	315	276	238	300
Security	-	1	-	-
Procurement	31	26	30	30
Occupational Safety and Health	1	0	1	1
Fleet Management	4	3	3	4

<b>Total</b>	<b>\$ 6,884</b>	<b>\$ 7,786</b>	<b>\$ 6,178</b>	<b>\$ 7,575</b>
--------------	-----------------	-----------------	-----------------	-----------------

**FY 2019  
Operating Budget  
\$582,781,000**

POSITIONS				
FY 2017				
Authorized	Average Positions Filled	Year-End Positions Filled	FY 2018	FY 2019
1,260	1,134	1,134	1,260	1,274



*George S. Hawkins*

George S. Hawkins, CEO & General Manager

Revised 11/09/2017





**Cluster: BLUE PLAINS**

**Department: WASTEWATER TREATMENT OPERATIONS**

**FUNCTIONS**

**BUDGET**

**FY 2019**  
\$ 75,115,000

**POSITIONS**

**FY 2017**

<b>Authorized</b>	125
Average Positions Filled	113
Year-End Positions Filled	111
<b>FY 2018</b>	<b>FY 2019</b>
122	127

Plant Operations	Resource Recovery	Clean Water Quality & Technology
105 - Positions	7 - Positions	15 - Positions
Treat influent wastewater to remove pollutants and meet National Pollutant Discharge Elimination System Permit (NPDES) requirements	Biosolids storage, loading, hauling and utilization/beneficial use	Physical, chemical and biological analysis of wastewater and Biosolids used for process control and permit reporting
Condition, thicken, dewater and stabilize biosolids for beneficial use	Certification and marketing of Class A biosolids	Industrial pretreatment discharge monitoring
Manage 4 shift crews – round the clock and manage use of resources – chemicals, energy, and contracts including Combined Heating and Power (CHP)	Outreach and partnership with surrounding jurisdictions on regulatory requests for biosolids applications	Treatment process innovation and R&D Administration of the DC Water Advanced Research & Testing (ART) Program
Asset Management/MAXIMO Administration		

**WASTEWATER TREATMENT - OPERATIONS**

**MISSION:** To treat wastewater delivered to Blue Plains from the collection system of the District of Columbia and surrounding jurisdictions in Maryland and Virginia, ensuring that effluent is in compliance with the Clean Water Act.

**BUDGET OVERVIEW:** The approved FY 2019 budget is higher than the approved FY 2018 budget by \$1.9 million mainly due to projected increase in personnel service cost adjustments for additional headcount, chemicals and contractual services attributable to the Filtrate Treatment Facilities (FTF) coming online in 2018, and offset by reduced hauling costs resulting from the production and marketing of class A biosolids (BLOOM).

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	122	125	122	127
Average number of positions filled	114	113		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 15,094	\$ 15,818	\$ 15,001	\$ 15,909
Overtime	1,625	1,859	1,463	1,831
<b>Non-Personnel Services:</b>				
Supplies	868	915	1,234	1,147
Chemicals	20,819	22,828	22,109	23,449
Utilities	15,037	16,374	19,968	18,006
Contractual Services, etc.	7,657	10,574	9,839	11,410
Biosolids	5,611	6,249	6,402	5,061
Small Equipment	20	296	134	134
Total Non-Personnel Services	50,012	57,236	59,685	59,206
<b>Total Operations</b>	\$ 65,106	\$ 73,054	\$ 74,686	\$ 75,115
<b>Capital Equipment</b>	\$ 98	\$ 100	\$ 100	\$ 100

Targeted Performance Measures	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Achieve NACWA Award Status	Gold	Platinum	Platinum	Platinum
Compliance with disposal of biosolids regulations (100%)	100 % compliance	100% compliance	100 % compliance	100% compliance
Inspection and Sampling of Pretreatment Permittees (100%)	100 % compliance	100% compliance	100 % compliance	100% compliance
Obtain 90% acceptable results on discharge monitoring report quality assurance samples	90 % compliance	90% compliance	90 % compliance	90% compliance

Note: EPA 503 (i.e. Title 40 of the Code of Federal Regulations, Part 503) regulates the use or disposal of sewage sludge or biosolids EPA DMR QA (i.e. Discharge Monitoring Report Quality Assurance) is conducted on wastewater samples used for permit compliance reports. Achieving acceptable results for at least 90% of samples will minimize the potential for EPA to audit the laboratory.

**WASTEWATER TREATMENT - OPERATIONS**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Maintain full compliance with the National Pollutant Discharge Elimination Systems (NPDES) permit
- Begin the operation and maintenance of new Filtrate Treatment Facilities (FTF) and Wet Weather Facility aka Tunnel Dewatering Pump Station (TDPS) scheduled for commissioning in fiscal year 2018
- Continue to support implementation of other Capital Improvement Program (CIP) projects in progress, including Long Term Control Plan (LTCP), Enhanced Nitrogen Removal Facilities – North (ENRN), Raw Wastewater Pump Station 2 (RWWPS2) , Gravity Thickener and Primary Scum Screening Degrating Building (PSSDB) upgrades, FTF and TDPS
- Continue implementation of High Priority Rehabilitation Program to ensure availability of critical process equipment
- Continue implementation of Safety and Operator Training Programs
- Implement Goal #6 of the DC Water Board Strategic Plan to establish a Safety Management System in concert with Occupational Safety and Health department
- Continue implementation of an Asset Management Program in tandem with an Asset Reliability Program
- Continue to improve the structure and use of Maximo
- Continue to work with surrounding jurisdictions (Maryland and Virginia) on regulatory requirements for biosolids and land applications
- Continue to increase the use of biosolids products in the service area, for restoration projects, tree planning, and Low Impact Development (LID) projects
- Continue biosolids product assurance to reduce offsite odor complaints
- Implementation of marketing plan for Class A exceptional quality BLOOM product
- Continue to take a lead in conducting cutting-edge research in wastewater treatment and biosolids management
- Expansion of innovative research strategies such as Advanced Research Technology (ART) initiatives

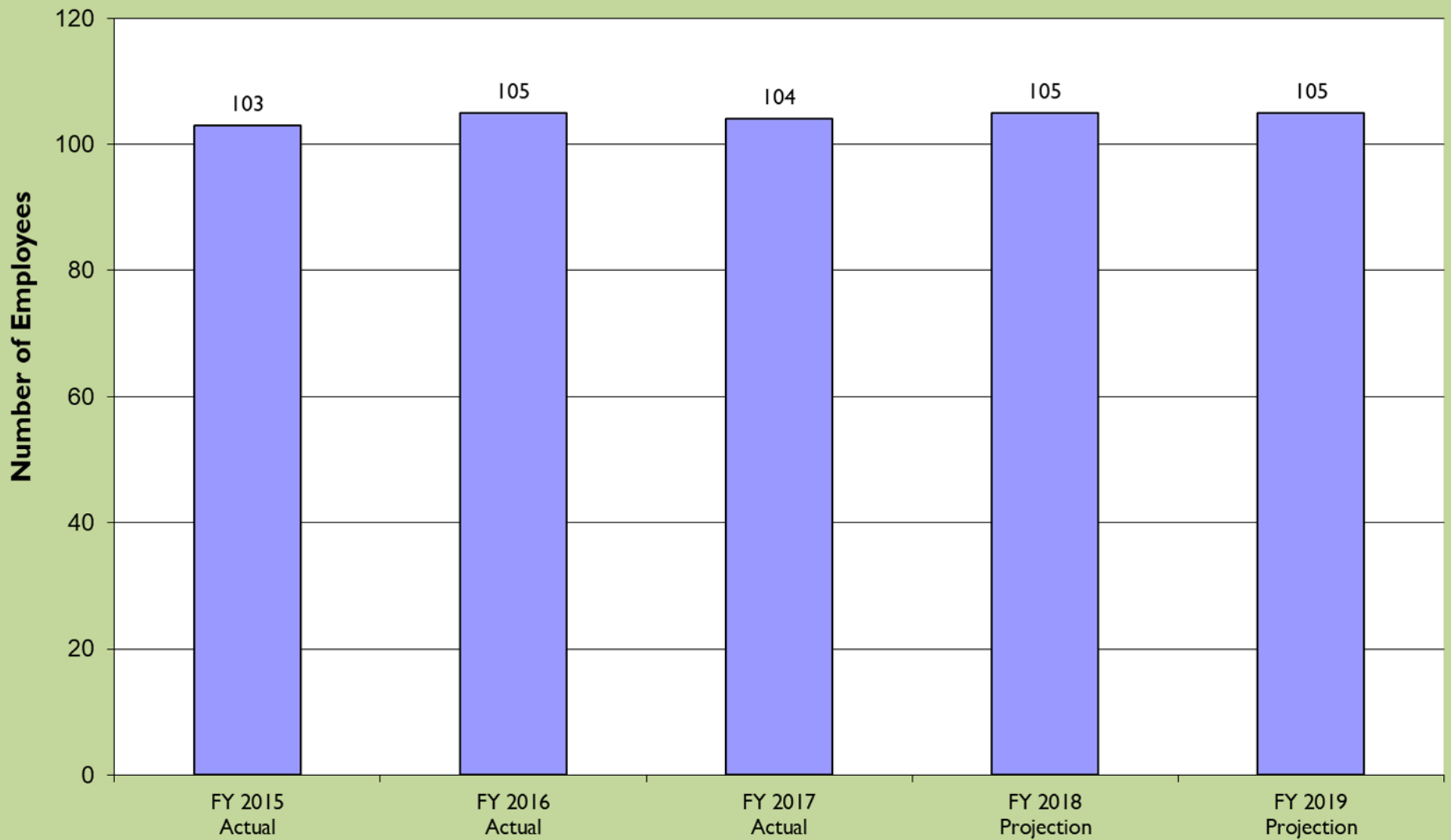
FY 2019 Major Recommended Activities and Changes

- Continue implementation of an Asset Management Program in tandem with an Asset Reliability Program
- Continue implementation of Goal 6 of the DC Water Board Strategic Plan
- Continue operation and maintenance of the new Filtrate Treatment Facilities (FTF) and Tunnel Dewatering Pumping Station (TDPS)

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

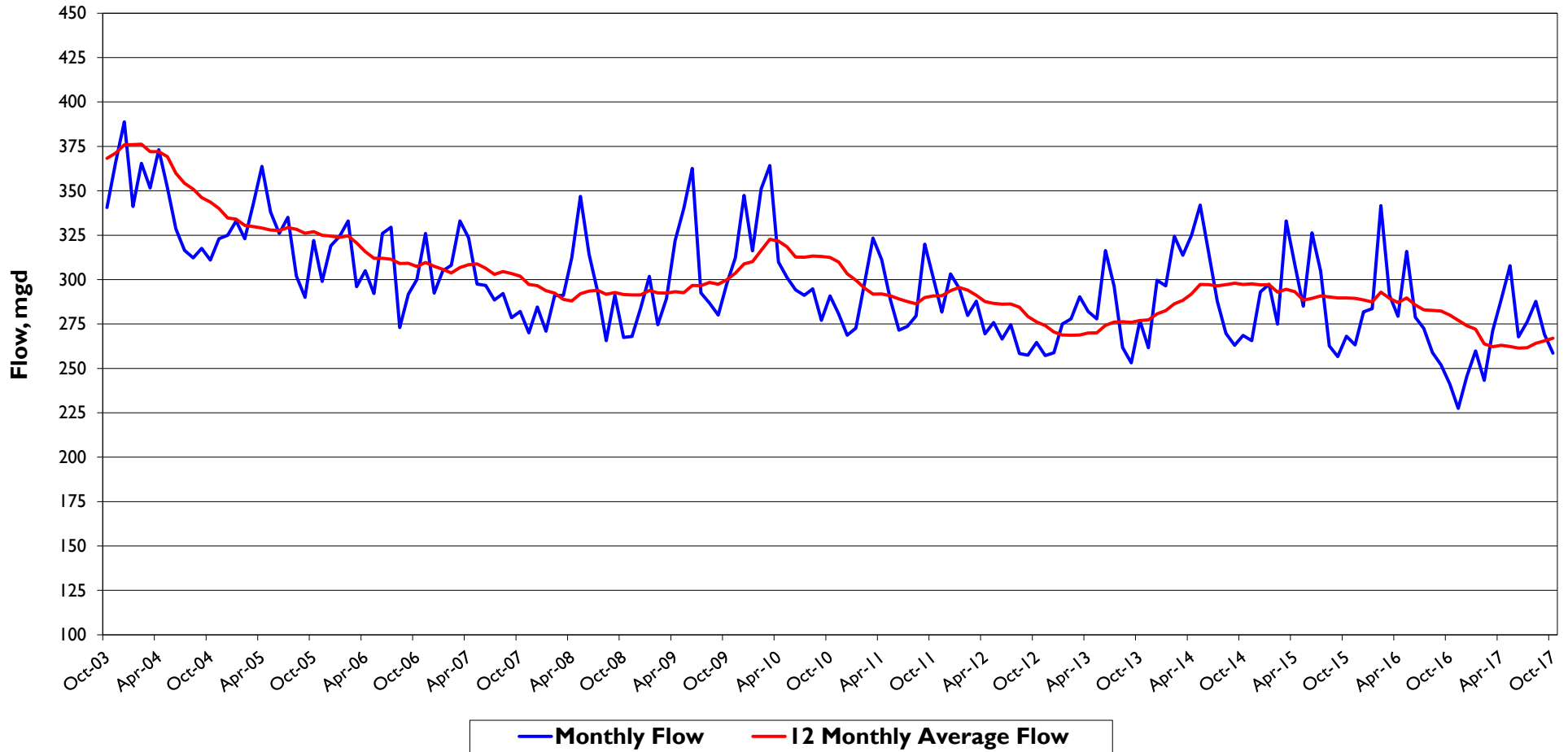
- Continuous optimization of the CHP performance in FY 2018 is anticipated to generate approximately 8-10 (net) MW of renewable energy per year
- Operational startup of Filtrate Treatment Facilities (FTF) will decrease methanol usage, increase electricity usage (1MW) and other associated operation and maintenance costs

## Wastewater Treatment Certified Operators\* FY 2015 - FY 2019

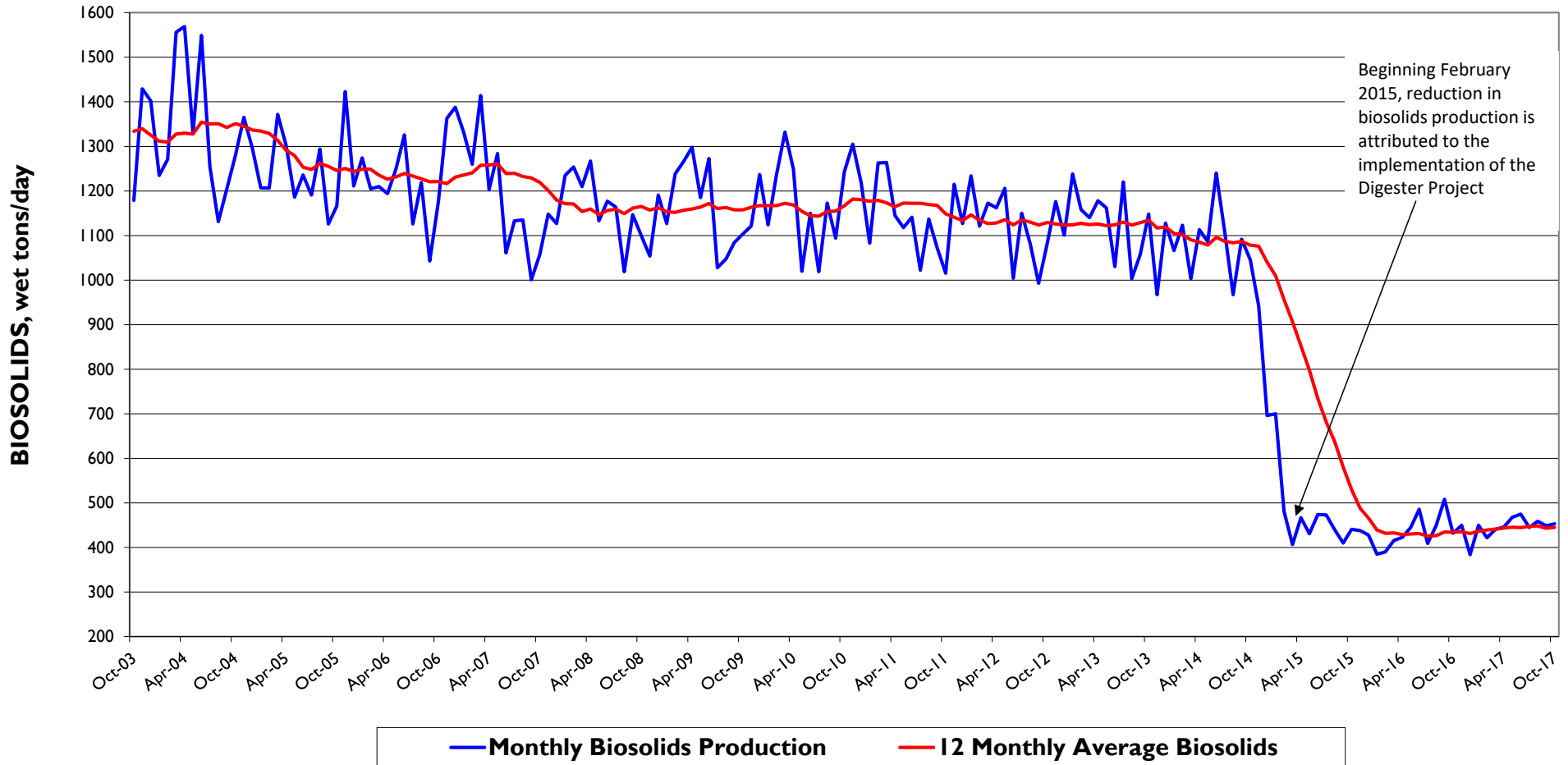


\*Includes all positions with Certified Wastewater Treatment Plant Operator License

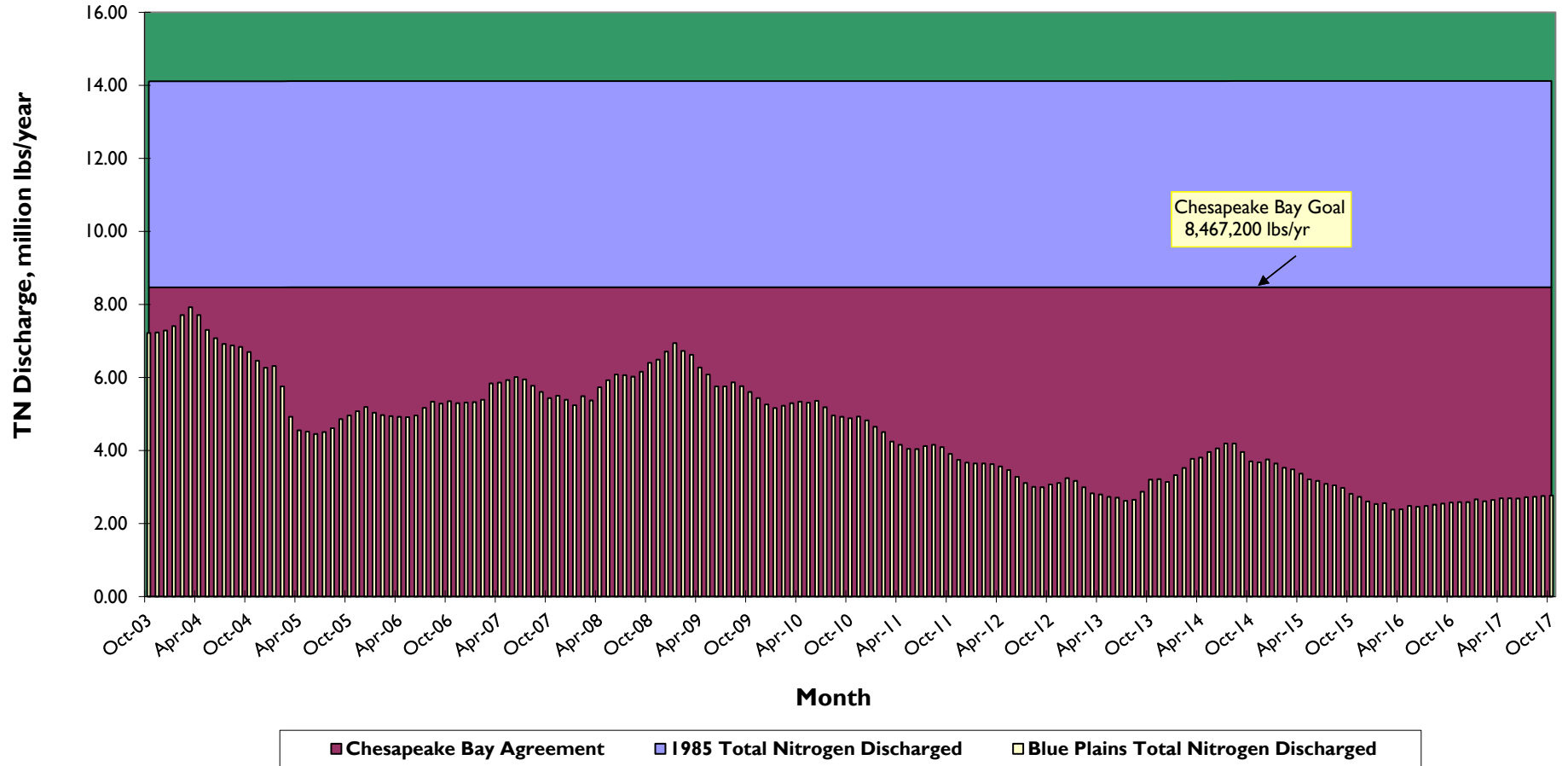
OCTOBER 2003 - OCTOBER 2017



OCTOBER 2003 - OCTOBER 2017



OCTOBER 2003 - OCTOBER 2017





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## Cluster: BLUE PLAINS

### Department: WASTEWATER TREATMENT PROCESS ENGINEERING

#### FUNCTIONS

#### BUDGET

**FY 2019**  
**\$7,187,000**

#### POSITIONS

##### FY 2017

Authorized	39
Average Positions Filled	31
Year-End Positions Filled	30
FY 2018	FY 2019
39	39

Process Engineering	Process Control Systems	Process Control Maintenance
10 - Positions	4 - Positions	25- Positions
Establish Process Control operating targets for Blue Plains	Maintain Process Control System (PCS) for Blue Plains Advanced Wastewater Treatment Plant	Plan and coordinate all activities for corrective, preventive, and predictive maintenance
Optimize process, chemical, and power use at the Plant	Provide Design and Construction interface to PCS	Maintain electronic process control systems, flow measurement, metering and recording equipment for the Plant
Provide design comments and support during construction of capital projects	Manage PCS hardware, software, maintenance, and support services	
Troubleshoot process performance problems	Troubleshoot PCS issues and train Process and Instrumentation staff	

**WASTEWATER TREATMENT - PROCESS ENGINEERING**

**MISSION:** To economically maintain DC Water's process equipment and facilities at the Blue Plains Advanced Wastewater Treatment Plant, ensuring that the operational and customer service objectives of the Authority are achieved.

**BUDGET OVERVIEW:** The approved FY 2019 operating budget is approximately \$0.5 million below the approved FY 2018 budget due to ongoing initiative to insource some of the major maintenance functions.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	39	39	39	39
Average number of positions filled	27	31		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 3,539	\$ 4,356	\$ 4,778	\$ 4,733
Overtime	30	25	64	45
<b>Non-Personnel Services:</b>				
Supplies	236	315	452	475
Occupancy	46	58	59	60
Contractual	3,084	2,267	2,371	1,902
Equipment	15	12	14	18
Total Non-Personnel Services	3,381	2,651	2,895	2,454
<b>Total Operations &amp; Maintenance</b>	\$ 6,921	\$ 7,008	\$ 7,673	\$ 7,187
<b>Capital Equipment</b>	\$ 1,134	\$ 810	\$ 850	\$ 550
<b>Targeted Performance Measures</b>				
	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Critical Equipment Availability (97%)	97%	97%	97%	97%

## WASTEWATER TREATMENT – PROCESS ENGINEERING

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

- Provide guidance on set points and Plant operations
- Provide Process Engineering reviews on new capital projects in the planning and design phases
- Continue to assist with construction and project commissioning phases for the Filtrate Treatment Facilities (FTF), Raw Wastewater Pumping Station (RWWPS2) Upgrades, Tunnel Dewatering Pump Station and Enhanced Clarification Facilities (TDPS/ECF) & Gravity Thickener Upgrades
- Continue upgrade and management of the Process Control System (PCS)
- Continue the Equipment Reliability Program (predictive maintenance/condition monitoring)
- Continue the Critical Spare Parts Inventory for process control equipment
- Continue the major critical equipment maintenance initiative across the Plant, and Preventive Maintenance Optimization
- Continue the Unit Shelf Replacement (spares) Program
- Startup and training for new capital projects – FTF & TDPS/ECF
- Continue to expand Planning & Scheduling Maintenance for Control Systems, and Control Maintenance groups
- Continue support of innovation initiatives, internet of things (IoT), and development of applications

#### FY 2019 Major Recommended Activities and Changes

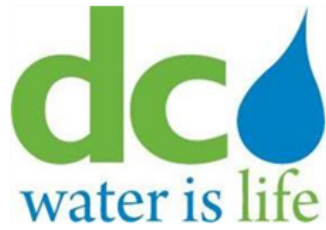
- Continue to build on planned activities of FY 2018
- Continue to optimize recently commissioned processes – Enhanced Nitrogen Removal Facility (ENRF), and Filtrate Treatment Facilities (FTF) & TDPS/ECF
- Conduct process design reviews for capital projects (i.e. Headworks Upgrades)
- Monitor key performance indicators in Process Engineering, Control Systems, and Control Maintenance groups
- Conduct aggressive training program to support reduction in contracted work force
- Continue the Equipment Reliability Program (predictive maintenance/condition monitoring)
- Continue support of innovation initiatives, IoT, development of applications

#### Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Increased preventive maintenance costs for new equipment and facilities
- Increased effort for training and commissioning of new facilities – FTF, TDPS/ECF, RWWPS2 and Tunnel Facilities (Outside Blue Plains)



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**Cluster: BLUE PLAINS**

**Department: MAINTENANCE SERVICES**

**FUNCTIONS**

**BUDGET**

**FY 2019  
\$ 19,567,000**

**POSITIONS**

**FY 2017**

**Authorized 11**

**Average Positions Filled 98**

**Year-End Positions Filled 91**

**FY 2018 FY 2019**

**115 110**

Electrical Maintenance	Mechanical Maintenance	Maintenance Management
35 - Positions	63 - Positions	12 - Positions
Maintain electrical process control systems, equipment, and components for the Blue Plains Advanced Wastewater Treatment Plant	Maintain mechanical process systems and equipment for the Plant	Plan and coordinate all activities for corrective, preventive, and predictive maintenance
Operate and maintain electrical power distribution system from 5kv to 69kv, electrical control systems for all process equipment and all DC Water facilities	Plan, schedule, and perform condition monitoring for all process equipment at all DC Water facilities	Plan and operate support systems to manage maintenance by planning, estimating, inspecting, and scheduling maintenance activities
Inspect and maintain cranes for all DC Water facilities		Coordinate work through operations and engineering and provide administrative support

**MAINTENANCE SERVICES**

**MISSION:** To economically maintain DC Water's process equipment and facilities at the Blue Plains Advanced Wastewater Treatment Plant, ensuring that the operational and customer service objectives of the Authority are achieved.

**BUDGET OVERVIEW:** The approved FY 2019 budget is relatively flat to the approved FY 2018 budget.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	115	111	115	110
Average number of positions filled	104	98		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 11,223	\$ 11,537	\$ 12,072	\$ 11,991
Overtime	393	764	500	545
<b>Non-Personnel Services:</b>				
Supplies	3,343	2,948	3,545	3,581
Utilities	150	139	159	164
Contractual Services, etc.	3,717	3,863	3,571	3,516
Small Equipment	130	231	210	315
<b>Total Non-Personnel Services</b>	<b>7,339</b>	<b>7,181</b>	<b>7,486</b>	<b>7,575</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 18,563</b>	<b>\$ 18,719</b>	<b>\$ 19,558</b>	<b>\$ 19,567</b>
<b>Capital Equipment</b>	<b>\$ 4,132</b>	<b>\$ 3,711</b>	<b>\$ 3,600</b>	<b>\$ 3,600</b>

Targeted Performance Measures	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Critical Equipment Availability (97%)*	Criteria Not Established	Criteria Not Established	Criteria Not Established	Criteria Not Established

\* Department is currently revising its KPIs to measure operational efficiencies

## MAINTENANCE SERVICES

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

- Maintain the Tunnel Dewatering Pump Station and Enhanced Clarification Facility (TDPS/ECF)
- Maintain the Filtrate Treatment Facility (FTF) aka DEMON Process
- Continue to perform preventive, corrective and predictive maintenance services of equipment in all treatment process area to improve reliability, reduce downtime and maximize asset life
- Continue all methanol maintenance activities in-house and eliminate contractor support
- Continue driving change in support of both the Asset Reliability and Asset Management programs
- Continue critical spare parts inventory evaluation process
- Continue to track, report, and analyze asset failures by cost to identify “poor performers”
- Continue reviewing and improving the Preventive Maintenance Program
- Continue to build equipment reliability program (predictive maintenance/condition monitoring)
- Continue building an effective lubrication program for the Plant
- Continue to increase safety awareness by planning and scheduling work orders, enhancing equipment specific LOTO (lockout/tag-out) procedure and conducting Job Safety Analyses
- Continue to drive productivity, efficiency and effectiveness using process performance indicators
- Increase level of work order planning and schedule compliance to reduce level of reactive maintenance

#### FY 2019 Major Recommended Activities and Changes

- Culture of Reliability and Asset Management embraced by everyone in the department
- Increase the level of data driven decision making at all levels of the organization
- Deploy mobile Maximo for use by maintenance personnel

#### Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Maintenance of the capital projects to be placed into operations - Filtrate Treatment (DEMON) Process, Tunnel Dewatering Pump Station, and Enhanced Clarification Facility



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## Cluster: CUSTOMER CARE & OPERATIONS

### Department: WATER SERVICES

#### FUNCTIONS

#### BUDGET

**FY 2019**  
\$ 25,079,000

#### POSITIONS

##### FY 2017

Authorized	195
Average Positions Filled	182
Year-End Positions Filled	191
<b>FY 2018</b>	<b>FY 2019</b>
190	182

Distribution Maintenance	Distribution Control	Contract Management	Linear Asset Management
60 - Positions	85 - Positions	28 - Positions	9 - Positions
Repair and replace water main service lines, valves and hydrants	Inspect, exercise and perform preventative maintenance on 40,000 system valves and 9,500 fire hydrants	Establish and administer a comprehensive asset management program for both water and sewer systems	Provide detail data management related to process improvement and long-range financial planning
Lead Leak Detection efforts and Tap abandonment for the Authority	Administer the Flushing Program and perform minor valve leak repairs	Administer Public Space Restoration Program and associated contracts	Manage linear assets in the Water Distribution and Sewer Collection systems
Manage fire hydrant contracts and respond to all fire hydrant inquiries	Manage the Valve Coordination Control program and test valve shutdown plans for CIP construction projects	Manage and direct Operating and CIP budgets, including construction projects inspections	Manage optimization and prioritization of the capital program projects
Support departmental safety efforts and assist in investigations as first responder during emergencies			Enhancing service life of assets while lowering the number of lifecycle maintenance and reducing cost

**WATER SERVICES**

**MISSION:** To operate and maintain a potable water distribution system, which delivers safe drinking water to DC Water's customers. Water Services will ensure that water distribution meets or exceeds the applicable water quality regulations promulgated by the Safe Drinking Water Act and is provided in a reliable manner.

**BUDGET OVERVIEW:** The approved FY 2019 budget is higher than the approved FY 2018 budget by approximately \$1 million. The increase is due to personnel service cost adjustments and transfer of eighteen FTE's to the newly created Water Quality and Technology department. The decrease in Contractual Services is based on the reallocation of the surface restoration costs consistent with the revised capitalization policy. The new Water Quality & Technology department was created in FY 2018 from this department as part of the CC&O Cluster reorganization.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
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**Positions: (FTE's)**

Number of authorized positions	190	195	190	182
Average number of positions filled	168	182		

**Operating Expenses (\$000's)**

<b>Personnel Services including Overtime</b>	\$ 18,840	\$ 21,006	\$ 18,853	\$ 21,593
Overtime	1,591	1,664	1,047	1,522

**Non-Personnel Services:**

Chemicals and Supplies	901	1,312	703	709
Utilities	176	(615)	300	322
Contractual Services, etc.	3,488	2,718	4,089	2,365
Small Equipment	44	34	150	90
<b>Total Non-Personnel Services</b>	<b>4,609</b>	<b>3,449</b>	<b>5,241</b>	<b>3,486</b>

<b>Total Operations &amp; Maintenance</b>	<b>\$ 23,449</b>	<b>\$ 24,455</b>	<b>\$ 24,094</b>	<b>\$ 25,079</b>
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<b>Capital Equipment</b>	<b>\$ 493</b>	<b>\$ 604</b>	<b>\$ 590</b>	<b>\$ 590</b>
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Targeted Performance Measures	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Maintain full compliance with Safe Drinking Water Act standards for positive coliform results (less than 5%)	<5%	5%	5%	5%
Flush at least 50% of the 1,300 miles of pipe in the distribution system annually	50%	50%	50%	50%
Exercise 18,000 - 23,000 valves annually	25000	25000	25000	25000
Maintain a 99% fire hydrant operational rate	99%	99%	99%	99%
Respond to 95% of all emergency service orders in less than 45 minutes	97%	97%	97%	97%
Repair 90% of reported main leaks within 10 days	90%	90%	90%	90%

## WATER SERVICES

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

- Continue to provide enhanced planning, execution, procedural guidance and overview of the repair/replacement process, ensuring that DC Water/Industry standards are maintained at all times for the water distribution system assets
- Continue the implementation of the Asset Management Program to improve predictive, preventative and corrective maintenance activities on all public fire hydrants and water valves
- Continue the development of the large valve assessment & rehabilitation program to optimize the full life of the assets
- Commence the Small Diameter Sewer Inspection and Condition Assessment utilizing Redzone Robotics' Solo
- Embark on the SewerBatt Acoustical Sensing Technology Pilot program assess the sewer collection system as a cleaning screening tool
- Start the Messtechnik Associates (MTA) Pipe-Inspector Leak Detection Pilot program for the water distribution system
- Continue to execute permanent restoration activities and provide underground infrastructure locating and marking services
- Commence the Water Main Inspection and Condition Assessment Program
- Continue to support the Demand Lead Service Program to procure Filter Pitcher Kits for distribution to affected customers

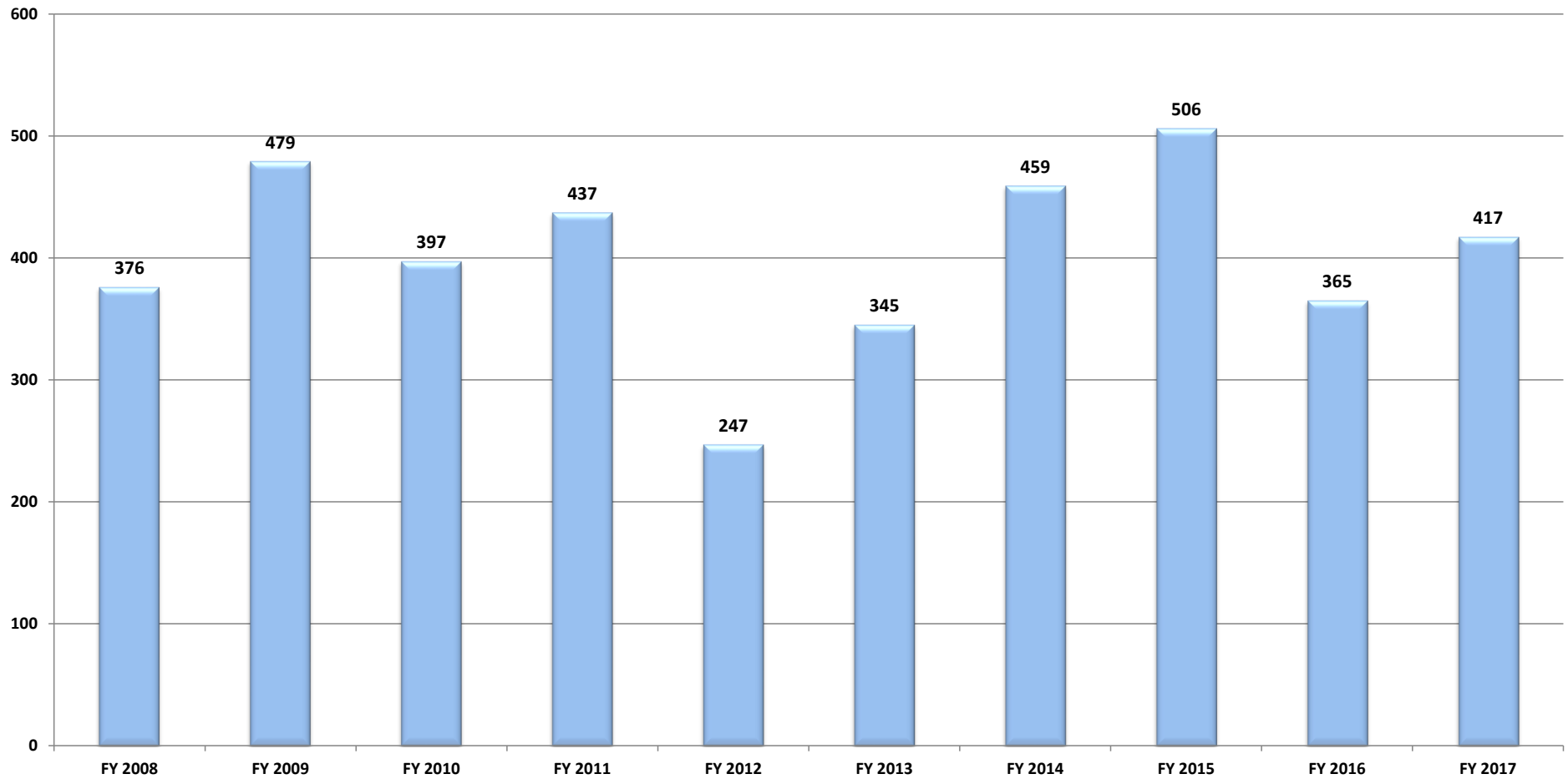
#### FY 2019 Major Recommended Activities and Changes

- Continue to provide underground infrastructure locating and marking services
- Begin Main Break Analysis and Material/Soil Testing in-house program
- Expand Water Main Inspection and Condition Assessment Program
- Continue implementation of the Asset Management Program to improve predictive, preventative and corrective maintenance activities
- Continue to provide contractual support thru the Infrastructure Repair and Replacement (IR&R) contracts to execute special construction projects
- Continue to execute permanent restoration activities

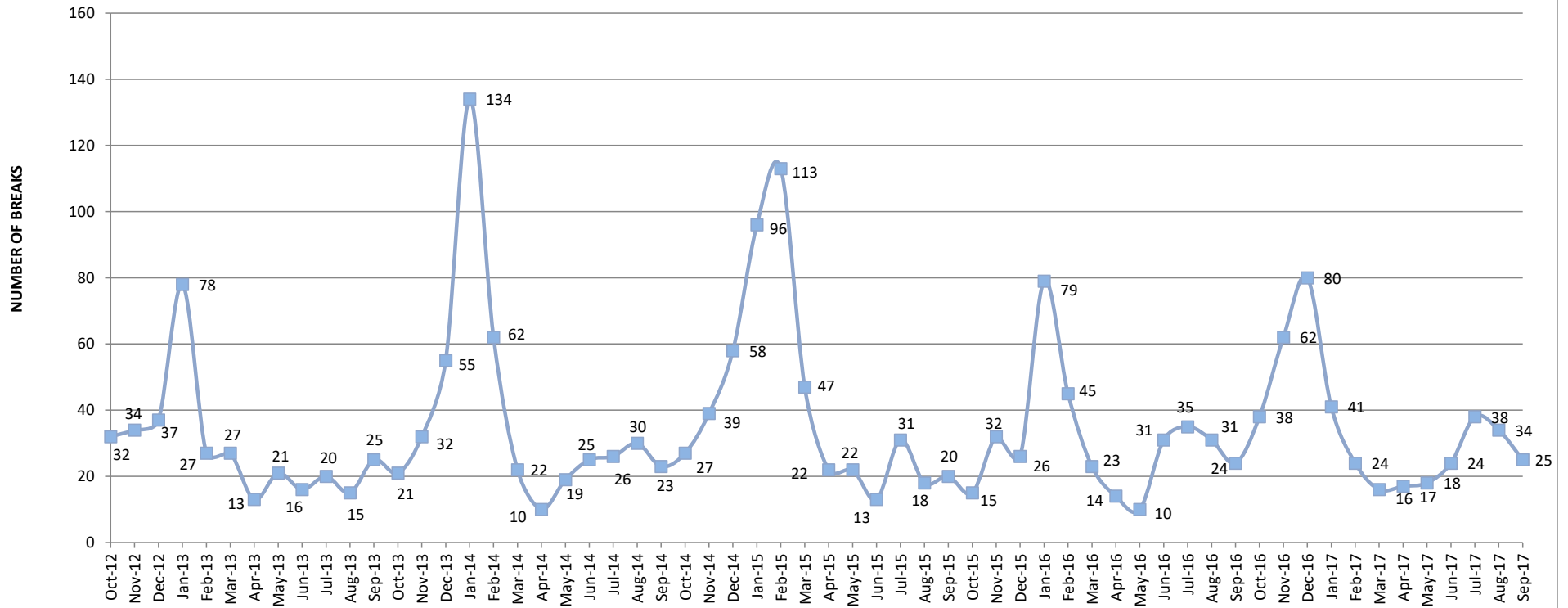
#### Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- No major items identified

### FY 2008 - FY 2017



## October 2012 thru September 2017





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**Cluster: CUSTOMER CARE & OPERATIONS**

**Department: WATER QUALITY & TECHNOLOGY**

**FUNCTIONS**

**BUDGET**

**FY 2019  
\$3,419,000**

**POSITIONS**

**FY 2017**

Authorized	0
Average Positions Filled	0
Year-End Positions Filled	0

<b>FY 2018</b>	<b>FY 2019</b>
22	22

Research & Development	Water Quality	Compliance
3 - Positions	11 - Positions	8 - Positions
Develop and manage research and programs related to sewer and storm-water collection systems	Environmental Protection Agency (EPA) drinking water compliance, monitoring and reporting	Manage cross connection program
Perform distribution system research (i.e. lead and copper, discolored water, microbial)	Control and monitor corrosion in the water distribution system, and conduct routine water quality analysis, direct daytime flushing activities	Manage the Fats, Oil and Grease (FOG) program
Develop and manage research and programs related to sewer and storm-water collection systems		
Provide scientific input into all areas of business, including the Innovations Team		

## WATER QUALITY AND TECHNOLOGY

**MISSION:** Provide the highest water quality possible to every customer and exceeding expectations with world-class customer service

**BUDGET OVERVIEW:** The Water Quality and Technology Department was created in FY 2018 from Water Services Department as part of the Customer Care & Operation Cluster reorganization. The approved FY 2019 budget is higher than the approved FY 2018 by approximately \$0.6 million primarily due to personnel service cost adjustment and contractual services costs for the expansion of the Fats Oils & Grease program and other water quality research initiatives

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	-	-	22	22
Average number of positions filled	-	-		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ -	\$ -	\$ 2,287	\$ 2,653
Overtime	-	-		30
<b>Non-personnel Services:</b>				
Supplies & Chemicals	-	-	86	104
Utilities	-	-	-	-
Contractual Services, etc.	-	-	339	612
Water Purchases	-	-	-	-
Small Equipment	-	-	50	50
<b>Total Non-Personnel Services</b>	-	-	475	766
<b>Total Operations &amp; Maintenance</b>	\$ -	\$ -	\$ 2,762	\$ 3,419
<b>Capital Equipment</b>	\$ -	\$ -	\$ 150	\$ 150
<b>Targeted Performance Measures</b>	<b>FY 2016 Actual</b>	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2019 Approved</b>
Maintain full compliance with Safe Drinking Water Act standards for positive coliform results (less than 5%)	-	-	<5%	<5%



## WATER QUALITY AND TECHNOLOGY

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

- Continue to meet EPA Safe Drinking Water Act compliance requirements
- Continue the voluntary on-line water quality monitoring program and oversight of the lead monitoring strategies
- Manage Compliance Programs related to Cross Connections and Fats, Oil & Grease (FOG) program, perform cross connection inspection surveys at non-residential premises and implement fines and fees
- Maintain internal DC Water backflow preventer assembly information and external DC Water backflow prevention information
- Administer current regulatory enforcement related to Compliance Programs using Maximo and Third Party Portal (3PP) software
- Provide enforcement for illegal hydrant usage
- Perform research related to drinking water bio stability and implement smart water quality sensor monitoring with data analytics

#### FY 2019 Major Recommended Activities and Changes

- Perform oversight of all types of lead monitoring strategies
- Continue to maintain internal DC Water backflow preventer assembly information and external DC Water backflow prevention information
- Manage implementation and monitoring of improved flushing program
- Continue the voluntary water quality monitoring program and oversight of the lead monitoring strategies
- Continue to manage on-line water quality monitoring and response
- Develop building water quality management services
- Continue the Cross Connections and Fats, Oil, & Grease (FOG) program, to include inspections at appropriate commercial facilities
- Continue the enforcement for illegal hydrant usage
- Perform research and innovation related to corrosion control

#### Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Rehabs to storage facilities and pump stations increases online monitoring service contractual and maintenance costs
- Small Diameter Water Main Replacement (SDWMR) and Large Diameter Water Main Rehabilitation (LDWMR) projects increase water quality monitoring costs (laboratory/chemical costs)
- Pressure Zone Increase Project (PZIP) increases monitoring costs
- Changes to the distribution system through capital projects increases monitoring costs via customer complaints and investigations



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**Cluster: CUSTOMER CARE & OPERATIONS**

**Department: SEWER SERVICES**

**FUNCTIONS**

**BUDGET**

**FY 2019**  
**\$ 14,342,000**

**POSITIONS**

**FY 2017**

<b>Authorized</b>	<b>110</b>
Average Positions Filled	95
Year-End Positions Filled	91
<b>FY 2018</b>	<b>FY 2019</b>
115	104

Inspection & Maintenance	Construction & Repair
45 – Positions	59 - Positions
Inspect public sewers and sewer laterals. Clean sewers and inlet/outlet structures. Operate and maintain sewer regulator structures	Install and repair sewer mains and sewer laterals
Remove floatable debris Monitor & Control Operations	Install and repair catch basins. Responsible for cleaning and maintenance operations of regular catch basins, stormceptors, and grate ponds
	Oversee maintenance program for storm water structures, filter bio-retention and water quality catch basins cleaning

**SEWER SERVICES**

**MISSION:** To perform engineering planning, design, and construction management necessary to execute DC Water's Capital Improvement Program (CIP); to provide assistance and advice to operating departments and management on engineering aspects of the Authority's operation and facilities. To develop and maintain engineering documentation of the Authority's facilities and systems; and to assist the Authority with environmental policy.

**BUDGET OVERVIEW:** The approved FY 2019 budget is relatively flat compared to the FY 2018 budget. The authorized position for FY 2019 reflects transfer of three FTE's to the newly created Water Quality and Technology department

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
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**Positions: (FTE's)**

Number of authorized positions	119	110	115	104
Average number of positions filled	105	95		

**Operating Expenses (\$000's)**

<b>Personnel Services including Overtime</b>	\$ 12,057	\$ 11,093	\$ 11,533	\$ 11,671
Overtime Hours	1,010	1,172	900	1,068

**Non-Personnel Services:**

Chemicals and Supplies	702	590	559	558
Utilities	606	(22)	815	669
Contractual Services, etc.	1,546	1,817	1,372	1,411
Small Equipment	33	10	35	33
<b>Total Non-Personnel Services</b>	<b>2,887</b>	<b>2,394</b>	<b>2,782</b>	<b>2,671</b>

<b>Total Operations &amp; Maintenance</b>	<b>\$ 14,944</b>	<b>\$ 13,487</b>	<b>\$ 14,315</b>	<b>\$ 14,342</b>
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<b>Capital Equipment</b>	<b>\$ 284</b>	<b>\$ 197</b>	<b>\$ 225</b>	<b>\$ 225</b>
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Targeted Performance Measures	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Percentage of KPI's Catch Basin	100%	100%	100%	100%
Percentage of KPI's Floatable debris (400 tons/yr)	100%	100%	100%	100%
Percentage of KPI's for Sewer Inspection	80%	80%	80%	80%

## SEWER SERVICES

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

- Implement red zone small diameter sewer inspection project for condition assessment of service life restoration on mainline sewers
- Coordinate with DETS for red zone large diameter sewer inspection project for condition assessment of service life restoration on mainline sewers
- Continue coordination efforts with DC Clean Rivers Program on construction activities that interface with sewer operations
- Coordinate inspection and training responsibility for Department of Sewer Services (DSS) crews with completed structures on DC Clean Rivers tunnel installation
- Work with DETS to complete the rehabilitation of the segment of the Upper Potomac Interceptor Sewer located in Georgetown
- Continue replacement of Sewer Laterals and installation of point patch repair of mainline sewer using Trenchless Technologies
- Continue to improve the catch basin inventory using the Catch Basin Application
- Work with DETS to implement permit requirements for Municipal Separate Storm Sewer System (MS4) Outfalls
- Provide new building and dock facilities where the floatable debris removal program will be located permanently
- Plan for relocation to new DSS campus

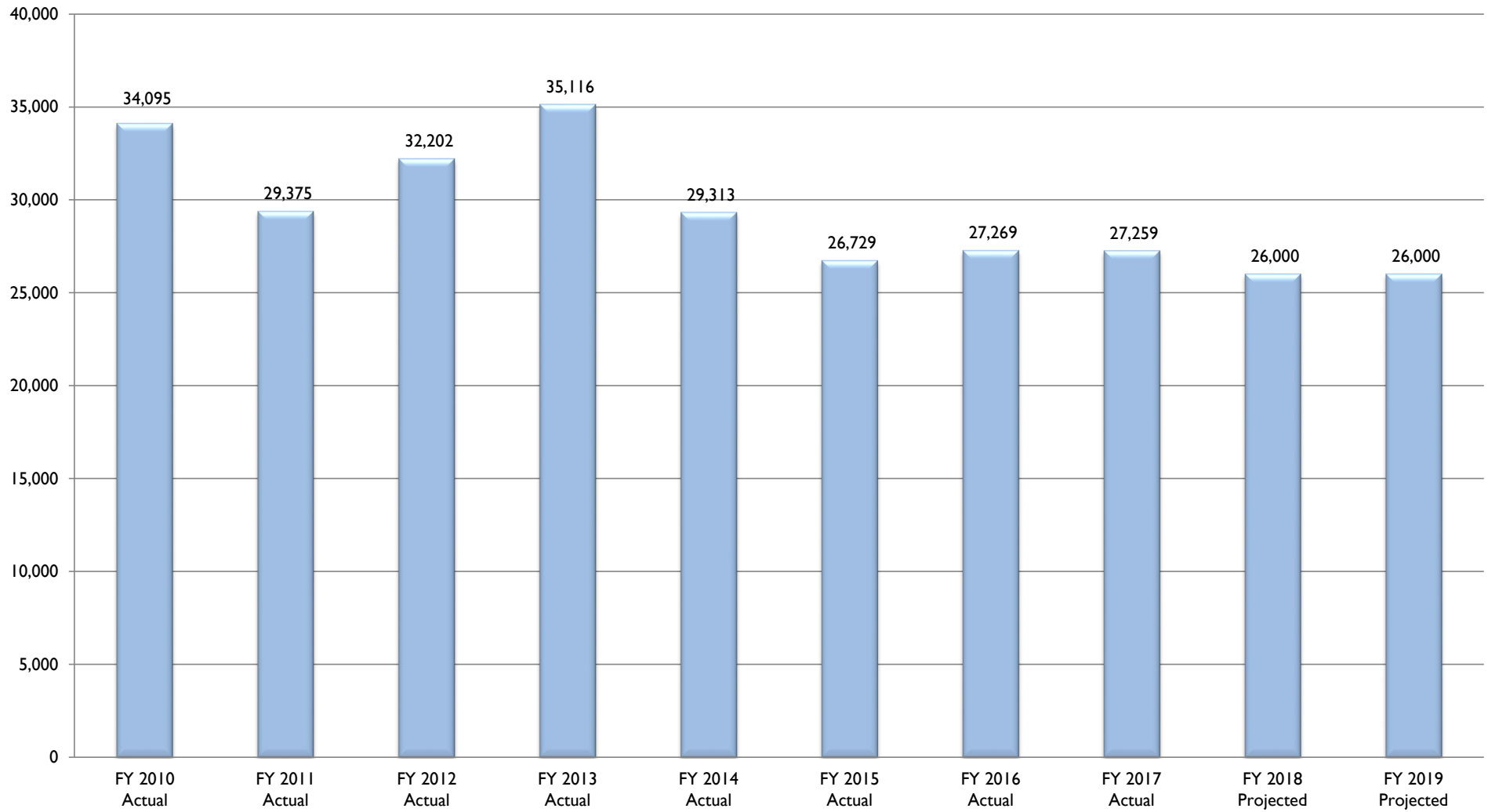
#### FY 2019 Major Recommended Activities and Changes

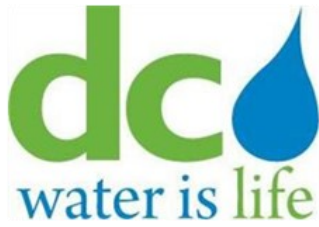
- Continue chemical root foaming contract at problematic locations
- Implement red zone small diameter sewer inspection project for condition assessment of service life restoration on mainline sewers
- Continue replacement of Sewer Laterals and installation of point patch repair of mainline sewer using Trenchless Technologies
- Continue evaluating emerging technologies for conditional assessment to promote effective repair of our sewer system
- Coordinate inspection and training responsibilities for DSS crews on completed structures of DC Clean Rivers tunnel installations
- Analyze catch basin data to determine frequency of cleaning
- Continue working with DETS to implement permit requirements for MS4 Outfalls
- Continue working on new building and dock facilities for the floatable debris removal program
- Continue planning for relocation to new DSS campus

#### Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Operation and maintenance of the new Combined Sewer and Overflow (CSO) tunnels and sewer mainline projects
- Operating and Maintenance costs from additional water quality catch basins installed by DDOT

### FY 2010 - FY 2019





## Cluster: CUSTOMER CARE & OPERATIONS

### Department: CUSTOMER SERVICE

#### FUNCTIONS

BUDGET		Office of the Director	Customer Service & Support	Credit and Collections	Revenue Assurance	Customer Care	Meter and Field Services
FY 2019 \$ 20,340,000		8 - Positions	7 - Positions	11 - Positions	25 - Positions	39 - Positions	36 - Positions
POSITIONS		Manage customer care and operations initiatives and programs	Manage complaints, disputes, hearings, and external requests	Manage delinquent accounts based on customer payment history	Manage customer accounts and billing processes	Provide timely responses to customer inquiries across multiple channels	Maintain, install, test, repair and replace meters
FY 2017		Establish work processes and standard operating procedures	Manage and monitor quality control and assurance for departmental processes and system changes	Manage Refund Process	Manage and process bill exceptions, adjustments and cancellations	Address billing issues and inquires	Manage AMR system and manual reads
Authorized	125	Provide planning and project management for Advance Metering Infrastructure (AMI), Automatic Meter Reader (AMR) and Customer Information System improvement and enhancements	Manage Training and process improvement efforts	Manage property lien filing, dunning process, receivership, and tax sale	Manage the new accounts creation including impervious area GIS database assuring accurate billing of impervious surfaces in the District	Provide 24/7 Emergency customer call response & dispatch	Perform interior inspections
Average Positions Filled	109	Conduct Customer Satisfaction Survey		Manage the DC Water Customer Assistance Programs (CAP) and Serving People By Lending A Supporting Hand (SPALSH)			Perform termination and restoration of service
Year-End Positions Filled	114						
FY 2018	FY 2019						
126	126						

## CUSTOMER SERVICE

**MISSION:** To provide superior, equitable and responsive customer service to the diverse community we serve.

**BUDGET OVERVIEW:** The approved FY 2019 budget is higher than the approved FY 2018 budget by approximately \$1.1 million primarily due to personnel service cost adjustments, and increase in contractual services costs. The increase is offset by a reduction in utilities as a result of planned relocation to the new Headquarters Office.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
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### Positions: (FTE's)

Number of authorized positions	124	125	126	126
Average number of positions filled	108	109		

### Operating Expenses (\$000's)

<b>Personnel Services including Overtime</b>	\$ 11,588	\$ 12,103	\$ 12,700	\$ 13,950
Overtime	317	615	260	311

### Non-Personnel Services:

Chemicals and Supplies	124	149	171	178
Utilities	1,170	1,877	1,258	843
Contractual Services, etc.	4,754	5,032	5,090	5,291
Small Equipment	40	33	63	78
<b>Total Non-Personnel Services</b>	<b>6,089</b>	<b>7,092</b>	<b>6,582</b>	<b>6,389</b>

<b>Total Operations &amp; Maintenance</b>	<b>\$ 17,677</b>	<b>\$ 19,195</b>	<b>\$ 19,281</b>	<b>\$ 20,340</b>
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<b>Capital Equipment</b>	<b>\$ 6,165</b>	<b>\$ 20,227</b>	<b>\$ 9,343</b>	<b>\$ 2,618</b>
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Targeted Performance Measures	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Calls answered within 40 seconds	85%	85%	85%	85%
Dispatch Water and Sewer Emergencies within 10 Minutes		85%	90%	90%
AMR Target - to obtain actual meter readings	75%	90%	95%	98%
Collection Rate		98%	98%	98%
Regular Accounts Billed Monthly / Special Accounts as Scheduled	98%	97%	97%	97%



**CUSTOMER SERVICE**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Continue replacement of approximately 90,000 water meters and meter transmitting units (MTU's) as part of DC Water's Automated Meter Reading (AMR) replacement program
- Implementation and go live of the new Customer Information System (eCIS) for the retail customers billing and reporting
- Recruit for new positions and reclassification in relation to the eCIS project to improve revenue and collection assurance
- Transition in-house of Back Office billing functions to improve efficiency in timely and accurate billing
- Enhance customer service excellence to increase first call resolutions and effortless customer experience to reduce repeat calls and escalations
- Perform Customer Satisfaction Survey
- Implement knowledge development and talent management
- Relocation to the new Headquarters building

FY 2019 Major Recommended Activities and Changes

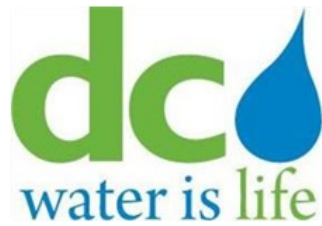
- Continue AMR installations for large meters
- Continue CIS implementation
- Implement System Availability Fee
- Complete the Customer Service Satisfaction Survey, analyze results and perform follow-up
- Continue the enhancement of customer services excellence
- Continue knowledge development and talent management

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Implementation of the new eCIS and installation of AMR's in FY 2018 and FY 2019 will impact personnel and non-personnel O&M costs
- Process mapping and standard operating procedures development support would increase contractual costs



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**Cluster: CUSTOMER CARE & OPERATIONS**  
**Department: DISTRIBUTION & CONVEYANCE SYSTEMS**

**FUNCTIONS**

**NPS BUDGET**

**FY 2019**  
**\$ 51,611,000**

**POSITIONS**

**FY 2017**

<b>Authorized</b>	<b>89</b>
Average Positions Filled	79
Year-End Positions Filled	77
<b>FY 2018</b>	<b>FY 2019</b>
88	90

Director's Office & Emergency Management	Pumping Operations	SCADA Process Control	Maintenance	Potomac Interceptor
8 - Positions	29 - Positions	14 - Positions	32 - Positions	7 - Positions
Manage the overall distribution and conveyance water and sewer system	Operate Water Pumping Stations, Storage Facilities and Water Towers	Operate and maintain SCADA Applications, Hardware and Network Support	Plan, coordinate and perform all corrective, emergency, preventative, and predictive maintenance	Operate and maintain Potomac Interceptor (PI) Sewer
Manage the Emergency Management Program	Operate Sanitary and Combined Sewer Facilities to ensure maximize flow to Blue Plains	Execute Storm Water Pollution Prevention Plan inspections and prepare reports	Maintain and troubleshoot mechanical process systems and equipment	Operate and maintain PI Flow Meters and odor control facilities and manholes
Manage the Vulnerability Assessment	Inspect inflatable dams to ensure proper function during rain events	Operate and maintain all Process Instrumentation and controls	Plan, schedule, and perform condition monitoring for process equipment	Manage Miss Utility services in Virginia and Montgomery County, Maryland
Manage Emergency preparedness training for DC Water staff and contractors	Operate Northeast Boundary Swirl Facility	Facilitate, compile and administer Consent Decree reporting	Maintain/update Engineering Records	Monitor Right-of-Way to maintain integrity and prevent encroachment

**DISTRIBUTION AND CONVEYANCE SYSTEMS**

**MISSION:** To provide high resiliency, customer focused delivery of water distribution and sewer collection pumping services every minute of every day.

**BUDGET OVERVIEW:** The approved FY 2019 budget is higher than the approved FY 2018 budget by approximately \$3.1 million primarily due to personnel service cost adjustments, increased headcount costs, increases in contractual services costs and water purchase.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	88	89	88	90
Average number of positions filled	75	79		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 9,666	\$ 10,147	\$ 9,732	\$ 11,276
Overtime	759	862	541	800
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	1,008	1,438	776	744
Utilities	4,609	4,144	4,168	3,965
Water Purchase	26,345	26,796	30,156	30,520
Contractual Services, etc.	3,527	3,864	3,608	4,979
Small Equipment	148	185	50	126
<b>Total Non-Personnel Services</b>	<b>35,638</b>	<b>36,427</b>	<b>38,758</b>	<b>40,335</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 45,304</b>	<b>\$ 46,574</b>	<b>\$ 48,490</b>	<b>\$ 51,611</b>
<b>Capital Equipment</b>	<b>\$ 478</b>	<b>\$ 1,986</b>	<b>\$ 1,700</b>	<b>\$ 1,700</b>
<b>Targeted Performance Measures</b>				
	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Critical Equipment Availability (98%)	98%	98	98%	98
Number of inspections completed on Potomac Interceptor meters	400	400	400	400

## DISTRIBUTION AND CONVEYANCE SYSTEMS

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

- Ensure adequate flow and distribution of retail water throughout the District of Columbia
- Ensure maximization of water conveyance to Blue Plains according to the Nine (9) Minimum Control Plan
- Coordinate, plan and perform all emergency and corrective maintenance operations for mechanical, electrical and industrial equipment
- Perform Potomac Interceptor Odor Control Carbon replacement at Odor Control Facilities located in the District of Columbia and Montgomery County, Maryland
- Continue to implement plans for compliance inspections
- Ensure Supervisory Control And Data Acquisition (SCADA) system availability to operators and other stakeholders
- Ensure SCADA system is secure from cyber intrusion
- Continually enhance and optimize the pump stations automatic controls
- Manage the distribution system pressure and water quality, and provide sewer flow monitoring
- Continue the implementation of the Multi-Jurisdictional Use Facilities (MJUF) Costs

#### FY 2019 Major Recommended Activities and Changes

- Continue to implement plans for compliance inspections
- Expand safety program by ensuring compliance at all work areas throughout the District of Columbia
- Increase availability of data through the SCADA system
- Implement findings from vulnerability and risk assessment
- Continue Total Productive Maintenance and Reliability Centered Maintenance programs

#### Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- No major items identified



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**Cluster: CHIEF ENGINEER**  
**Department: ENGINEERING & TECHNICAL SERVICES**  
**FUNCTIONS**

**BUDGET**

**FY 2019**  
**\$24,790,000**

POSITIONS	
FY 2017	
Authorized	166
Average Positions Filled	152
Year-End Positions Filled	147
FY 2018	FY 2019
166	150

Design	Engineering Management	Planning	Water & Sewer Construction	Asset Management	Quality Management
55 - Positions	18 - Positions	16 - Positions	55 - Positions	2 - Positions	4 - Positions
Designs capital projects, including all linear projects and facilities projects outside Blue Plains	Ensure DETS contract documents comply with DC Water and EPA Procurement Regulations Recommend all contract awards	Asset Management Continually inspects and assesses the condition of buried assets and vertical facilities.	Administer contracts for new construction, major repair and modifications to water & sewer systems and facilities	Development, implementation and oversight of DC Water's Asset Management Program including identification of assets and use of risk based methodologies to effectively manage assets	Develops, implements, and monitors all aspects of the Department's Quality Management System (QMS); Leads the QMS integration and training within the Department
Develops all Small Diameter Water mains and select Sewer Rehab designs Review, create and maintain standards to ensure technical adequacy	Manage and track the CIP Manage and track EPA Grants Develop, prepare and coordinate DETS operating budget	Develops and Maintains the water and sewer hydraulic models. Develops the 10-year CIP for all water and sewer system infrastructure improvements	Inspect construction of DC Water facilities by contractors, other District agencies and private developers Manage Critical Customer Concerns as necessary w/Gov't leadership	Manages and works with DC Water staff and consultants to ensure that DC Waters asset management policies and practices are consistent and being followed.	Provides field oversight and audit functions to ensure project procedures and documents are in compliance with quality plans and DC Water Standards.
Provide engineering support to operating departments Provide topographic survey support	Manage DETS engineering systems hardware/software	Coordinates with user jurisdictions for capital and O&M cost allocations of joint use facilities	QA/QC Inspection of Precast structures		Tracks project performance and implements improvements to policies and procedures to sustain compliance with quality standards through the QMS

**ENGINEERING & TECHNICAL SERVICES**

**MISSION:** To perform engineering planning, design, and construction management necessary to execute DC Water's Capital Improvement Program (CIP); to provide assistance and advice to operating departments and management on engineering aspects of the Authority's operation and facilities. To develop and maintain engineering documentation of the Authority's facilities and systems; and to assist the Authority with environmental policy.

**BUDGET OVERVIEW:** The approved FY 2019 budget is lower than the approved FY 2018 budget by \$1.9 million due to the creation of a new Wastewater Engineering department, resulting in the transfer of 15 FTEs from Engineering & Technical Services.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	166	166	166	150
Average number of positions filled	155	152		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 21,581	\$ 22,102	\$ 23,344	\$ 21,989
Overtime	740	1,063	1,024	864
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	122	176	196	193
Utilities	397	439	490	636
Contractual Services, etc.	1,876	2,327	2,592	1,910
Small Equipment	78	82	106	62
Total Non-Personnel Services	2,472	3,025	3,384	2,802
<b>Total Operations &amp; Maintenance</b>	\$ 24,053	\$ 25,126	\$ 26,728	\$ 24,790
<b>Capital Equipment</b>	\$ -	\$ 132	\$ 20	\$ 20
<b>Targeted Performance Measures</b>				
	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Percentage of KPI's Completed	80%	80%	80%	80%
Use 100% of Clean Water Act grant funds	100%	100%	100%	100%
Use 100% of Safe Drinking Water Act grant funds	100%	100%	100%	100%



## ENGINEERING & TECHNICAL SERVICES

### OVERVIEW

#### FY 2019 Major Planned Activities and Changes

- Continue to validate and prioritize Capital Improvement Program (CIP) projects using the enterprise Asset Management Framework
- Lead and manage timely and on-budget delivery of CIP projects
- Implement Water, Wastewater Treatment and Sewer Facility Plans and corresponding Asset Management Plans
- Improve program management and project development and implementation across the service areas
- Improve metering and development of the sewer hydraulic model
- Acquire permits and approvals needed to execute various CIP projects
- Continue condition assessments of large diameter water mains
- Inspect and assess the condition of major and critical trunk sewers and interceptors
- Continue implementation of the Total Nitrogen/Wet Weather plan for Blue Plains Advanced Wastewater Treatment Plan (AWTP) through the completion and placing on-line of the Tunnel Dewatering Pump station/Enhanced Clarification project (required on-line per Consent Decree - March 23, 2018)
- Continue implementation of the Long Term Control Plan (DC Clean Rivers)
- Monitor EPA Fair Share Objectives
- Develop and implement biosolids related projects to ensure continued success of the Biosolids Management Plan/Program
- Obtain grant funds, as appropriate, under the Clean Water Act, Safe Drinking Water Act and FEMA
- Ensure all grant funding is obligated in accordance with grant requirements

#### FY 2019 Major Recommended Activities and Changes

- Continue departmental realignment/reorganization planning and implementation, including increased staffing in critical areas
- Continue to validate and prioritize CIP projects using the Enterprise Asset Management Framework

#### Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Additional staffing to support implementation of the \$4.0 billion CIP for FY 2018 – FY 2027



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**Cluster: CHIEF ENGINEER**

**Department: WASTEWATER ENGINEERING**

**FUNCTIONS**

**BUDGET**

**FY 2019**  
**\$3,064,000**

POSITIONS	
FY 2017	
Authorized	0
Average Positions Filled	0
Year-End Positions Filled	0
FY 2018	FY 2019
0	15

Program Management Branch	Blue Plains Project Branch
8 - Positions	7 - Positions
<ul style="list-style-type: none"> <li>Develop and maintain long-term facility planning process</li> <li>Generate bid documents for construction and rehabilitation projects</li> </ul>	<ul style="list-style-type: none"> <li>Administer contracts for construction management, new construction, major repairs, modifications and start-up to the Blue Plains Advanced Wastewater Treatment Plant</li> </ul>
<ul style="list-style-type: none"> <li>Provide engineering data for development and maintenance of the Capital Improvement Plan (CIP)</li> <li>Technical and policy coordination with other jurisdictions and federal agencies</li> </ul>	<ul style="list-style-type: none"> <li>Perform construction management of new construction, major repairs and modifications to process and non- process facilities</li> </ul>
<ul style="list-style-type: none"> <li>Review and approve Process Control System (PCS), Supervisory Control and Data Acquisition (SCADA) and Instrumentation &amp; Control (I&amp;C) engineering documents for compliance with established guidelines and standards</li> </ul>	<ul style="list-style-type: none"> <li>Perform design reviews and coordinate construction work with other departments at Blue Plains</li> </ul>
<ul style="list-style-type: none"> <li>Manage the Engineering responsibilities for all PCS and SCADA related projects from planning, design, construction, commissioning and operational support</li> </ul>	
<ul style="list-style-type: none"> <li>Coordinate PCS/SCADA projects with Washington Aqueduct Division (WAD) and other agencies</li> </ul>	

**WASTEWATER ENGINEERING**

**MISSION:** To provide the structural capability needed to begin the in-sourcing process of the design and construction management functions, with reliance on outside consultants for specialized expertise as part of the delivery of the Capital Improvement Program.

**BUDGET OVERVIEW:** As part of the reorganization of the Chief Engineering cluster, a new Wastewater Engineering department was created from Engineering & Technical Services.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	-	-	-	15
Average number of positions filled	-	-	-	
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ -	\$ -	\$ -	\$ 2,310
Overtime	-	-	-	36
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	-	-	-	13
Utilities	-	-	-	-
Contractual Services, etc.	-	-	-	736
Small Equipment	-	-	-	5
Total Non-Personnel Services	-	-	-	754
<b>Total Operations &amp; Maintenance</b>	\$ -	\$ -	\$ -	\$ 3,064
<b>Capital Equipment</b>	\$ -	\$ -	\$ -	\$ -
<b>Targeted Performance Measures</b>	<b>FY 2016 Actual</b>	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2019 Approved</b>
Percentage of KPI's Completed	N/A	N/A	N/A	Criteria not yet established

**WASTEWATER ENGINEERING**

**OVERVIEW**

FY 2019 Major Planned Activities and Changes

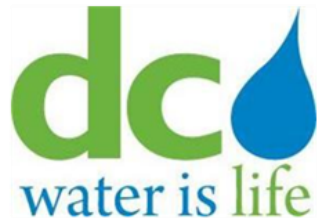
- Develop and maintain long-term facility planning process
- Generate bid documents for construction and rehabilitation projects
- Provide engineering data for development and maintenance of the Capital Improvement Plan (CIP)
- Provide staff support for environmental policy issues affecting DC Water
- Technical and policy coordination with other jurisdictions and federal agencies
- Review and approve PCS, SCADA and I&C engineering documents for compliance with established guidelines and standards
- Explore new technologies that can be used to increase operational efficiency of our wastewater treatment, sewer collection and water distribution systems

FY 2019 Major Recommended Activities and Changes

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures



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**BUDGET**

**FY 2019  
\$3,046,000**

**POSITIONS**

**FY 2017**

<b>Authorized</b>	<b>15</b>
Average Positions Filled	13
Year-End Positions Filled	13
<b>FY 2018</b>	<b>FY 2019</b>
15	15

**Cluster: CHIEF ENGINEER**

**Department: DC CLEAN RIVERS (CSO - LTCP)**

**FUNCTIONS**

DCCR Planning and Design	DCCR Construction	DCCR Green Infrastructure (GI)
6 - Positions	5- Positions	4 - Positions
Manage and oversee the planning and design phase of the \$2.7 billion, 25 year Clean Rivers Program	Manage and oversee the construction phase of the 20 year Clean Rivers Project	Manage and oversee the completion of the Green Infrastructure (GI) Program, siting and planning for GI projects
Oversee the program consultant's management of design contracts; and guide value engineering efforts to improve the quality and design cost effectiveness	Ensure adherence to all construction related consent decree requirements and guide constructability review efforts	Manage collaboration with external stakeholders including memorandum of understanding (MOU) development and negotiation with District
Develop risk mitigation strategies for all Clean Rivers projects and ensure adherence to all design related consent decree milestones	Develop risk mitigation strategies for all Clean Rivers projects, inspect tunnel construction and other CSO abatement facilities	Manage the design and construction of GI Challenge
Provide assistance in creating an accurate DC Clean Rivers Engineering Assets inventory with the integration of DC Water's operating facilities	Identify and mitigate potential project delay and scope growth	Ensure adherence to all GI consent decree milestones

**CLEAN RIVERS (CSO LTCP)**

**MISSION:** To develop, design, construct and implement the Authority's 25-year DC Clean Rivers Project (aka Combined Sewer Overflow Long Term Control Plan) that includes federally mandated consent decree driven milestones.

**BUDGET OVERVIEW:** The approved FY 2019 budget has no significant changes to the approved FY 2018 budget.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	15	15	15	15
Average number of positions filled	14	13		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 2,613	\$ 2,597	\$ 2,691	\$ 2,661
Overtime	-	-	-	-
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	3	3	19	26
Utilities	106	102	41	110
Contractual Services, etc.	107	54	244	249
Small Equipment	6		-	
<b>Total Non-Personnel Services</b>	<b>222</b>	<b>159</b>	<b>304</b>	<b>385</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 2,835</b>	<b>\$ 2,757</b>	<b>\$ 2,995</b>	<b>\$ 3,046</b>
<b>Capital Equipment</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-</b>
<b>Targeted Performance Measures</b>	<b>FY 2016 Actual</b>	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2019 Approved</b>
Meet all CSO LTCP consent decree milestones	100%	100%	100%	100%



## CLEAN RIVERS (CSO LTCP)

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

- Complete construction of Joint Base Anacostia-Bolling (JBAB) Overflow and Diversions Structures
- Complete construction of Anacostia River Tunnel
- Complete construction of the Main Pumping Station Diversions
- Complete construction of Northeast Boundary Tunnel Utility relocation project
- Continue construction of CSO 021 Diversion Facilities
- Complete Poplar Point Pumping Station Replacement and Main Outfall Sewers Diversion
- Commission and place Phase I of Anacostia River Tunnel System Project in operation
- Begin construction of Northeast Boundary Tunnel
- Complete procurement and begin the construction of Piney Branch Diversion Structures
- Continue DC Clean Rivers Engineering Assets inventory with the integration of DC Water’s operating facilities
- Continue development of Facility Planning for the Potomac River Tunnel (PRT) System
- Continue development of the Environmental Impact Statement (EIS) for PRT System
- Continue construction of Rock Creek Project I (RC-A) including Green Infrastructure (GI) Challenge projects
- Complete construction of Alley Palooza projects that include GI
- Begin construction of Potomac River Project I (PR-A)
- Complete implementation for pilot phase of Drain the Rain (Downspout Disconnection Program)
- Continue implementation of National GI Certification Program

#### FY 2019 Major Recommended Activities and Changes

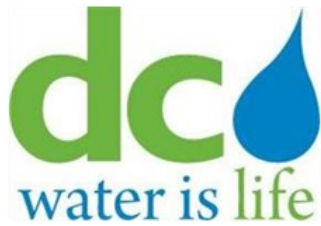
- Continue construction of Northeast Boundary Tunnel (NEBT)
- Complete the Facility Planning for the PRT System
- Complete the development of the EIS for PRT System
- Complete the construction of CSO 021 Diversion Facilities
- Continue the construction of Piney Branch Diversion Structures
- Begin planning and design for CSO-025/026 Separation (PR-C)
- Complete the construction of RC-A (including GI Challenge projects)
- Begin post-construction monitoring of RC-A
- Complete the construction of PR-A
- Begin post-construction monitoring of PR-A
- Continue implementation of National GI Certification Program

#### Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Operation and maintenance of completed tunneling projects



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**Cluster: CHIEF ENGINEER**

**Department: PERMIT OPERATIONS**

**BUDGET**

**FY 2019  
\$2,760,000**

**POSITIONS**

**FY 2017**

<b>Authorized</b>	<b>15</b>
Average Positions Filled	13
Year-End Positions Filled	13
<b>FY 2018</b>	<b>FY 2019</b>
15	15

**FUNCTIONS**

<b>15 Positions</b>	
Review and approve permit applications, issue work orders for the inspection of proposed work	
Ensure development community compliance with DC Water design standards, criteria and specifications	
Assess and collect fees for permit review, fixed fee services, inspection services, System Availability Fees, and manage the fee collection process	
Create accounts for collected fees and manage return of unused reimbursable fees	
Evaluate impact of proposed development on water and sewer infrastructure for capacity and hydraulic grade	
Ensure compliance with combined sewer system/DC Clean Rivers program initiatives, current CIP and proposed improvements	
Coordinate with various DC agencies (DCRA, DDOT and DDOE) in support of the District's permit procedures	
Update and/or create customer service records (Premises) and the GIS database	

**PERMIT OPERATIONS**

**MISSION:** To manage DC Water's development and permit services.

**BUDGET OVERVIEW:** The approved FY 2019 budget increased approximately \$0.5M over FY 2018 budget due to salary adjustments in personnel services.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	15	15	15	15
Average number of positions filled	14	13		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 1,653	\$ 1,811	\$ 1,791	\$ 2,205
Overtime	4	11	2	99
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	7	11	31	38
Utilities	314	342	332	353
Contractual Services, etc.	75	68	130	153
Small Equipment			10	11
<b>Total Non-Personnel Services</b>	<b>396</b>	<b>421</b>	<b>503</b>	<b>555</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 2,049</b>	<b>\$ 2,233</b>	<b>\$ 2,295</b>	<b>\$ 2,760</b>
<b>Capital Equipment</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Targeted Performance Measures</b>	<b>FY 2016 Actual</b>	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2019 Approved</b>
Process all permit applications in accordance with the service level agreement timeframe (85%)	85%	85%	85%	85%

**PERMIT OPERATIONS**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Incorporation of customer service functions of reimbursable inspections cost account maintenance
- Integration of online applications for permits
- Assessment of as-built fees for projects in order to fund out of house development of as-built drawings
- Introduction of System Availability Fees (SAF) for new water and sewer connections and renovation or redevelopment projects for existing connections to the District’s potable water and sanitary sewer systems based on the SAF meter size
- Improve the as-built fee estimation process
- Third Party Portal integration for Hydrant Use, Taps and Meter Sets

FY 2019 Major Recommended Activities and Changes

- Implementation of the System Availability Fee (SAF)
- Continue Support of As-built fee collection
- Continue support of account refunds where applicable
- Add Enterprise level GIS Data, i.e. Permits and construction status integrated with Maximo

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- None



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**Cluster: INDEPENDENT OFFICES**

**Department: GENERAL MANAGER**

**BUDGET**

**FY 2019  
\$4,301,000**

**FUNCTIONS**

POSITIONS	
FY 2017	
Authorized	15
Average Positions Filled	15
Year-End Positions Filled	15
FY 2018	FY 2019
16	16

16 - Positions
Provides overall operational and policy direction in support of the Board of Director's Strategic Plan
Organize, plan and direct all operations of the Authority
Ensure development and implementation of improvement processes to increase operational efficiencies

**GENERAL MANAGER**

**MISSION:** The General Manager's Office administers, plans, organizes and directs the operations of DC Water.

**BUDGET OVERVIEW:** The approved FY 2019 budget is slightly higher than the approved FY 2018 budget by \$0.2 million due to personnel service cost adjustments.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	16	15	16	16
Average number of positions filled	15	15		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 3,170	\$ 3,286	\$ 3,221	\$ 3,394
Overtime	11	11	9	9
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	12	21	13	13
Utilities	28	26	37	36
Contractual Services, etc.	634	720	868	858
Small Equipment	-	-	-	
<b>Total Non-Personnel Services</b>	<b>674</b>	<b>767</b>	<b>917</b>	<b>907</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 3,844</b>	<b>\$ 4,053</b>	<b>\$ 4,138</b>	<b>\$ 4,301</b>
<b>Capital Equipment</b>	<b>\$ -</b>		<b>\$ -</b>	<b>\$ -</b>
<b>Targeted Performance Measures</b>	<b>FY 2016 Actual</b>	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2019 Approved</b>
Implement all policies and directives of the Board of Directors	100%	100%	100%	100%



**GENERAL MANAGER**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Support implementation of the revised DC Water Strategic Plan
- Administer and enhance DC Water’s comprehensive performance management system (Advancing Blue) for both union and non-union employees
- Utilize findings of employee engagement survey to implement initiatives and programs designed to enhance and sustain a results driven, high-performing work culture
- Administer and enhance DC Water’s permanent succession plan and leadership development program (Leading Blue)
- Continue to administer oversight of DC Water operational and financial performance

FY 2019 Major Recommended Activities and Changes

- No major changes anticipated

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- No major items identified



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**Cluster: INDEPENDENT OFFICES**

**Department: OFFICE OF THE SECRETARY (BOARD)**

**BUDGET**

**FY 2019  
\$599,000**

**FUNCTIONS**

**2 - Positions**

Manage logistics for Board of Directors and Committee meetings, Public Hearings, Workshops, Strategic Planning Process and all other business activities of the Board

Manage and oversee the day-to-day operations of the Board of Directors and maintain custodial of all books, records and official documents of the Board

Administer the subpoena process and provide Notary Service for the Authority

**POSITIONS**

**FY 2017**

<b>Authorized</b>	<b>2</b>
Average Positions Filled	2
Year-End Positions Filled	2
<b>FY 2018</b>	<b>FY 2019</b>
2	2

**OFFICE OF THE SECRETARY (BOARD)**

**MISSION:** To support the Board of Directors in developing and reviewing the DC Water's strategic goals, providing executive level assistance in planning, coordinating and executing assignments, and ensuring that the Board's business and activities are effectively managed.

**BUDGET OVERVIEW:** The approved F Y 2019 budget is relatively flat compared to the approved FY 2018.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	2	2	2	2
Average number of positions filled	2	2		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 282	\$ 306	\$ 296	\$ 293
Overtime	13	13	8	9
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	20	24	18	18
Utilities	9	8	7	6
Contractual Services, etc.	216	221	278	281
Small Equipment	-		-	1
<b>Total Non-Personnel Services</b>	<b>244</b>	<b>253</b>	<b>303</b>	<b>306</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 526</b>	<b>\$ 559</b>	<b>\$ 599</b>	<b>\$ 599</b>
<b>Capital Equipment</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Targeted Performance Measures</b>				
	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Provide timely and accurate Board and Committee agendas, reports and minutes	100%	100%	100%	100%
Follow-up and complete Board actions	100%	100%	100%	100%

**OFFICE OF THE SECRETARY (BOARD)**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Continue to draft and submit notices and agendas for all Board and Committee meetings and Public Hearings for publication in the District of Columbia Register as required by the Open Meetings Act of 2010
- Continue to publish all Board and Committee agendas, meeting materials and meeting minutes on DC Water’s website as required by the Open Meetings Act of 2010
- Continue to coordinate logistics for the Board’s Strategic Planning Session (retreat)
- Continue to coordinate the process to fill the expired and/or vacant Board appointments
- Continue to effectively monitor follow-up requests from the Board and Committees to ensure timely responses
- Continue to enhance data dissemination process for the Board, DC Water employees, the general public and stakeholders by use of state-of-the-art technology that supports Board’s Strategic Plan
- Continue to manage recordkeeping process by ensuring accuracy, comprehensiveness and effective maintenance of all Board related documents and materials
- Continue to work with Information Technology to secure, install and utilize state-of-the-art technology to ensure efficient and effective recording of proceedings for all Board and Committee meetings

FY 2019 Major Recommended Activities and Changes

- No major activities and/or changes expected in FY 2019

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- No direct impact envisioned at this time



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**Cluster: INDEPENDENT OFFICES**

**Department: INTERNAL AUDIT (outsourced)**

**FUNCTIONS**

**BUDGET**

**FY 2019  
\$ 940,000**

**POSITIONS**

**FY 2017**

<b>Authorized</b>	<b>0</b>
Average Positions Filled	0
Year-End Positions Filled	0
<b>FY 2018</b>	<b>FY 2019</b>
0	0

Oversight	Insight	Foresight
Conduct periodic audits	Assess programs and policies	Identify trends and challenges to prevent a crisis
Conduct audits requested by the Board of Directors and/or the Chief Executive Officer & General Manager	Share best practices and benchmarking information	Identify risks and opportunities
Review of corporate governance	Provide ongoing feedback for re-engineering management practices and policies	Risk-based auditing

**INTERNAL AUDIT**

**MISSION:** The mission of Internal Audit (IA) is to provide independent, objective assurance and consulting activity that is guided by a philosophy of adding value to improve the operations of DC Water. IA assists the organization in accomplishing its objectives by bringing a systematic and disciplined approach to evaluate and improve the effectiveness of the organization's risk management, control and governance processes.

**BUDGET OVERVIEW:** The approved FY 2019 budget is relatively flat to the FY 2018 budget.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	-	-	-	-
Average number of positions filled	-	-	-	-
<b>Operating Expenses</b>				
<b>Personnel Services including Overtime</b>	\$ -	\$ -	\$ -	\$ -
Overtime	-	-	-	-
<b>Non-Personnel Services:</b>				
Supplies	-	-	-	-
Utilities	8	7	5	7
Contractual Services, etc.	989	571	902	933
Small Equipment	-	-	-	-
<b>Total Non-Personnel Services</b>	<b>997</b>	<b>578</b>	<b>907</b>	<b>940</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 997</b>	<b>\$ 578</b>	<b>\$ 907</b>	<b>\$ 940</b>
<b>Capital Equipment</b>	\$ -	\$ -	\$ -	\$ -
<b>Targeted Performance Measures</b>	<b>FY 2016 Actual</b>	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2019 Approved</b>
Internal Audit Work Planned	14	12	14	8



## INTERNAL AUDIT

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

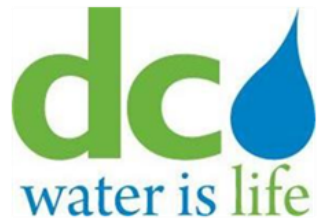
- Conduct an updated risk assessment and internal audit plan for the Authority
- Continue to manage DC Water’s hotline and implement the hotline protocol
- Report to the Board of Directors via the Audit Committee on the status of prior internal findings and management action plans
- Conduct follow-up procedures on newly presented audit findings and determine status of management action plans
- Implement committee and Board approved audit plans

#### FY 2019 Major Recommended Activities and Changes

- No major changes anticipated



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**Cluster: INDEPENDENT OFFICES**  
**Department: GENERAL COUNSEL**  
**FUNCTIONS**

**BUDGET**

**FY 2019**  
**\$ 8,557,000**

POSITIONS	
FY 2017	
Authorized	16
Average Positions Filled	14
Year-End Positions Filled	14
FY 2018	FY 2019
14	16

Litigation	Administrative Law
Appellate	Board of Directors Support
Bankruptcy	Draft, review and advise on contract and Authority policies and procedures
Contract	Clean Water & Clean Air Acts Compliance
Construction	Patent
Environmental	Safe Drinking Water Act & Regulatory Compliance
Procurement	Employment Law Matters
Tort	Intra-Governmental & Inter Jurisdictional Agreements
Receivership	Municipal Law & Real Property Matters
Employment	Pretreatment Enforcement Support
Foreclosures	Procurement Protests, Claims & Internal Appeals

**GENERAL COUNSEL**

**MISSION:** To support DC Water's mission by providing legal advice and services to the Board of Directors, the General Manager and the DC Water's departments.

**BUDGET OVERVIEW:** The approved FY 2019 budget is higher than the approved FY 2018 budget by approximately \$1.2 million primarily due to personnel service cost adjustments and two additional headcount, and contractual services for litigation.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	14	16	14	16
Average number of positions filled	13	14		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 1,853	\$ 2,110	\$ 2,066	\$ 2,525
Overtime	-	0	2	3
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	7	6	9	8
Utilities	21	19	21	22
Contractual Services, etc.	7,123	4,770	5,236	6,003
Small Equipment				
<b>Total Non-Personnel Services</b>	<b>7,150</b>	<b>4,794</b>	<b>5,266</b>	<b>6,032</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 9,003</b>	<b>\$ 6,905</b>	<b>\$ 7,332</b>	<b>\$ 8,557</b>
<b>Capital Equipment</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Targeted Performance Measures</b>				
	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Hours of employee time spent on direct work 1,700	1,700	1,700	1,700	1,700

**GENERAL COUNSEL**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Continue to manage litigation
- Continue to provide support to Clean Rivers Project and other long term Capital Improvement Program (CIP) Projects
- Provide legal support for Green Infrastructure activities
- Create Global and Domestic Compliance Group to reduce regulatory and claims exposure
- Support Intellectual Property monetarization activities and the Foreign Corrupt Practices Act/Foreign Corrupt Practices Act (FCPA/OFPA)
- Provide legal support for vetting regulation initiations (triennial WQS reviewing and others)

FY 2019 Major Recommended Activities and Changes

- Provide legal support to all CIP projects, LTCP, Clean Rivers and Green Infrastructure, including compliance activities
- Provide legal support in all environmental issues affecting DC Water CIP Projects, permits and ongoing operations
- Provide legal support to the Global and Domestic Compliance Group
- Provide legal support for the Authority’s efforts to acquire capital assets related to expansion of service capabilities

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Obtain local and federal environmental permits needed for operations
- National Pollutant Discharge Elimination System (NPDES) Permit negotiations
- Provide legal support for the ongoing LTCP & CIP and Green Infrastructure activities
- Negotiate a comprehensive Title V Operating Permit
- Support Head Quarter Office (HQO) land use regulatory compliance
- Support relocation of fleet and sewer service operations



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**Cluster: INDEPENDENT OFFICES**

**Department: EXTERNAL AFFAIRS**

**FUNCTIONS**

**BUDGET**

**FY 2019**  
**\$2,470,000**

**POSITIONS**

**FY 2017**

<b>Authorized</b>	<b>13</b>
Average Positions Filled	12
Year-End Positions Filled	12
<b>FY 2018</b>	<b>FY 2019</b>
14	13

<b>Production and Operations</b>	<b>Communications and Government Relations</b>	<b>Public Outreach</b>
<b>4 - Positions</b>	<b>6 - Positions</b>	<b>3 - Positions</b>
Facilitate communications training for employees (e.g. media speakers bureau, focus groups)	Prepare speeches, editorials, special reports and stakeholder presentations as well as articles for community and weekly newspapers and press releases	Partner on specific project/programs with neighborhood commissions, business, civic and environmental groups and organizations and schools
Manage the production of the Annual Report, Water Quality Report and Marketing materials	Produce newsletters, brochures, DC Water exhibits and materials. Provide editing support for other departmental communication projects and produce special high-profile project communications materials	Prepare exhibits, develop and coordinate community service and customer outreach activities
Produce Public Service Announcements, Commercials and Videos. Manage Speakers Bureau, department's budget, produce live and archived webcasts of Board meetings and manager stakeholder presentations and Plant tours	Respond to local/national media inquiries, manage website content; track and strategically influence relevant policy proposals. Establish and enhance working relationship with elected and appointed officials. Pursue state and federal government funding opportunities	Coordinate stakeholder presentations and community events; conduct Sewer Science and other public school programs

## EXTERNAL AFFAIRS

**MISSION:** To provide information about DC Water services and programs and to raise awareness about DC Water's efforts and achievements to improve the quality of life in the region by protecting the environment in which it operates and supporting the community it serves.

**BUDGET OVERVIEW:** The approved FY 2019 budget is relatively flat compared to the FY 2018.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	14	12	14	13
Average number of positions filled	12	12		
<b>Operating Expenses: (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 1,653	\$ 1,697	\$ 1,936	\$ 1,846
Overtime	0	1	27	5
<b>Non-Personnel Services:</b>				
Chemical and Supplies	50	11	10	2
Utilities	22	27	26	33
Contractual Services, etc.	421	391	551	576
Small Equipment	-	10	7	12
<b>Total Non-Personnel Services</b>	<b>493</b>	<b>440</b>	<b>594</b>	<b>623</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 2,146</b>	<b>\$ 2,137</b>	<b>\$ 2,531</b>	<b>\$ 2,470</b>
<b>Capital Equipment</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Targeted Performance Measures</b>				
	<b>FY 2016 Actual</b>	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2019 Approved</b>
Publication of DC Water's Annual Report	1	1	1	1
Publication of Customer Newsletter	10	10	10	10
Publication of Clean River's Update	2	2	2	2
Publication of Employee Newsletter	12	12	12	12
Publication of Water Quality Report	1	1	1	1
Senior speech and presentation development	10	10	10	10
Community meetings/outreach re: lead, rates, CSO/CIP projects, etc.	100	100	100	100



**EXTERNAL AFFAIRS**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Expand communications and marketing around tap water, with emphasis on partnerships with the business community, universities and civic/neighborhood groups
- Continue tap water promotion and distribution at large festivals - H Street Festival, DC Vegetable Fest, and Pride Festival
- Expand DC Water’s internal (employee) outreach, working closely with Human Capital Management, the Office of the CEO & General Manager and other departments
- Ramp up Clean Rivers outreach with a sustained public education campaign
- Enhance DC Water’s social media strategies
- Ongoing rebranding efforts
- Continue to expand and enhance DC Water’s relationships with local media, community bloggers and trade press
- Monitor and make design modifications and text edits to new website including ongoing testing and maintenance

FY 2019 Major Recommended Activities and Changes

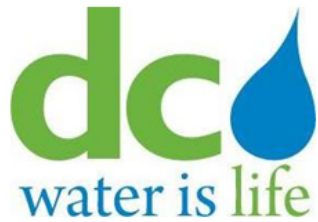
- No major changes anticipated

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- No direct impact



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**Cluster: INDEPENDENT OFFICES**  
**Department: HUMAN CAPITAL MANAGEMENT**

**FUNCTIONS**

<b>BUDGET</b>
<b>FY 2019</b> <b>\$8,281,000</b>

<b>POSITIONS</b>	
<b>FY 2017</b>	
<b>Authorized</b>	<b>28</b>
Average Positions Filled	25
Year-End Positions Filled	26
<b>FY 2018</b>	<b>FY 2019</b>
25	28

Talent	Operations	Labor Relations	Director's Office
10 - Positions	11 - Positions	4 - Positions	3 - Positions
Recruitment, onboarding, training and development	Market analysis, Performance pay, job evaluation and position control	Labor Relations, Arbitration, and grievance resolution	Strategic initiatives
Performance management,, Succession planning and Employee engagement	Administration of Benefits, Wellness, American Disabilities Act, Drug and Alcohol testing, Workers Compensation, and Employee assistance	Employee relations	Change management
Education assistance, Internship, Rewards and recognition	Systems, data integrity, records management and predictive analytics	Equal Employment Opportunity and Workplace Violence	Management of resources and operations

**HUMAN CAPITAL MANAGEMENT**

**MISSION:** To deliver high quality, innovative, valued and timely human capital management services that are responsive to the needs of DC Water employees and departments, in order to help facilitate employees to achieve their individual and organizational goals.

**BUDGET OVERVIEW:** The approved FY 2019 budget is higher than the approved FY 2018 budget by approximately \$0.3 million primarily due to personnel service cost adjustments for the departmental reorganization, and slightly offset by lower contractual services.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
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**Positions: (FTE's)**

Number of authorized positions	25	28	25	28
Average number of positions filled	23	25		

**Operating Expenses (\$000's)**

<b>Personnel Services including Overtime</b>	\$ 3,584	\$ 3,664	\$ 4,020	\$ 4,545
Overtime	3	5	4	6

**Non-personnel Services:**

Supplies	52	18	34	34
Utilities	44	44	43	48
Contractual Services, etc.	4,101	3,380	3,889	3,655
Small Equipment	-	-	-	-
<b>Total Non-Personnel Services</b>	<b>4,196</b>	<b>3,443</b>	<b>3,965</b>	<b>3,737</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 7,780</b>	<b>\$ 7,107</b>	<b>\$ 7,986</b>	<b>\$ 8,281</b>

<b>Capital Equipment</b>	\$ -	\$ -	\$ -	\$ -
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Targeted Performance Measures	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
120 days from job posting to hire	120	120	120	110
10 days to initiate disciplinary action	7	7	7	7
14 days new hire benefit set-up	14	14	14	12
22.5 Average number training hours per FTE	22.5	22.5	22.5	23.0
Comparison DC Water Employees Compensation (100%) vs Market 50th-%tile	100%	100%	100%	100%

**HUMAN CAPITAL MANAGEMENT**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Complete working conditions for all five Unions and DC Water
- Finalize all DC Water policies and procedures with the Unions after impacts and effects of bargaining for update and approval by the GM/CEO
- Continue departmental reorganization to focus on HCM operations, talent, strategy, succession planning, and change management
- Continue with new talent acquisition and onboarding program focused on enhancing quality of hire and employee engagement
- Design and administer Employee Engagement Survey and create the plan to address the feedback
- Continue working upwards towards Innovating and program initiatives designed to improve service delivery and business unit maturity
- Implement “Advancing Blue” Performance Management System and Coaching Strategies for all Union employees and direct supervisors
- Design and implement an annual global compliance module to ensure all staff are educated on all matters related to compliance
- Design and implement a frontline supervisory training capturing four critical areas of knowledge around Human Resources/Equal Employment Opportunity, Labor Relations, Leadership/Management, and Performance Management
- Continue implementing HCM Dashboard of key performance indicators for HCM programs and services
- Launch “Leading Blue” leadership development program training to include new employees, first time managers, mid-level and executive level managers
- Implement Ceridian DayForce Enterprise application as the core HR, Payroll, Benefits, Self Service, and Applicant Tracking Enterprise System
- Begin to assess and provide scope of work for a new ERP system to encapsulate all DC Water practices under one operating cloud

FY 2019 Major Recommended Activities and Changes

- Recommend and implement medical plan design changes to avoid the Patient Protection and Affordable Care Act (PPACA) excise “Cadillac” tax exposure projected for 2020
- Bargain for and Implement the new Compensation Agreement for DC Water union employees
- Ongoing performance management systems training for DC Water union employees
- Conduct assessments for all DC Water Succession Planning program participants
- Begin negotiation of the Compensation Agreement for all five unions and DC Water

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Dayforce training in FY 2018 & FY 2019

## FY 2018 AND FY 2019 TALENT DEVELOPMENT PLAN

### TALENT DEVELOPMENT OVERVIEW

At DC Water, our talent is our people, Team Blue. Talent development consists of training and development strategies and programs that motivate, engage, and educate our employees to cultivate a high performing workforce and results driven culture. Our ability to meet demands, realize our vision and fulfill our mission relies on the character and competence of our talent. Simply put, achieving world-class relies on Team Blue!

Goal #1 of the Board Strategic Plan, Blue Horizon 2020, is to “develop, maintain, and recruit a high-performing workforce.” Meeting this goal is dependent on the relationship between our management team and the employees they lead. As a result, we are connecting the concept development with building a culture of coaching. Effective coaching provides specific, timely, and actionable feedback to employees. We believe the role of the management team is much deeper than simply providing direction. Our leaders are charged with:

- Improving individual performance
- Opening up new possibilities for team members
- Removing obstacles in the way of success
- Playing a role in the ongoing development of the employees under their supervision

At DC Water, our management team leads by coaching and coaching unleashes the full array of talent and ingenuity our team possesses that would otherwise be untapped.

Other forms of talent development at DC Water include:

**In-House Training** – classes and programs designed in-house. In-house training may focus on non-technical courses, skills development, or new processes.

**External Training** – classes and programs that support individual employee development needs and requirements, not designed by an external vendor. This is an effective means of providing highly specialized or special focus training to individuals or a small group of employees. DC Water’s education assistance and tuition reimbursement program is included in this category.

**eLearning** - online courses housed within our learning management system (LMS), Cornerstone.

### FY 2017 ACCOMPLISHMENTS

In FY 2017 we completed a transformation of our Talent and Development team. Our goal was to create an organizational structure which would allow us to have a more comprehensive approach to managing the Authority’s talent. We hired three key personnel to help us continue to execute on our strategy: Manager Talent Management; Employee Engagement Program Manager; and Performance Management Program Manager. We piloted **Leading Blue**, Cohort I and selected **Leading Blue** Cohort II participants for our second pilot in 2018. The feedback thus far on this year-long program has been better than expected. The New Hire Orientation program was streamlined from two to one day providing the employees the skills needed to add work value immediately.

The Authority continued to leverage its relationships with colleges and universities we use through the Tuition Assistance program. We started a year long journey creating our college vendor Partner Program. The goal is to reduce tuition costs and establish paths to pay the schools directly. This reduces paperwork and streamlines the payment process for all. This year our employees continued to pursue critical infrastructure certifications in the areas of: Professional Engineering and Program Management. Also in FY 2017, 56 employees participated in the Education Assistance Reimbursement benefit program. DC Water provided \$178,000 to assist employees continue their education programs.

The DC Water Summer Internship Program was enhanced this year. For the first time, pre-screening and interviews were conducted which led to a high number of quality candidates. We hired 50 interns from a pool of over 200 candidates. The diverse group of students were from local areas such as Maryland, Virginia, and the District of Columbia and as far away as Nigeria, Ghana, Indonesia, Malawi, Vietnam, and China. Another first for our interns this year was participating in an Intern Expo at the end of the 10-week program, where each intern presented their key contributions and work progress in a science fair type of format. All DC Water employees were invited and there was significant attendance, with the interns receiving considerable praise. The interns were also treated to a “day out,” at Terrapin Adventures and participated in Lunch & Learn facilitated by the learning &

development specialists on topics such as Networking, Responsible Social Media Use, and Leadership.

Web-based (e-learning) training on Personally Identifiable Information was developed and piloted for official launch in FY 2018.

### **FY 2018 and FY 2019 Training Budgets**

The approved FY 2019 training budget totals \$1.8 million, which is relatively flat compared to the approved FY 2018 budget.

The Talent branch of Human Capital Management (HCM) Department is positioned to help the Authority transform and will continue to focus on the need to develop our workforce beyond the initial job qualifications. Considerable attention will continue to be given to Performance Management, Succession Planning, and Employee Engagement. Additionally, we will complete development of two critical training paths: Web-based Enterprise Compliance Training and Front-Line Supervisor training for all current and new supervisors.

The Talent branch will lead the charge in the development of the workforce of the future.



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**Cluster: INDEPENDENT OFFICES**  
**Department: INFORMATION TECHNOLOGY**

**FUNCTIONS**

**BUDGET**

**FY 2019**  
**\$11,541,000**

**POSITIONS**

**FY 2017**

<b>Authorized</b>	<b>28</b>
<b>Average Positions Filled</b>	<b>26</b>
<b>Year-End Positions Filled</b>	<b>27</b>
<b>FY 2018</b>	<b>FY 2019</b>
<b>28</b>	<b>28</b>

<b>Infrastructure &amp; Operation</b>	<b>Enterprise Solutions</b>	<b>Project Management Office</b>	<b>Office of the CIO &amp; Other</b>
<b>10 - Positions</b>	<b>8 - Positions</b>	<b>3 - Positions</b>	<b>7 - Positions</b>
Provide technical support for applications and manage the IT infrastructure. Develop and provide standards for System Architecture/Integration	Maintain, service and enhance DC Water's enterprise applications	Support project planning, management, and implementation	Manage Information Technology initiatives, functions and assets of the enterprise
Maintain DC Water's technology standards. Implement & support radio systems/phone	Support DC Water Authority wide and business unit goals, objectives and business functions	Integrate and provide product support for the financial, payroll, maintenance and customer information and billing, AMR, IVR, AM systems	Manage project implementations and database administration
Maintenance of the Enterprise Continuity of Operations (COOP) capabilities	Create, plan, assist and implement enterprise solutions utilizing technology to meet the Authority's needs	Manage the project portfolio and provide Program & Project Management services for the enterprise	Design and implement Cyber security strategy for the enterprise. Test and validate Cyber protections
Manage the Solution Center (Help Desk)	Support the IT Governance process and maintain information needed to make sound business decisions for local and executive IT steering committees (ESC and LSCs)	Design and maintain DC Water's website to allow customer e-business access. Develop and support DC Water's intranet and manage project prioritization process	Support Disaster Recovery for the Authority

**INFORMATION TECHNOLOGY**

**MISSION:** To ensure that the Authority's mission is supported by state-of-the-art technology with an infrastructure capable of accommodating all traffic and connectivity demands, and a computing environment that encourages development of efficient business.

**BUDGET OVERVIEW:** The approved FY 2019 budget is higher than the approved FY 2018 budget by \$0.2 million primarily due to personnel service cost adjustments.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	28	28	28	28
Average number of positions filled	26	26	-	-
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 4,035	\$ 3,866	\$ 4,167	\$ 4,330
Overtime	10	14	15	15
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	13	8	59	42
Utilities	158	226	179	152
Contractual Services, etc.	6,750	6,105	6,817	6,923
Small Equipment	36	149	94	94
<b>Total Non-Personnel Services</b>	<b>6,956</b>	<b>6,489</b>	<b>7,148</b>	<b>7,211</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 10,991</b>	<b>\$ 10,354</b>	<b>\$ 11,315</b>	<b>\$ 11,541</b>
<b>Capital Equipment</b>	<b>\$ 4,991</b>	<b>\$ 11,543</b>	<b>\$ 8,100</b>	<b>\$ 9,295</b>
<b>Targeted Performance Measures</b>				
	<b>FY 2016 Actual</b>	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2019 Approved</b>
98% Network uptime round the clock	99%	99%	99%	99%
96% of all high priority tickets completed within 4 hours	98%	97%	98%	98%
60% Tickets closed by Tier I support	65%	68%	70%	70%
50% of Projects Completed on-time	60%	57%	60%	60%
98% Network uptime during peak hours	98%	99%	98%	98%

**INFORMATION TECHNOLOGY**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Complete implementation of new CIS system along with Kona (Asset Management platform) and related components
- Begin implementation of Enterprise Resource Planning System (replacement for Lawson)
- Complete mobility projects for both field and blue plains operations
- Execute Livelink, CA Project & Portfolio Management (CA PPM) CA PPM and Microsoft Office Upgrades
- Migrate Pipeline to Office 365 and SharePoint 2013
- Complete Permits Automation project (electronic permits application)
- Implement Application Lifecycle Management Solution for testing automation
- Increase penetration of field force automation
- Continue implementation of the technologies necessary to support the As-Built processes
- Continue implementation of remaining components of the meter replacement program

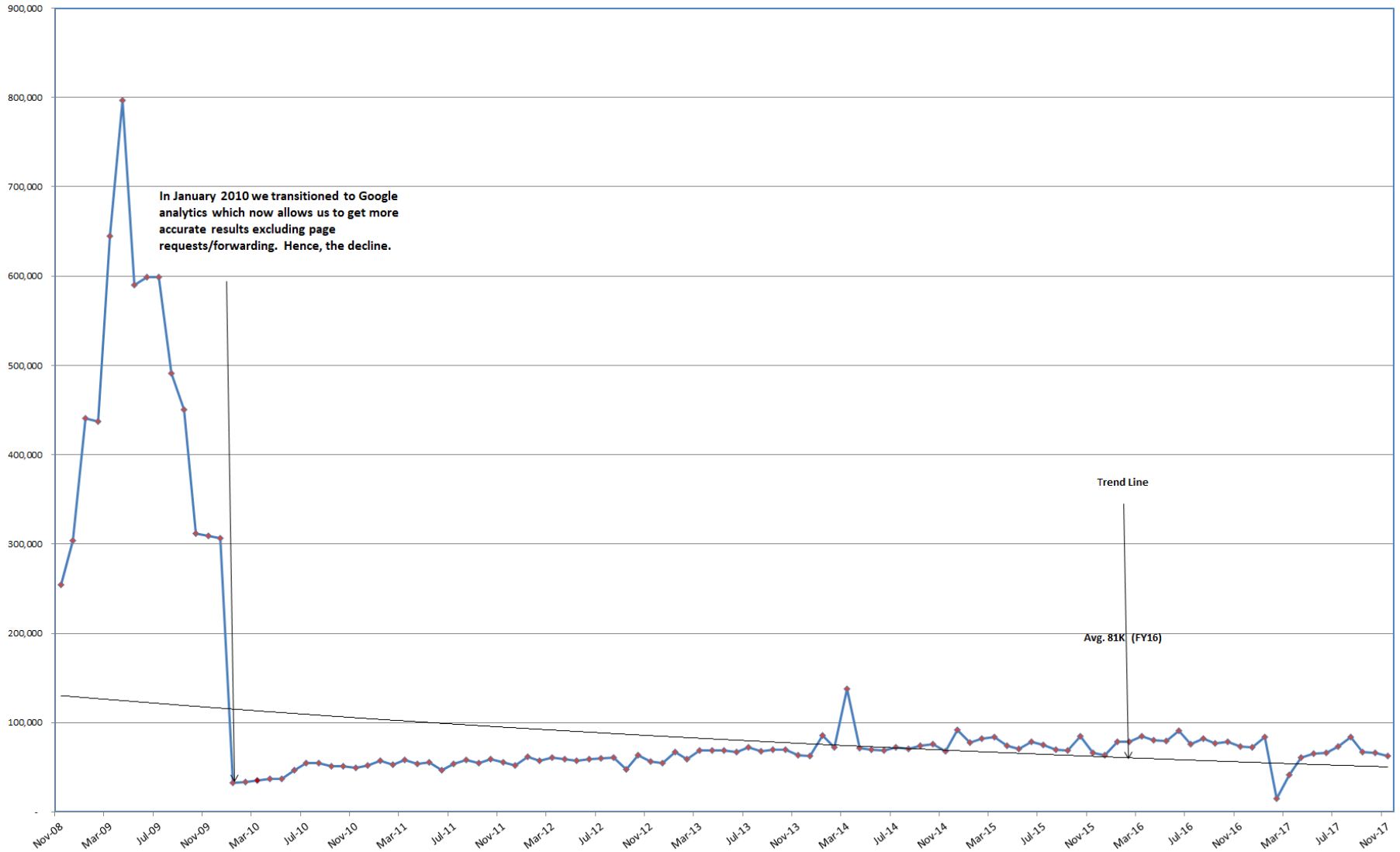
FY 2019 Major Recommended Activities and Changes

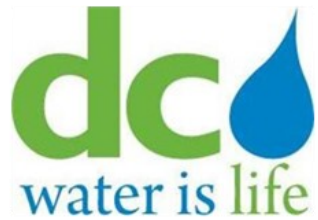
- Continue implementation of Enterprise Resource Planning System (replacement for Lawson, Dayforce and other HCM systems)
- Complete implementation of the technologies necessary to support the As-Built processes
- Finalize penetration of field force automation
- Upgrade Maximo & ArcGIS to the next supported version

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Contract labor and FTEs to support new Customer Information System (CIS), Advanced Metering Infrastructure (AMI) and Interactive Voice Recognition (IVR) solutions once they are in place
- Implementation of Application Lifecycle Management Solution will impact the operating budget for FY2019 due to license maintenance costs

NOVEMBER 2008 - NOVEMBER 2017





**Cluster: INDEPENDENT OFFICES**

**Department: PROCUREMENT**

**FUNCTIONS**

**BUDGET**  
**FY 2019**  
**\$ 5,685,000**

POSITIONS	
FY 2017	
Authorized	36
Average Positions Filled	32
Year-End Positions Filled	35
FY 2018	FY 2019
36	36

Category Management	Purchasing Administration	Contract Compliance	Materials Management
14 – Positions	4 – Positions	5 - Positions	13 - Positions
Manage DC Water's procurement process for products and services	Manage requisition process and purchasing operations	Manage DC Water's small business development, outreach programs, and local hiring initiative	Manage the warehouse and associated functions
Develop category and sourcing strategies	Provide procurement system administrative support	Manage the DC WaterWorks, purchase & travel cards and other contract compliance programs	Administer the material control system and associated functions, conduct spot, cycle and annual physical inventory
Manage vendor relationships	Represent Procurement and manage all IT system projects that impacts Procurement System	Maintain the department's web page	Provide direction and guidance on inventory policies and procedures, disposal of excess and obsolete inventory

**PROCUREMENT**

**MISSION:** To procure the best value products and services, with the highest degree of procurement integrity, utilizing efficient and cost-effective procurement methods, with a continuing focus on Local, Small, and Disadvantaged Business Enterprises (LSDBE) contracting participation.

**BUDGET OVERVIEW:** The approved FY 2019 budget is relatively flat compared to the approved FY 2018 budget.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	36	36	36	36
Average number of positions filled	29	32		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 3,697	\$ 4,155	\$ 4,631	\$ 4,579
Overtime	31	26	30	30
<b>Non-Personnel Services:</b>				
Supplies	30	36	34	41
Utilities	62	67	57	63
Contractual Services, etc.	818	869	945	997
Small Equipment	-	1	5	5
<b>Total Non-Personnel Services</b>	<b>910</b>	<b>973</b>	<b>1,041</b>	<b>1,106</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 4,608</b>	<b>\$ 5,128</b>	<b>\$ 5,672</b>	<b>\$ 5,685</b>
<b>Capital Equipment</b>	<b>\$ 11</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Targeted Performance Measures</b>				
	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Timely processing of small purchases within 7 working days	95%	95%	95%	95%
Issue Invitation for Bid (IFB) and award contracts within 90 calendar days	95%	95%	95%	95%
Issue Requests for Proposal (RFP) and award contracts within 120 calendar days	95%	95%	95%	95%
Issue Procurement request for inventory restock within one (1) business day of approval	95%	95%	95%	95%
System and physical issue of all stock request within same day of authorized request	95%	95%	95%	95%

**PROCUREMENT**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Enhance eSourcing tool (Sourcing/Contract Management/Supplier Portal/Supplier Scorecard/Spend Analytic) to continue improvement in procurement efficiency and results
- Continue enhancement of Materials Management System and process
- Refine category management and strategic sourcing capabilities
- Continue training of procurement staff on strategic sourcing, category management, and Microsoft tools
- Generate, capture, and report cost savings through category management and strategic sourcing projects
- Continue improvement and expansion of the DC WaterWorks program (a local hire initiative)
- Begin selection process for the upgrade/replacement of a new Enterprise Resource Planning system (Supply Chain Management)

FY 2019 Major Recommended Activities and Changes

- Achieve near 100% customer (internal) satisfaction
- Generate, capture, and report cost savings through category management and strategic sourcing projects
- Continue to improve process and eSourcing tool to reach the best practice goal
- Optimize organization structure to improve resource utilization and best match skill sets
- Continue stabilization/enhancement of materials management system and process
- Continuously improve category strategies to improve vendor base while lowering cost and supply risk
- Provide continuous training of procurement staff and Contracting Officer’s Technical Representative (COTRs) to improve vendor relationships and performance

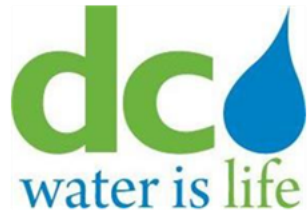
Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Training and, related subscription costs for new ERP system



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## Cluster: CHIEF FINANCIAL OFFICER

### Department: FINANCE, ACCOUNTING & BUDGET

#### FUNCTIONS

Finance	Accounting	Financial Systems & Control	Budget	Rates and Revenue
12 - Positions	23 - Positions	3 - Positions	11 - Positions	4 - Positions
Oversight and management of the OCFO, including finance, accounting, budget, financial systems & control, and Rates & Revenue	Manage accounting and financial reporting functions of the organization, Comprehensive Annual Financial Report (CAFR), and financial transactions	Manage and Support organization-wide Financial System and related applications to ensure accountability and safeguarding of the Authority's assets	Board Committees' reporting process and Financial relationship with the Washington Aqueduct	Short and long-range financial planning, revenue forecasting, and monitoring and rate setting processes
Manage and oversee Treasury, Debt and Risk Management functions of the organization	Establish accounting and reporting policies, maintain financial records and effective internal control structure	Management of Financial System, including upgrades and enhancements	Develop, monitor and report the annual operating and 10 Year CIP budgets	Manage cost of service studies for water & sewer, fire protection fee, and Potomac Interceptor customers
Debt and investment portfolios, operations of cashiering and banking services	Payroll operations, vendor payment operation and asset management finance and accountability	Financial System user support/access control/user training and Business Intelligence and Reporting	Prepare AGM quarterly reports, stormwater billing, Financial Report	Monitors accounts receivable and delinquencies greater than 90 days and Prepare independent budget and rate review for public hearing
Administer all insurance and risk management activities, manage all general liability and tort claims for DC Water's Operations	Manage the billing activities of the organization, including grants and county billing operations		Perform ongoing financial management of critical programs and maintain department's web page	

#### BUDGET

**FY 2019**  
\$16,341,000

#### POSITIONS

##### FY 2017

Authorized 52

Average Positions Filled 48

Year-End Positions Filled 48

**FY 2018** **FY 2019**

49 53

**FINANCE, ACCOUNTING AND BUDGET**

**MISSION:** Manage all of DC Water's financial activities to maintain sound financial condition; and to ensure performance that meets the expectations of the Board, stakeholders and the broader financial community.

**BUDGET OVERVIEW:** The approved FY 2019 budget increased by approximately \$1.0 million compared to the approved FY 2018 budget due to personnel service cost adjustments and headcount.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	49	52	49	53
Average number of positions filled	47	48		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 6,756	\$ 7,123	\$ 7,038	\$ 8,097
Overtime	27	25	40	40
<b>Non-Personnel Services:</b>				
Chemical and Supplies	28	26	40	40
Utilities	184	187	171	67
Contractual Services, etc.	6,173	5,959	8,045	8,132
Small Equipment	0	1	4	4
Total Non-Personnel Services	6,385	6,173	8,261	8,244
<b>Total Operations &amp; Maintenance</b>	\$ 13,141	\$ 13,296	\$ 15,299	\$ 16,341
<b>Capital Equipment</b>	\$ 434	\$ 252	\$ 8,850	\$ 7,800
<b>Targeted Performance Measures</b>				
Manage DC Water's financial operations to ensure revenue projections and O&M expenditures are within budget	Revenue - 99%	103.6%	Revenue - 99%	99%
Comply with the Board's investment policy and strategy	Expenditures - 90%	96%	Expenditures - 95%	95%
Benchmarks: Short-Term Funds - ML 3 months US T-Bill Index and Core Funds - ML 1 - 3 year	100%	100%	100%	100%
Manage DC Water's financial operations to ensure 140% senior debt service coverage	65 basis points	102	78 basis points	159
Meet or exceed the 120 day operating and maintenance expense with the objective of maintaining at least \$125.5 million in operating reserves as set by Board policy	113 basis points	143	189 basis points	177
Issue Comprehensive Annual Financial Report (CAFR)	528%	547%	406%	561%
Pay 97% of all undisputed invoices within 30 days	162.6 million	147.2 million	125.5 million	140 million
	February	February	February	February
	97%	97%	97%	97%

## FINANCE, ACCOUNT & BUDGET

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

##### **Finance:**

- Analyze and evaluate operating reserve level requirements
- Administer post compliance reporting for all outstanding debt and monitor bond market for Green Bond issuance and performance
- Continue to evaluate investment portfolio strategy, performance and reporting
- Issue debt as required for liquidity in accordance with the 10-year financial plan
- Issue Request for Proposal for bond counsel services
- Update and revise Investor Relations portion of the DC Water website
- Complete Rolling Owner Controlled Insurance Program (ROCIP) property valuation of DC Water assets

##### **Rates and Revenue:**

- Continue water balance monitoring
- Continue to monitor economic conditions and affordability
- Coordinate as needed with operating departments to implement new Customer Information System (CIS)
- Review of Clean Rivers Impervious Area Charge (CRIAC) to explore discount options for non-profit organizations, small businesses, charitable and religious organizations and low-income customers not enrolled in Customer Assistance Program (CAP)
- Cost of Service Study for Fire Protection Fee
- Cost of Service Study on Operating Reserves and study on Renewal & Replacement Reserves
- Engineering Study for assets condition assessment
- Cost of Service Study for Water and Sewer rates
- Cost of Service Study for miscellaneous fees including permit fee, cross-connection fee and fats, oils & grease, etc.
- Independent review of budget, rates and preparation for the public hearing on multi-year rate proposals

##### **Financial Systems & Controls:**

- Continue the preparation for and selection process for the upgrade/replacement of Enterprise Resource Planning (ERP) system

##### **Accounting:**

- Coordinate and support Internal Auditors
- Minimize/eliminate paper check payments to vendors
- Implement Ceridian DayForce HR/Payroll System
- Ensure a clean external audit opinion

**FINANCE, ACCOUNT & BUDGET (CONT’)**

- Issuance of quarterly financial reports and annual Comprehensive Annual Financial Report (CAFR)
- Continue to review and update Capitalization Policy
- Financial Reporting Assessment and Development
- Increase focus on CIP, Intangible and Fixed Assets
- Develop Accounting Policy and Procedures for Innovation Program
- Federal Appropriations/Grants /Wholesale Customer Billing Audit
  - Continue improvements to the wholesale customer operating and capital billing processes
  - Document FEMA reimbursement request process
  - Continue timely process for bond draw and CSO appropriation reimbursement request
  - Issuance of annual operating settlement for wholesale customer
  - Assist with implementation of the billing methodology process for the Multi Jurisdiction Use Facilities (MJUF)
  - Coordinate the WSSC audit of FY 2015 operating cost
  - Provide support for the Audit of Financial Statements and Federal Awards Programs

**Budget:**

- Develop, monitor and report the annual operating and 10 year CIP budgets
- Ongoing financial management of critical programs
  - Continue monitoring of key financial performance targets
  - Document business procedures for new budget processes in support of new ERP system
- Implement streamlined and continue improvements to the budget planning process

FY 2019 Major Recommended Activities and Changes

- Continue improvements to the budget development and reporting processes
- Explore alternative revenue generating initiatives
- New bond issuance
- Continue with FY 2018 major activities
- Implementation of System Availability Fee (SAF), and other fees approved by the Board
- Begin implementation of a new ERP system

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- There is \$300,000 in the FY 2018 budget for ERP Financial System requirements and selection. This involves hiring a consulting firm to assist DC Water with requirements gathering, and the system integrator selection
- In the FY 2019, there is \$300,000 for a new ERP Financial System annual subscription/maintenance fee, \$500,000 for data conversion, user training, and the project administration



**Cluster: SUPPORT SERVICES**

**Department: ASSISTANT GENERAL MANAGER**

**BUDGET**

**FY 2019  
\$578,000**

**FUNCTIONS**

POSITIONS	
FY 2017	
Authorized	3
Average Positions Filled	3
Year-End Positions Filled	3
FY 2018	FY 2019
3	3

Facilities Management	Security	Occupational Safety & Health	Fleet Management
Develop and direct the strategic objectives of the Authority's support services divisions			
Oversee and direct the administrative services functions that support the achievement of the Enterprise's goals			

**ASSISTANT GENERAL MANAGER - SUPPORT SERVICES**

**MISSION:** To oversee and direct the administrative services functions that support the achievement of DC Water's goals.

**BUDGET OVERVIEW:** The approved FY 2019 budget is relatively flat compared to FY 2018 budget with the support of the Women of Water (WoW) initiative.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
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**Positions: (FTE's)**

Number of authorized positions	3	3	3	3
Average number of positions filled	3	3		

**Operating Expenses (000's)**

<b>Personnel Services including Overtime</b>	\$ 462	\$ 481	\$ 490	\$ 504
Overtime	1	0	-	1

**Non-Personnel Services:**

Supplies	1	2	2	4
Utilities	7	10	4	8
Contractual Services, etc.	3	14	17	62
Small Equipment	-		-	-
<b>Total Non-Personnel Services</b>	<b>12</b>	<b>25</b>	<b>23</b>	<b>74</b>

<b>Total Operations &amp; Maintenance</b>	<b>\$ 474</b>	<b>\$ 506</b>	<b>\$ 514</b>	<b>\$ 578</b>
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<b>Capital Equipment</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
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Targeted Performance Measures	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
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Planning Meetings with directors of supporting departments:

Facilities Management	4	4	4	4
Security	4	4	4	4
Fleet Management	4	4	4	4
Human Capital Management*	4			
Procurement*	4			
Occupational Safety & Health	4	4	4	4

**ASSISTANT GENERAL MANAGER - SUPPORT SERVICES**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Continue implementation of initiatives in line with Goal #6 – Assure safety and security under DC Water Strategic Plan
- Continue to enhance operating excellence through innovation, sustainability, and adoption of best practices in the areas of safety, security, facilities and fleet
- Enhance customer confidence and satisfaction
- Successfully implement appropriate recommendations of the Vulnerability Assessment
- Maturing of safety functions
- Continue employee resource initiative for Women of Water (WoW)

FY 2019 Major Recommended Activities and Changes

- Begin marketing of Support Services functions
- Continue maturing of Support Services functions

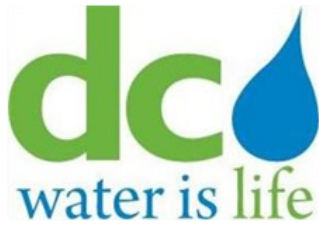
Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- No major items identified



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**Cluster: SUPPORT SERVICES**

**Department: FACILITIES MANAGEMENT**

**FUNCTIONS**

**BUDGET**

**FY 2019  
\$9,615,000**

**POSITIONS**

**FY 2017**

**Authorized 59**

**Average Positions Filled 52**

**Year-End Positions Filled 50**

**FY 2018 FY 2019**

**57 56**

Office Services	Operations	Mechanical Services
9 - Positions	35 - Positions	12 - Positions
Mail, courier and freight services	Building operations/maintenance, procure and assign furniture, repair fences and rollup doors	Predictive/preventive maintenance
Motor pool services	Coordinate workspace assignments and moves	Adequate indoor air quality
Manage DC Water's recycling program (paper, cans, bottles)	Janitorial service, landscaping, trash removal, and pest control	Engage in project management of major construction and renovation projects
Coordinate work order requests and surveys for facilities	Adequate ground direction and building signage	Elevator and HVAC systems maintenance
Manage DC Water's copy services	Manage cafeteria operations	Fire suppression and detection

**FACILITIES MANAGEMENT**

**MISSION:** To support the operation of the Authority through routine maintenance, custodial services, repair and improvement of its facilities, buildings, grounds and roadways for DC Water's operations.

**BUDGET OVERVIEW:** The approved FY 2019 budget increase of approximately \$1.0 million is primarily due to increase in personnel services, coupled with increases in contractual services costs for building, maintenance services including the new Head Quarter Office (HQO).

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	59	59	57	56
Average number of positions filled	55	52		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 5,632	\$ 5,407	\$ 5,619	\$ 5,832
Overtime	315	276	238	300
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	554	491	548	553
Utilities	74	89	217	223
Contractual Services, etc.	1,706	1,773	2,242	2,930
Small Equipment	101	70	69	77
<b>Total Non-Personnel Services</b>	<b>2,434</b>	<b>2,423</b>	<b>3,076</b>	<b>3,783</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 8,066</b>	<b>\$ 7,830</b>	<b>\$ 8,695</b>	<b>\$ 9,615</b>
<b>Capital Equipment</b>	<b>\$ 2,057</b>	<b>\$ 1,933</b>	<b>\$ 1,855</b>	<b>\$ 2,855</b>
<b>Targeted Performance Measures</b>	<b>FY 2016 Actual</b>	<b>FY 2017 Actual</b>	<b>FY 2018 Approved</b>	<b>FY 2019 Approved</b>
Annual work orders closed	7,450	6,889	7,500	8,500

**FACILITIES MANAGEMENT**

**OVERVIEW**

FY 2018 Major Recommended Activities and Changes

- Relocation of offices and departments into the new Head Quarter Office (HQO)
- Begin relocation of offices and departments into vacated Central Office Facilities (COF) Building
- Continue the implementation of Emergency lighting program
- Continue to maintain the grounds, landscape, signage and general interior site aesthetics for all DC Water facilities

FY 2019 Major Recommended Activities and Changes

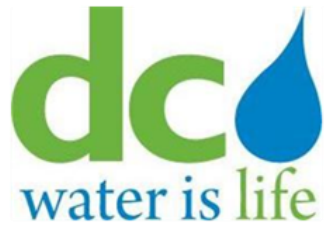
- Continue the implementation of the Building Automation Program (HVAC systems)
- Continue relocation of offices and departments into vacated Central Office Facilities (COF) Building
- Adhere to and follow the results of the Maturity Modeling Program
- Continue to implement new industry innovations

Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Increased ability to monitor and maintain DC Water facilities and its expanding property inventory
- Continued improvement of CMF, COF, Bryant Street and I 25 O Street systems and buildings, while reducing the overall maintenance efforts and ultimately expenditures



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**Cluster: SUPPORT SERVICES**

**Department: SECURITY**

**BUDGET**

**FY 2019  
\$ 7,807,000**

**FUNCTIONS**

POSITIONS	
FY 2017	
Authorized	7
Average Positions Filled	9
Year-End Positions Filled	8
FY 2018	FY 2019
9	9

Security Operations	Security Asset Protection
5 - Positions	4 - Positions
Identification and Badge Control	Electronic security asset testing and maintenance
Guard force and traffic management	Management of security related Capital Improvement Plan projects
Emergency Management & First Response and community awareness/training	Loss prevention, asset protection, vulnerability assessments, and hazardous threat training/awareness
Investigations, local and federal liaison, and Security work order requests	Information security, site surveys, and Key management

## SECURITY

**MISSION:** To support and maintain a safe and welcoming workplace that is customer focused and intended to enhance the well-being of staff and visitors, as well as protect all DC Water property and products.

**BUDGET OVERVIEW:** The approved FY 2019 budget increase of approximately \$0.2 million over the FY 2018 budget is mainly due to personnel services and contract services cost adjustments.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
<b>Positions: (FTE's)</b>				
Number of authorized positions	7	9	9	9
Average number of positions filled	7	9		
<b>Operating Expenses (\$000's)</b>				
<b>Personnel Services including Overtime</b>	\$ 850	\$ 1,048	\$ 1,050	\$ 1,119
Overtime	-	1	-	-
<b>Non-Personnel Services:</b>				
Chemicals and Supplies	20	82	53	66
Utilities	15	23	266	304
Contractual Services, etc.	5,638	5,675	6,118	6,268
Small Equipment	22	28	50	50
<b>Total Non-Personnel Services</b>	<b>5,694</b>	<b>5,807</b>	<b>6,487</b>	<b>6,688</b>
<b>Total Operations &amp; Maintenance</b>	<b>\$ 6,544</b>	<b>\$ 6,855</b>	<b>\$ 7,537</b>	<b>\$ 7,807</b>
<b>Capital Equipment</b>	<b>\$ 101</b>	<b>\$ 848</b>	<b>\$ 563</b>	<b>\$ 515</b>
<b>Targeted Performance Measures</b>				
Completion times to initial security investigation report. Target = NTE 21 days	21 days	21 days	21 days	21 days
Response times to register/complete initial incident reports: Target = 24 hours	24 hours	24 hours	24 hours	24 hours
Number of DC Water community trained/briefed on Security/Parking/Crime Prevention issues: Target = 8.3% of population per month	8.30%	8.30%	5.00%	5.00%
Turnover rate of Guard Force Officers = NTE 25% per month	<25%	<25%	<10%	<10%
Camera Operational Uptime: Target = 95%	95%	95%	97%	98%
Smart Card Readers Operational Uptime: Target = 95%	95%	95%	97%	98%

**DEPARTMENT OF SECURITY**

**OVERVIEW**

FY 2018 Major Planned Activities and Changes

- Partially initiate Phase III of Hardening Project at Blue Plains
- Continue License Plate Recognition (LPR) technology at Blue Plains and Bryant Street
- Implement ‘Self-Service’ visitor temporary pass management system
- Complete updating of Vulnerability Assessment incorporating operational elements
- Initiate construction of Blue Plains Main Entrance modifications
- Initiate integration of operations cameras at ‘off-Blue Plains’ locations
- Continue build of dedicated Security network (virtual network)
- Incorporate Physical Security Information Management (PSIM) technology into Security Command Center (SCC)
- Continue security measures at new Head Quarter Office (HQO)

FY 2019 Major Recommended Activities and Changes

- Complete upgrades to security measures at new Head Quarter Office (HQO)
- Conduct construction feasibility study of Blue Plains Main Entrance
- Continue integration efforts throughout DC Water
- Continue individual building security assessments
- Continue transfer to upgraded lock hardware
- Complete LPR at Bryant Street and HQ compounds

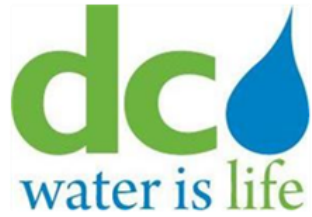
Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Continued improvement of security systems will reduce overall maintenance, improved response time, and decrease threat levels
- Mega-projects require significant security upgrades and enhancements which will require increased manning to provide full support
- The new Headquarters Building anticipated by FY 2018 is expected to increase security operations costs



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## Cluster: SUPPORT SERVICES

### Department: OCCUPATIONAL SAFETY AND HEALTH

#### FUNCTIONS

**BUDGET**  
**FY 2019**  
**\$2,247,000**

POSITIONS	
FY 2017	
Authorized	11
Average Positions Filled	9
Year-End Positions Filled	10
FY 2018	FY 2019
9	11

Operations Safety	Construction Safety	Data and Analysis
7 - Positions	3 - Positions	1 - Position
Compliance with environmental health and safety management system	Compliance with environmental health and safety management system	Compliance with environmental health and safety management system
Implement comprehensive safety program including facility and crew safety inspections	Oversight of the comprehensive construction safety program	Develop and analyze safety metrics
Coordinate with Office of Emergency Management to adhere to requirements of Occupational Safety & Health Administration (OSHA) and National Fire Protection Association (NFPA)	Oversight of Rolling Owner Controlled Insurance Program (ROCIP) safety program	Generate and provide required safety reports
Oversight of hazardous waste program and storage tank compliance	Coordinate with Office of Emergency Management to adhere to requirements of Occupational Safety & Health Administration (OSHA) and National Fire Protection Association (NFPA)	Administer and maintain safety database
Identify, develop, schedule and deliver required safety training		

**OCCUPATIONAL SAFETY AND HEALTH**

**MISSION:** To provide technical services and support that ensures a safe and healthy work environment for all DC Water employees.

**BUDGET OVERVIEW:** The approved FY 2019 budget is higher than the approved FY 2018 budget by approximately \$0.3 million primarily due to personnel service cost adjustments and FTEs

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
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**Positions: (FTE's)**

Number of authorized positions	9	11	9	11
Average number of positions filled	9	11		

**Operating Expenses (\$000's)**

<b>Personnel Services including Overtime</b>	\$ 1,204	\$ 1,290	\$ 1,370	\$ 1,604
Overtime	1	-	1	1

**Non-Personnel Services:**

Supplies	36	11	28	29
Utilities	49	30	32	43
Contractual Services, etc.	262	540	514	566
Small Equipment	5	7	5	5
<b>Total Non-Personnel Services</b>	<b>352</b>	<b>588</b>	<b>580</b>	<b>643</b>

<b>Total Operations &amp; Maintenance</b>	<b>\$ 1,556</b>	<b>\$ 1,878</b>	<b>\$ 1,950</b>	<b>\$ 2,247</b>
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<b>Capital Equipment</b>				
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Targeted Performance Measures	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
OSHA recordable accidents per hours worked (Reduce 10%) Target = 6.0	6.5	4.5	4.1	3.7
Lost time work cases due to non-fatal accidents per hours worked. Target = 1.9	5.2	3.7	3.3	3
No. of time contractor work stopped due to unplanned unsafe conditions. Target = 0	0.0		0.0	
No. of formally raised safety related employee concerns reported (increase 10%)- Good Catch	8	47	52	57
No. of Vehicle Accidents (Prev). Target = 35	15	47	42	38

## OCCUPATIONAL SAFETY AND HEALTH

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

- Continue to implement Environmental Health and Safety Management Program in line with Strategic Goal #6 of the Board Strategic Plan
- Continue to provide support to the Office of Risk Management in the oversight of the Rolling Owner Controlled Insurance Program (ROCIP) for DC Water contractors
- Begin preliminary implementation of new Occupational Safety and Health requirement for medical monitoring program for Crystalline Silica and Hearing Conservation
- Assess organization compliance with new OSHA and National Fire Protection Association standards
- Conduct training needs assessment in all departments to identify gaps in safety training and develop a strategy and schedule for implementing an effective and sustainable training program
- Begin implementation of the Department's maturity model with emphasis on reducing the number of vehicle accidents and occupational injuries

#### FY 2019 Major Recommended Activities and Changes

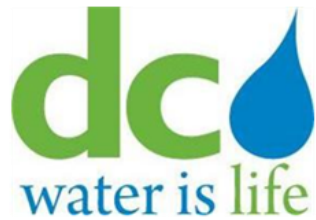
- Implement a Damage Utility Prevention Program
- Continue to provide support to the Office of Risk Management in the oversight of the ROCIP and Non-ROCIP Programs for DC Water
- Begin implementation of damage prevention initiative to reduce the occurrence of utility strikes by both in-house and contractor crews
- Continue to implement OSHA requirement for medical monitoring program
- Focused and full implementation of the safety training program
- Continue implementation of the maturity model

#### Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- No direct impact



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**Cluster: SUPPORT SERVICES**

**Department: FLEET MANAGEMENT**

**FUNCTIONS**

<b>BUDGET</b>
<b>FY 2019</b> <b>\$5,773,000</b>

<b>POSITIONS</b>	
<b>FY 2017</b>	
Authorized	7
Average Positions Filled	7
Year-End Positions Filled	6
<b>FY 2018</b>	<b>FY 2019</b>
7	8

Maintenance	Administrative	Acquisition
3 – Positions	3 - Positions	2 – Positions
Preventive and repair maintenance	Fleet Rightsizing – process improvements, contract monitoring and budget management	Acquisition and Disposal of vehicle and equipment
Management of vehicles, equipment, parts and DC Water loaner pool program	Performance Measurements - percent of uptime and availability of vehicles  Manage CDL Safe Drivers Program	Integration and retrofitting of vehicles - mobile technology support
Manage fleet maintenance contractor and vendors	Manage and support the Fleet Wave System  Monitor fuel usage	Inventory control

**FLEET MANAGEMENT**

**MISSION:** To provide safe, reliable and cost effective vehicles and equipment to DC Water for use by all departments in performance of their missions.

**BUDGET OVERVIEW:** The approved FY 2019 budget is higher than the approved FY 2018 budget by approximately \$0.5 million primarily due to personnel cost adjustments and contractual services cost for automotive maintenance, repair and automotive inspection.

	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
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**Positions: (FTE's)**

Number of authorized positions	7	7	7	8
Average number of positions filled	7	7		

**Operating Expenses (\$000's)**

<b>Personnel Services including Overtime</b>	\$ 853	\$ 892	\$ 871	\$ 1,009
Overtime	4	3	3	4

**Non-Personnel Services:**

Chemicals and Supplies	11	6	18	19
Utilities	642	727	743	775
Contractual Services, etc.	3,809	3,460	3,625	3,900
Small Equipment	48	99	65	70
<b>Total Non-Personnel Services</b>	<b>4,511</b>	<b>4,292</b>	<b>4,450</b>	<b>4,764</b>

<b>Total Operations &amp; Maintenance</b>	<b>\$ 5,364</b>	<b>\$ 5,184</b>	<b>\$ 5,321</b>	<b>\$ 5,773</b>
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<b>Capital Equipment</b>	<b>\$ 4,852</b>	<b>\$ 5,582</b>	<b>\$ 4,000</b>	<b>\$ 4,500</b>
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Targeted Performance Measures	FY 2016 Actual	FY 2017 Actual	FY 2018 Approved	FY 2019 Approved
Preventive maintenance completed on schedule	98%	98%	98%	98%
Vehicles available for use	98%	98%	98%	98%
DC Water Priority vehicle in-service	98%	98%	98%	98%

## FLEET MANAGEMENT

### OVERVIEW

#### FY 2018 Major Planned Activities and Changes

- Continue implementation of Field Services Mobile Support Technology Program - upgrading, staging, and profiling
- Continue systems integration and upgrades to Fleet Management Information System (FMIS-WAVE), Geotab and Rideshare program
- Continue utilization of grants and enterprise collaborations for the purchase of Alternative Fueled Vehicles (AFV's), Hybrid Plug-in Electric Vehicles (HPEV's), Plug-in Electric Vehicles (PEV's), Bio-Diesel, Flex-Fuel Vehicles and Custom Fleet Solutions
- Continue the "Right Sizing-Effective Efficiency Use" Program to reduce the carbon footprint and acquire best value equipment
- Continue purchasing Customized Smart Infrastructure and Advanced Technology, Clean Idle, certified clean Diesel, electric vehicles
- Continue increased usage of environmentally friendly and Bio-based Products and Cleaners where applicable
- Plan for relocation to new Fleet Facilities

#### FY 2019 Major Recommended Activities and Changes

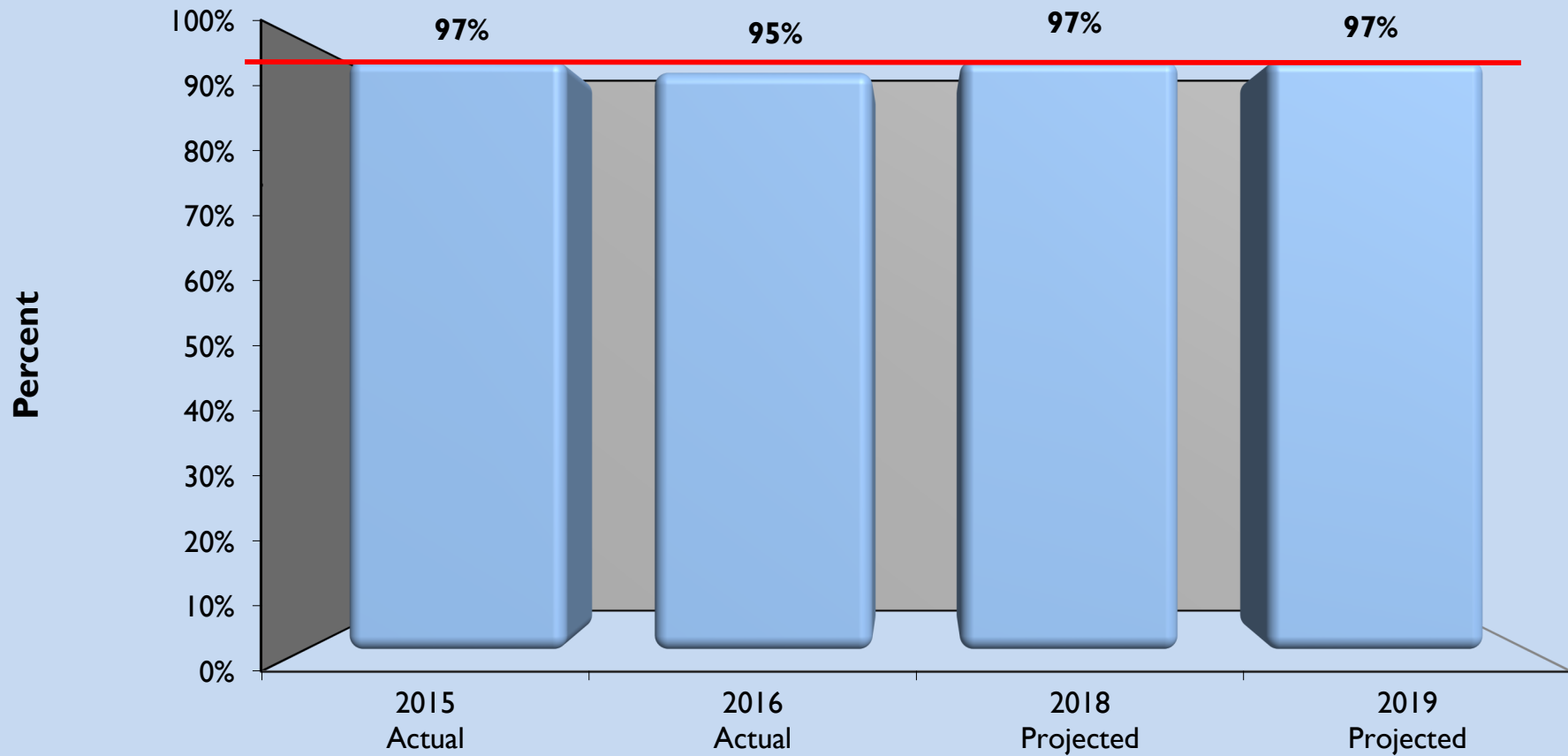
- Continue implementation and upgrade of Field Services Mobile Support Technology Programs meshing, smart Infrastructure and vehicle sensor technology
- Continue systems integration and upgrades to Fleet Management Information System(WAVE,) Geotab, Rajant Mesh and Rideshare program
- Perform assessment of the Priority Equipment and major change outs according to Departmental Programs
- Begin to transition Fleet to an In-house Operation
- Continue utilization of grants and enterprise collaborations for the purchase of Alternative Fueled Vehicles (AFV's), Hybrid Plug-in Electric
- Continue the "Right Sizing- Effective Efficiency Use" Program as well as begin the re-issuance of underutilized units
- Continue purchasing Customized Smart Infrastructure and Advanced Technology, Clean Idle, certified clean Diesel, electric vehicles
- Continue increased usage of environmentally friendly Soy and Bio-based Products and Cleaners where applicable
- Continue to follow the timeframe of relocation and transition to the new Fleet Facility

#### Impact of Capital Projects on FY 2018 and FY 2019 Operating Expenditures

- Relocation and transition into the new facility
- The ability to perform certain maintenance tasks will be reduced resulting in an increase in vehicle downtimes



**Target - 97%**







Educational community outreach

# APPROVED BUDGETS



DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

## Section VIII GLOSSARY AND ACRONYMS

## GLOSSARY

**ACCRUAL BASIS:** The method of accounting under which revenues are recorded when they are earned (whether or not cash is received at that time) and expenditures are recorded when goods and services are received (whether or not cash disbursements are made at that time).

**ADVANCED METERING INFRASTRUCTURE (AMI):** Also known as Smart meters, are updated, digital versions of the traditional electrical meter attached to the outside of your home. Smart meters are also designed to transmit pricing and energy information from the utility company to the consumer (two-way communication).

**ADVANCED RESEARCH & TESTING PROGRAM:** Specialized wastewater treatment services to outside entities

**A/E CONTRACT:** Architectural and Engineering Contracts

**AERATION:** The process that forces compressed air into wastewater. The oxygen keeps the microorganisms alive and sets off a chain reaction; live, eat, and work. Oxygen is an essential ingredient in “activating” sludge.

**ALTERNATIVE FUELED VEHICLE:** An alternative fuel vehicle is a vehicle that runs on a fuel other than traditional petroleum fuels (petrol or Diesel fuel); and also refers to any technology of powering an engine that does not involve solely petroleum.

**AMERICAN RECOVERY AND REINVESTMENT ACT:** Is an economic stimulus package enacted by the 111<sup>th</sup> United States Congress in February 2009. The stimulus was intended to create jobs and promote investment and consumer spending during the recession.

**ANAEROBIC DIGESTION:** A biological process that uses microorganisms to reduce the volume of biosolids.

**APPROPRIATION:** An authorization by Congress, which permits officials to incur obligations and expend Authority resources. Appropriations are usually made for fixed amounts, which extend for a fiscal year. Appropriations for capital improvement projects, however, extend until completion, usually beyond the current fiscal year.

**ARBITRAGE:** The simultaneous purchase and selling of an asset in order to profit from a differential in the price. This usually takes place on different exchanges or marketplaces. Also known as "riskless profit".

**ASSETS:** Property with monetary value owned by the Authority.

**AUDIT:** An independent systematic examination of resource utilization concluding in a written report. It is a test of management’s internal accounting records. It also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statements.

**AUTOMATED METER READING (AMR):** System that automatically read customers' meters using radio frequencies, allowing for more accurate and frequent meter readings and transfer of data to a central database for billing and analysis. It is an older technology that only collects electrical energy consumption and transfers that data from the electric meter on the home to the utility (one-way communication).

**BALANCED BUDGET:** A budget in which the income equals expenditure.

**BIOCHEMICAL OXYGEN DEMAND (BOD):** An indicator of the amount of biodegradable contaminants in wastewater.

**BIOSOLIDS:** Sludge that has been treated to reduce pathogens, organics, and odors, forming a reusable agricultural product.

**BLUE PLAINS ADVANCED WASTEWATER TREATMENT PLANT:** Located in Washington, DC, Blue Plains is the world's largest advanced wastewater treatment plant, and has a permitted capacity of 370 million gallons per day.

**BOARD OF DIRECTORS:** DC Water's governing board (the Board), which includes 11 primary and 11 alternate members; six members from the District of Columbia, two members each from Montgomery and Prince George's Counties in Maryland, and one member from Fairfax County, Virginia.

**BLOOM:** a soil conditioner made from Class A biosolids.

**BOND:** An obligation issued by DC Water promising to pay a specified sum of money (called principal or face value) at a specified future date (called the maturity date) along with periodic interest paid at a specified percentage of the principal (interest rate). Bonds are typically issued to fund specific capital improvement expenditures.

**BUDGET:** A plan of financial operations including an estimate of proposed expenditures and revenues for a fiscal period. The budget establishes funding levels for continuing service programs, operation and maintenance of public facilities, and principal and interest payments on bonded indebtedness. Recurring replacement of capital outlay and minor new capital outlay items are included.

**CAPACITY MANAGEMENT OPERATION and MAINTENANCE (CMOM):** A standard framework for municipal sewer collection systems to identify and incorporate widely-accepted wastewater industry practices to meet regulatory compliance.

**CAPITAL BUDGET:** A plan for investment in long-term assets such as buildings, plant, and equipment. DC Water's capital budget includes project schedules and funding needed to acquire, improve or construct properties or facilities to enhance water and sewer services to our customers.

**CAPITAL EQUIPMENT:** A capital asset with a useful life of at least 3 years, a cost exceeding \$5,000 and is financed with short-term debt or cash. Examples include rolling stock and computer equipment.

**CAPITAL IMPROVEMENT PROGRAM (CIP):** A plan, which identifies the nature, schedule and cost of long-term improvements to DC Water's infrastructure.

**CERIDIAN:** DC Water’s fully integrated payroll and personnel system designed to accommodate a variety of pay, leave, and work rules and to provide a comprehensive set of human resource applications.

**CHLORAMINATION:** The process of adding chloramines to drinking water. Chloramine, a form of chlorine and ammonia, is used as a disinfectant by the Washington Aqueduct.

**CLEAN RIVERS IMPERVIOUS AREA CHARGE:(CRIAC):** DC Water uses information contained in the District of Columbia’s GIS plainmetric database, which includes tax and property records to determine impervious surface areas. (All surfaces are classified as either pervious or impervious). An impervious charge is billed to DC Water customers based on Equivalent Residential Unit (ERU). This is the amount of impervious surface area measured in square feet based on a statistical median for a single family residential property.

**CLEAN WATER ACT (CWA):** Act passed by the U.S. Congress in 1972 to control water pollution.

**COMBINED HEAT AND POWER FACILITY (CHP):** The facility provides steam necessary for the thermal hydrolysis process that uses intense heat and pressure to treat wastewater solids, producing a much cleaner biosolids, and onsite generation of up to one third of Blue Plains’ electricity needs.

**COMBINED SEWER OVERFLOWS (CSO):** Discharge of untreated wastewater (a mixture of storm water and sanitary waste) directly to waterways during periods of significant rainfall.

**COMBINED SEWER OVERFLOW LONG-TERM CONTROL PLAN (CSO LTCP):** This Program encompasses projects designed to reduce overflows into the local waterways by 98%, and is now known as the Clean Rivers Project.

**COMBINED SEWER SYSTEM LONG-TERM CONTROL PLAN (CSS LTCP):** Final plan submitted by DC Water in July 2002 and approved by EPA in March 2005 to control Combined Sewer Overflow (CSO’s) to the Districts waterways.

**COMMERCIAL PAPER:** Short-term (less than 270 days) notes issued by DC Water to provide interim financing of its capital improvement program. Commercial paper typically carries lower interest rates than long-term debt and is issued on a subordinate basis.

**CUSTOMER CLASS-BASED VOLUMETRIC RATES:** Rate differentiation based on the peaking demands of each customer class (residential, multi-family and non-residential).

**CUSTOMER INFORMATION SYSTEM (CIS):** System which DC Water utilizes for customer billing and information and other related services.

**DC CLEAN RIVERS PROJECT:** New name for the COMBINED SEWER OVERFLOW LONG TERM CONTROL PLAN (CSO LTCP), which is a program that encompasses projects designed to reduce overflows into the local waterways by 98%.

**DC WATER WORKS:** local hiring initiatives for DC Water projects.

**DEAMMONIFICATION:** Involves Anammox bacteria working synergistically with Ammonia Oxidizing Bacteria to oxidize ammonia without organic carbon to produce nitrogen gas.

**DEBT RATING:** An independent opinion, based on a comprehensive quantitative and qualitative evaluation, of a company's financial position, operating performance, business profile and management. Specifically, the debt rating reflects a company's ability to meet its obligations to repay interest and principal on outstanding obligations to investors. DC Water's bond ratings provided by Moody's Investors Service, Standard & Poor's and Fitch Ratings are Aa2, AA, and AA+, respectively.

**DEBT SERVICE:** Amount of money necessary to pay principal and interest on senior outstanding notes and bonds in any given fiscal year.

**DEBT SERVICE COVERAGE:** Requirement of DC Water's master trust indenture and Board policy that provides that annual revenue available to pay debt service must exceed annual debt service by a certain percentage. DC Water's master trust indenture requires 120 percent senior debt service coverage; DC Water Board policy requires 140 percent senior debt service coverage.

**EFFLUENT:** Treated wastewater discharged from the Blue Plains Advanced Wastewater Treatment Plant.

**ENABLING ACT:** Legislation which established DC Water and defined its purpose and authority. DC Water's enabling legislation was initially enacted in 1996.

**ENCUMBRANCES:** Obligations in the form of purchase orders, contracts or salary commitments which are chargeable to an appropriation and for which a part of the appropriation is reserved. They cease to be encumbrances when paid or when an actual liability is released.

**ENHANCED CLARIFICATION FACILITY (ECF):** This facility is part of DC Water's proposed Total Nitrogen-Wet Weather plan, which addresses the requirements of the Long Term Control Plan, as well as the Chesapeake Bay Tributary Strategies for reducing nitrogen discharged in the Chesapeake Bay.

**ENHANCED NITROGEN REMOVAL FACILITY:** This Program Area represents the new name for the Total Nitrogen Program (BTN) which includes projects for new facilities and upgrades to existing facilities needed at Blue Plains to meet the total nitrogen discharge limit that has been included in DC Water's 2010 NPDES permit.

**ENTERPRISE FUND:** A fund established to finance and account for the acquisition, operation, and maintenance of governmental facilities and services, which are entirely or predominantly self-supporting by user charges. This type of fund uses the accrual basis of accounting. DC Water is responsible for two enterprise funds:

- 1) Water and Sewer Enterprise Fund
- 2) The District of Columbia Stormwater Enterprise Fund

**ENVIRONMENTAL PROTECTION AGENCY (EPA):** Federal agency responsible for environmental regulations and enforcement.

**EXPENDITURES:** Payment for goods and services received.

**EXTENDABLE MUNICIPAL COMMERCIAL PAPER PROGRAM (EMCP):** A money-market security issued by large organizations to obtain funds to meet short-term debt obligations, and is backed only by an issuing bank or corporation's promise to pay the face amount on the maturity date specified on the note.

**EXTRACT, TRANSFORM and LOAD (ETL)** refers to a process in database usage and especially in data warehousing that:

- Extracts data from homogeneous or heterogeneous data sources
- Transforms the data for storing it in proper format or structure for querying and analysis purpose
- Loads it into the final target (database, more specifically, operational data store, data mart, or data warehouse)

**FABRIDAM:** A dynamic weir (or dam) that inflates and deflates depending on the structure set point. Set points vary from structure to structure.

**FILTRATE TREATMENT FACILITY (FTF):** Also known as the Centrate Treatment Facility and is a part of the Total Nitrogen Removal Wet Weather plan, provides a new treatment system that will remove nitrogen from the recycle stream of solids processing at Blue Plains. The facility uses six sequencing batch reactors to treat a nitrogen-rich system from the Final Dewatering Facility's belt filter presses.

**FISCAL YEAR:** The twelve-month period used by DC Water, which begins October 1 and ends September 30 of the following calendar year.

**FIXED ASSET:** Long-lived property owned by an entity used by an entity in the production of its income. Tangible fixed assets include real estate, plant, and equipment.

**GENERAL OBLIGATION DEBT:** This is money that DC Water still owes the District of Columbia for bond issuance prior to the enabling act that created DC Water

**HYBRID PLUG-IN VEHICLE:** A hybrid electric vehicle that utilizes rechargeable batteries, or another energy storage device, that can be restored to full charge by connecting a plug to an external electric power source (usually a normal electric wall socket)

**IMPERVIOUS SURFACE:** an area that impedes or retards the percolation of water into the subsoil and impedes plant growth. Impervious surfaces include but are not limited to the following: roofprints, footprints of patios, driveways, private streets, other paved areas, tennis courts, and swimming pools, and any path or walkway that is covered by impervious material.

**INFRASTRUCTURE:** DC Water's facilities, services, and installations needed for its functioning, such as its water, sewer and customer delivery systems.

**INTER-MUNICIPAL AGREEMENT OF 1985 (IMA):** This agreement outlines the operating and financial responsibilities for wholesale wastewater treatment services at Blue Plains. Signatories to the IMA include the District of Columbia, Montgomery and Prince George's Counties in Maryland, Fairfax County, Virginia, and the Washington Suburban Sanitary Commission.

**INTERCEPTORS:** The large pipes that convey wastewater from the collection system to DC Water's wastewater treatment plant, Blue Plains.

**INTERNAL IMPROVEMENT PLAN (IIP):** Operational improvement plans for various operating departments across DC Water that will result in improved service and cost savings to DC Water's customers. Proposed improvements are a function of new capital projects, investments in technology, and new business processes. IIP's have been developed for the Departments of Wastewater Treatment, Maintenance Services, and Customer Service, and are in process for the Departments of Water and Sewer Services.

**INVERTED BLOCK RATE STRUCTURES:** Is a schedule of rates applicable to blocks of increasing usage in which the usage in each succeeding block is charged at a higher unit rate than in the previous blocks. Generally, each successive block rate may be applicable to a greater volume of water delivery than the preceding block(s).

**JOINT USE SEWERAGE FACILITIES:** A list of specific facilities identified in the DC Official Code, Section #34-2202.01(4).

**LIFELINE RATE:** A lifeline rate for the first 4 Ccf of Single Family Residential (SFR) water use to reflect baseline usage by residential customers without peaking cost.

**LOCAL SMALL DISADVANTAGED BUSINESS ENTERPRISE (LSDBE):** Business entities that are encouraged to do business in the District through supportive legislation, business development programs, and agency and public/private contract compliance.

**LOW IMPACT DEVELOPMENT (LID):** Integrates ecological and environmental considerations into all phases of urban planning, design and construction in order to avoid encroaching on environmentally fragile or valuable lands, and to decrease runoff volumes and peak flow impacts.

**MASTER FACILITIES PLAN:** A twenty-year plan that outlines proposed capital improvements across DC Water. This plan is updated every three to five years.

**MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4):** A regulatory program for controlling stormwater pollution.

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES):** A permit issued by the EPA that governs effluent discharges into various rivers and waterways by Blue Plains and DC Water's sewer system.

**NINE MINIMUM CONTROLS (NMC):** Nine EPA-designated activities that DC Water must undertake to reduce Combined Sewer Overflow (CSO) while implementing its Long Term Control Plan (LTCP).

**NITRIFICATION:** An aerobic process in which bacteria changes the ammonia and organic nitrogen in wastewater into oxidized nitrogen.

**OPERATING BUDGET:** The budget that encompasses the day-to-day activities for DC Water. The operating budget includes employee salaries, supplies, and other non-personnel items related to current activities. The operating budget also includes other costs including debt service and payment in lieu of taxes/right of way fees.

**OPERATING RESERVE:** Reserve established by the Board of Directors equivalent to approximately 120 days of budgeted operating and maintenance expenses with the objective of maintaining at least \$125.5 million.

**OPERATIONS & MAINTENANCE (O&M):** The activities related to the performance of routine, preventive, and predictive, actions aimed at preventing DC Water's equipment and infrastructure from failure or decline, with the goal of increasing efficiency, reliability, and safety.

**OUTFALL:** The place or structure where effluent is discharged into receiving waters.

**PAYMENT IN LIEU of TAXES (PILOT):** Amounts which DC Water pays each fiscal year to the District and institutions in which its facilities are located. Consistent with the provisions of DC Water's Enabling Act, these payments are to be based on services received and certified from the District of Columbia.

**PLANT RESIDUALS:** In 2003, the EPA issued a revised NPDES permit to the Washington Aqueduct (WAD) and entered into a Federal Facilities Compliance Agreement (the federal agency equivalent of an Administrative Order) requiring WAD, to have in operation, by Dec 31, 2009, a new process, which dewateres the residuals on site and trucks them off-site for disposal.

**PLUG-IN ELECTRIC VEHICLE:** Any motor vehicle that can be recharged from an external source of electricity, such as wall sockets, and the electricity stored in the rechargeable battery packs drives or contributes to drive the wheels

**POTOMAC INTERCEPTOR:** Fifty-mile interceptor that carries wastewater from Loudoun and Fairfax Counties in Virginia and Montgomery County in Maryland to Blue Plains.

**PRIMARY TREATMENT:** A wastewater treatment process that allows those substances in wastewater that readily settles or floats to be separated from the water being treated.

**PRINCIPAL:** The total amount of money being borrowed or lent.

**PROCESS COMPUTER CONTROL SYSTEM (PCCS):** Electronically monitors and controls all treatment processes and facilities.

**RATE STABILIZATION FUND:** A fund established by the Board of Directors, which is used to implement rate increases on a gradual and predictable basis.

**RESERVES:** An accounting entry that properly reflects contingent liabilities.

**REVENUE:** An increase in (sources of) fund financial resources other than from inter-fund transfers and debt issue proceeds. Revenues should be classified by fund and source.

**REVENUE BONDS:** Bonds payable from specific source of revenue and which do not pledge the full faith and credit of the issuer.

**RIGHT-OF-WAY FEE (ROW):** A permit fee that the District of Columbia Government charges DC Water for water and sewer conduits that it occupies within the District of Columbia.

**SAFE DRINKING WATER ACT (SDWA):** Act passed by the U.S. Congress (most recently amended in 1996) to control drinking water quality.



**SECONDARY TREATMENT:** Usually following primary treatment, secondary treatment employs microorganisms to reduce the level of biochemical oxygen demand (BOD) in wastewater.

**SENIOR DEBT:** Debt whose terms in the event of bankruptcy require it to be repaid before subordinated debt receives any payment.

**SLUDGE:** Solid residue from wastewater treatment, also known as Biosolids.

**SUBORDINATED DEBT:** Debt over which senior debt takes priority. In the event of bankruptcy, subordinated debtholders receive payment only after senior debt claims are paid in full.

**SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA):** Equipment and computer technology used to monitor and control the water distribution and wastewater conveyance systems.

**SUPPLEMENTAL ENVIRONMENTAL PROJECT (SEP):** A project DC Water is funding as part of its nine minimum control (NMC) CSO consent order.

**SYSTEM AVAILABILITY FEE (SAF):** Fee assessed to new development (or redevelopment) to recover the investment in available system capacity, based on meter size.

**TUNNEL DEWATERING PUMP STATION (TDPS)/ENHANCED CLARIFICATION FACILITY (ECF):** The TDPS facility starts where the DC Clean Rivers Project tunnels end at Blue Plains. The TDPS will pump millions of gallons of combined sewer overflows and the ECF will treat the captured wet-weather flows, previously flowed into the District's waterways during heavy rain storms.

**WASHINGTON AQUEDUCT:** A division of the U.S. Army Corps of Engineers which owns and operates the water treatment facilities for DC Water, Arlington and Falls Church, Virginia. DC Water purchases treated drinking water on a wholesale basis from the Washington Aqueduct, and is responsible for approximately 73 percent of the Aqueduct's costs.

**WATER SYSTEM REPLACEMENT FEE (WSRF):** A fixed monthly fee designed to fund the 1 percent renewal and replacement of aging water infrastructure for residential, multi-family and non-residential customers.

**WET WEATHER TREATMENT FACILITY:** A wet weather event is deemed to start when plant influent is greater than a rate of 511 mgd and deemed to stop four hours after plant influent drops to a rate of 511 mgd or a period of 4 hours has elapsed since the start of a wet weather event, whichever occurs last.

## ACRONYMS

**ADA:** AMERICANS WITH DISABILITY ACT

**AED:** AUTOMATED EXTERNAL DEFIBRILLATOR

**AFV:** ALTERNATIVE FUELED VEHICLE

**AMI:** ADVANCED METERING INFRASTRUCTURE

**AMR:** AUTOMATIC METER READING

**AMSA:** ASSOCIATION OF METROPOLITAN SEWERAGE AGENCIES

**ANC:** ADVISORY NEIGHBORHOOD COMMISSION

**ART:** ADVANCED RESEARCH TESTING

**AWWTP:** ADVANCED WASTE WATER TREATMENT PLANT

**BAB's:** BUILD AMERICA BONDS

**BOD:** BIOCHEMICAL OXYGEN DEMAND

**BP:** BLUE PLAINS

**CAFR:** COMPREHENSIVE ANNUAL FINANCIAL REPORT

**CAP:** CUSTOMER ASSISTED PROGRAM

**CC&O:** CUSTOMER CARE & OPERATIONS

**CCTV:** CLOSED CIRCUIT TV

**CFCI:** CASH FINANCED CAPITAL IMPROVEMENTS

**CHP:** COMBINED HEAT AND POWER

**CIP:** CAPITAL IMPROVEMENT PROGRAM

**CIPP:** CRITICAL INFRASTRUCTURE PROTECTION PLAN

**CIS:** CUSTOMER INFORMATION SYSTEM

**CMF:** CENTRAL MAINTENANCE FACILITY

**CMOM:** CAPACITY MANAGEMENT OPERATION AND MAINTENANCE

**COBRA:** THE CONSOLIDATED OMNIBUS BUDGET RECONCILIATION ACT OF 1985

**COF:** CENTRAL OPERATIONS FACILITY

**COG:** METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS

**COOP:** CONTINUITY OF OPERATIONS PLAN

**CRIAC:** CLEAN RIVERS IMPERVIOUS AREA CHANGE

**CSO:** COMBINED SEWER OVERFLOWS

**CSO LTCP:** COMBINED SEWER OVERFLOW LONG-TERM CONTROL PLAN

**CSP:** COMPREHENSIVE SAFETY PROGRAM

**CSRS:** CIVIL SERVICE RETIREMENT SYSTEM

## ACRONYMS

**CSS LTCP:** COMBINED SEWER SYSTEM LONG-TERM CONTROL PLAN

**CWA:** CLEAN WATER ACT

**CWSFR:** CLEAN WATER STATE REVOLVING FUND

**DCFEMS:** DC FIRE AND EMERGENCY MEDICAL SERVICES

**DCRA:** DISTRICT OF CONSUMER AND REGULATORY AFFAIRS

**DOEE:** DEPARTMENT OF ENERGY & ENVIRONMENT

**DDOT:** DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION

**DETS:** DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES

**DEMON:** DEAMMONIFICATION PROCESS

**DMRQA:** DISCHARGE MONITORING REPORT QUALITY ASSURANCE

**DRBCP:** DISASTER RECOVERY AND BUSINESS CONTINUITY PLAN

**DSLFL:** DEWATERED SLUDGE LOADING FACILITY

**DSS:** DEPARTMENT OF SEWER SERVICES

**DWS:** DEPARTMENT OF WATER SERVICES

**DWE:** DEPARTMENT OF WASTEWATER ENGINEER

**EBU:** EQUIVALENT BILLING UNIT

**ECF:** ENHANCED CLARIFICATION FACILITY

**EDMC:** ENGINEERING DOCUMENT MANAGEMENT AND CONTROL

**EEOC:** EQUAL EMPLOYMENT OPPORTUNITY COMMISSION

**EMA:** EMERGENCY MANAGEMENT AGENCY

**EMCP:** EXTENDABLE MUNICIPAL COMMERCIAL PAPER PROGRAM

**ENRF:** ENHANCED NITROGEN REMOVAL FACILITIES

**EOC:** EMERGENCY OPERATIONS CENTER

**EIS:** ENVIRONMENTAL IMPACT STATEMENT

**EPA:** ENVIRONMENTAL PROTECTION AGENCY

**ERDMS:** ENTERPRISE RECORDS AND DOCUMENT MANAGEMENT SYSTEM

**ERP:** ENTERPRISE RESOURCE PLANNING SYSTEM

**ERU:** EQUIVALENT RESIDENTIAL UNIT

**ESF:** EMERGENCY SUPPORT FUNCTION

**ETL:** EXTRACT, TOOL, LOAD

**FCPA:** FOREIGN CORRUPTION PRACTICES ACT

**FDL:** FINAL DEWATERING FACILITY

**FEMA:** FEDERAL EMERGENCY MANAGEMENT AGENCY

## ACRONYMS

**GMP:** GUARANTEED MAXIMUM PRICE

**HPEV:** HYBRID PLUG-IN VEHICLE

**HPRP:** HIGH PRIORITY REHABILITATION PROGRAM

**HUNA:** HIGH USAGE NOTIFICATION APPLICATION

**HVAC:** HEATING VENTILATION AND AIR CONDITIONING

**HQO:** HEAD QUARTERS OFFICE

**I&C:** INSTRUMENTATION AND CONTROL

**IAC:** IMPERVIOUS AREA CHARGE

**IOT:** INTERNET OF THINGS

**IFB:** INVITATION FOR BID

**IIP:** INTERNAL IMPROVEMENT PLAN

**IMA:** INTER-MUNICIPAL AGREEMENT

**IR&R:** INFRASTRUCTURE REPAIR & REPLACEMENT

**IVR:** INTERACTIVE VOICE RESPONSE

**JBAB:** JOINT BASE ANACOSTIA-BOLLING

**JUDD:** JOINT UTILITY DISCOUNT DAY

**KPI:** KEY PERFORMANCE INDICATORS

**LDWMR:** LARGE DIAMETER WATER MAIN REHABILITATION

**LID:** LOW IMPACT DEVELOPMENT

**LOTO:** LOG OUT TAG-OUT

**LSDBE:** LOCAL SMALL DISADVANTAGED BUSINESS ENTERPRISE

**LSR:** LEAD SERVICE REPLACEMENT

**LTCP:** LONG TERM CONTROL PLAN

**MBE:** MINORITY BUSINESS ENTERPRISE

**MGD:** MILLION GALLONS PER DAY

**MJUF:** MULTI-JURISDICTIONAL USE FACILITY

**MOU:** MEMORANDUM OF UNDERSTANDING

**MPT:** MAIN PROCESS TRAIN

**MS4:** MUNICIPAL SEPARATE STORM SEWER SYSTEM

**MTA:** MESSTECHNIK ASSOCIATES

**MW:** MEGA WATT

**NEB:** NORTH EAST BOUNDARY

**NMC:** NINE MINIMUM CONTROLS

**NPDES:** NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

**NPFMP:** NON-PROCESS FACILITIES MASTER PLAN

**NWBSO:** NORTHWEST BOUNDARY SEWER OVERFLOW

**O&M:** OPERATIONS & MAINTENANCE

## ACRONYMS

**PLC:** PROGRAM LOGIC CONTROL

**PM:** PREVENTIVE MAINTENANCE

**PPA:** POWER PURCHASE AGREEMENT

**PPM:** PARTS PER MILLION

**PRT:** POTOMAC RIVER TUNNEL

**PRV:** PRESSURE RELEASE VALVE

**PS:** PUMPING STATION

**PSA:** PUBLIC SERVICE ANNOUNCEMENT

**PSSDB:** PRIMARY SCUM SCREENING DEGRATING BUILDING

**PZIP:** PRESSURE ZONE INCREASE PROJECT

**QMS:** QUALITY MANAGEMENT SYSTEM

**RFP:** REQUEST FOR PROPOSAL

**RFQ:** REQUEST FOR QUOTATION

**RSF:** RATE STABILIZATION FUND

**RWWP:** RAW WASTEWATER PUMP STATION

**SAF:** SYSTEM AVAILABILITY FEE

**SCADA:** SUPERVISORY CONTROL AND DATA ACQUISITION

**SDWA:** SAFE DRINKING WATER ACT

**SDWMR:** SMALL DIAMETER WATER MAIN REPLACEMENT

**SEP:** SUPPLEMENTAL ENVIRONMENTAL PROJECT

**SOP:** STANDARD OPERATING PROCEDURE

**SOX:** SARBANES OXLEY ACT

**SPLASH:** SERVING PEOPLE BY LENDING A SUPPORTING HAND

**SSO:** SANITARY SEWER OVERFLOW

**3PP:** THIRD PARTY PORTAL

**TEAMS:** TOTAL ENTERPRISE ASSET MANAGEMENT SYSTEM

**TMDL:** TOTAL MAXIMUM DAILY POLLUTANT LOADS

**TN:** TOTAL NITROGEN

**UAMI:** UPPER ANACOSTIA MAIN INTERCEPTOR

**ULSD:** ULTRA LOW SULFUR DIESEL

**VAV:** VARIABLE AIR VOLUME

**VEP:** VALVE EXERCISE PROGRAM

**VIT:** VEHICLE INFORMATION TRANSMITTER

**WAD:** WASHINGTON AQUEDUCT

**WaSSP:** WATER AND SEWER SENSOR PROGRAM

**Presented and Adopted: March 1, 2018**  
**Subject: Approval of Proposed Fiscal Year 2018 - 2027 Capital Improvement Program**

**#18-21**  
**RESOLUTION**  
**OF THE**  
**BOARD OF DIRECTORS**  
**OF THE**  
**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY**

The Board of Directors ("Board") of the District of Columbia Water and Sewer Authority, ("DC Water") at its meeting on March 1, 2018, upon consideration of a joint-use matter, decided by a vote of eleven (11) in favor and none (0) opposed, to take the following action with respect to the Fiscal Year 2018 - 2027 Capital Improvement Program (10-Year Disbursement Plan and Lifetime Budget).

**WHEREAS**, the Board's financial policies require an annually updated 10-Year Financial Plan, which includes a 10-Year Capital Disbursement Plan; and

**WHEREAS**, on January 4, 2018, the Interim Chief Executive Officer and General Manager, Chief Engineer, Chief Operating Officer, and Chief Financial Officer, at the budget workshop briefed Board members on the Proposed 10-Year Disbursement Plan totaling \$4,002,125,000; and

**WHEREAS**, on January 18, 2018, the Environmental Quality and Operations Committee, reviewed the budget proposals and discussed in detail the alternative budget scenarios, budget drivers, strategic budget decisions, budget assumptions, customer and operational impacts; and

**WHEREAS**, on January 23, 2018, the Finance & Budget and DC Retail Water & Sewer Rates Committees, in a joint meeting, reviewed the budget proposals and discussed in detail the alternative budget scenarios, budget drivers, strategic budget decisions, budget assumptions, customer and operational impacts; and

**WHEREAS**, on February 15, 2018, the Environmental Quality and Operations Committee, reviewed the budget proposals and discussed in detail the budget drivers, strategic budget decisions, budget assumptions, customer and operational impacts and recommended that the Board adopt the Proposed 10-Year Disbursement Plan totaling \$4,002,125,000, related Lifetime Budget, which totals \$11,131,895,000; and

**WHEREAS**, on February 22, 2018, the Finance & Budget Committee, reviewed the budget proposals and discussed in detail the budget drivers, strategic budget decisions, budget assumptions, customer and operational impacts. The Finance & Budget Committee recommended that the Board adopt the Proposed 10-Year Disbursement Plan totaling \$4,002,125,000, and related Lifetime Budget, which totals \$11,131,895,000.

**NOW THEREFORE, BE IT RESOLVED THAT:**

The Board hereby approves and adopts DC Water's Fiscal Year 2018 – 2027 Capital Improvement Program with the 10-Year Disbursement Plan totaling \$4,002,125,000, related Lifetime Budget which totals \$11,131,895,000 (Attachment A-1), and as further detailed in the Interim Chief Executive Officer and General Manager's Proposed Fiscal Year 2019 Budget, presented on January 4, 2018 and accompanying materials.

This resolution is effective immediately.

  
Secretary to the Board of Directors





**Presented and Adopted: March 1, 2018**

**SUBJECT: Approval of Fiscal Year 2018 - 2027 Ten-Year Financial Plan**

**#18-22  
RESOLUTION  
OF THE  
BOARD OF DIRECTORS  
OF THE  
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY**

The Board of Directors ("Board") of the District of Columbia Water and Sewer Authority ("DC Water") at its meeting held on March 1, 2018 upon consideration of a joint-use matter decided by a vote of eleven (11) in favor and none (0) opposed, to take the following action with respect to the Fiscal Year 2018 - 2027 Financial Plan.

**WHEREAS**, prudent utility financial management requires a long-term financial plan that integrates common elements of the ten-year capital improvement program, future capital financing plans, projected operating and maintenance budgets, revenue requirements and projected rate increases to support long-term capital and operating needs; and

**WHEREAS**, the Board, in Resolutions 11-10 and 13-57, adopted a series of financial policies in the areas of capital financing, long-term financial planning, and rate-setting to assure the short-term and long-term financial health of DC Water; and

**WHEREAS**, adherence to these financial policies has allowed the DC Water to receive strong bond ratings that will reduce debt service costs over the ten-year planning period; and

**WHEREAS**, consistent with the Board policies, the General Manager has prepared a ten-year financial plan in conjunction with the proposed FY 2019 operating and capital budgets; and

**WHEREAS**, the ten-year financial plan is based on assumptions detailed in the proposed Fiscal Year 2019 Operating and Capital Budgets; and

**WHEREAS**, the ten-year financial plan is consistent with projections appearing in the attached Schedules A, B and C of this resolution; and

**WHEREAS**, on January 23, 2018, the DC Retail Water and Sewer Rates Committee met and reviewed the proposed ten-year financial plan, but did not recommend the plan to the Board and asked staff to review the proposed \$4.0 billion Capital Investment Plan (CIP) baseline and alternative CIP scenarios; and

**WHEREAS**, on February 20, 2018, and February 22, 2018, the DC Retail Water and Sewer Rates Committee and Finance and Budget Committee, respectively, met and reviewed the proposed ten-year financial plan, and recommended that the Board adopt the plan as recommended by the General Manager.

**NOW THEREFORE BE IT RESOLVED THAT:**

1. The Board hereby accepts and approves the proposed Fiscal Year 2018 - 2027 Financial Plan that is supported by the attached Schedule A, B and C and the proposed Fiscal Year 2019 Operating and Capital Budgets.

This resolution is effective immediately.

  
Secretary to the Board of Directors

# District of Columbia Water & Sewer Authority

## FY 2018 - FY 2027 Financial Plan

(In 000's)

OPERATING	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Retail*	\$ 515,466	\$ 539,982	\$ 571,113	\$ 602,587	\$ 629,109	\$ 656,446	\$ 678,437	\$ 696,598	\$ 718,313	\$ 742,257
Wholesale*	76,028	79,237	81,614	84,062	86,584	89,182	91,857	94,613	97,451	100,375
Other	28,978	30,249	33,041	39,588	42,764	43,199	42,708	42,789	44,418	44,803
RSF										
Operating Receipts (1)	\$ 620,472	\$ 649,467	\$ 685,768	\$ 726,237	\$ 758,456	\$ 788,627	\$ 813,002	\$ 834,000	\$ 860,182	\$ 887,436
Operating Expenses	(320,146)	(338,499)	(348,335)	(358,462)	(368,891)	(379,628)	(390,684)	(402,068)	(413,790)	(427,381)
Debt Service	(184,278)	(199,025)	(214,119)	(232,128)	(245,477)	(258,537)	(267,811)	(275,215)	(283,955)	(292,699)
Cash Financed Capital Improvement	\$ (35,260)	\$ (26,999)	\$ (28,556)	\$ (30,129)	\$ (37,747)	\$ (45,951)	\$ (47,491)	\$ (55,728)	\$ (64,648)	\$ (66,803)
Net Revenues After Debt Service	\$ 80,789	\$ 84,944	\$ 94,758	\$ 105,518	\$ 106,342	\$ 104,711	\$ 107,017	\$ 100,989	\$ 97,788	\$ 100,553
Operating Reserve-Beg Balance	147,212	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000
Other Misc (Disbursements)/Receipts										
Wholesale/Federal True Up	(16,019)	(7,321)	(1,500)	-	-	-	-	-	-	-
Project Billing Refunds	(4,000)	(4,000)	(4,000)	-	-	-	-	-	-	-
Transfers To RSF										
Pay-Go Financing	(67,982)	(73,624)	(89,258)	(105,518)	(106,342)	(104,711)	(107,017)	(100,989)	(97,788)	(100,553)
Operating Reserve - Ending Balance	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000
Rate Stabilization Fund Balance RSF (2)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)	\$ (61,450)
Senior Debt Service Coverage	489%	561%	545%	544%	575%	559%	659%	674%	648%	624%
Combined Debt Service Coverage	164%	161%	165%	168%	168%	167%	166%	166%	166%	166%
Actual/Projected Water/Sewer Rate Increases	5.0%	13.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
*Operating Receipts \$ Increase/Decrease	20,228	24,515	31,131	31,474	26,522	27,338	21,991	18,161	21,715	23,945
Retail	(5,108)	3,209	2,377	2,448	2,522	2,598	2,675	2,756	2,838	2,924
Wholesale										
*Operating Receipts % Increase/Decrease	4.1%	4.8%	5.8%	5.5%	4.4%	4.3%	3.3%	2.7%	3.1%	3.3%
Retail	-5.3%	4.2%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Wholesale										

(1) Includes interest earnings on senior lien revenue bonds, debt service reserve fund  
(2) FY 2018 planned transfers of \$0.0 million to Rate Stabilization Fund will maintain the total fund balance at \$61.45 million

Schedule B

**District of Columbia Water & Sewer Authority  
FY 2018 - FY 2027 Average Residential Customer Monthly Bill**

Units	Current		Proposed		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	FY 2018	FY 2019	FY 2018	FY 2019								
DC Water Water and Sewer Retail Rates <sup>(1)</sup>	\$ 60.13	\$ 68.27	\$ 71.73	\$ 75.33	\$ 79.12	\$ 83.10	\$ 87.26	\$ 91.67	\$ 96.27	\$ 101.13		
DC Water Clean Rivers IAC	25.18	23.00	25.58	29.07	31.33	33.62	34.66	34.75	35.45	36.46		
DC Water Customer Metering Fee	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86		
DC Water Water System Replacement Fee <sup>(2)</sup>	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30		
<b>Subtotal DC Water Rates &amp; Charges</b>	<b>\$ 95.47</b>	<b>\$ 101.43</b>	<b>\$ 107.47</b>	<b>\$ 114.56</b>	<b>\$ 120.61</b>	<b>\$ 126.88</b>	<b>\$ 132.08</b>	<b>\$ 136.58</b>	<b>\$ 141.88</b>	<b>\$ 147.75</b>		
Increase / Decrease	\$ 5.82	\$ 5.96	\$ 6.04	\$ 7.09	\$ 6.05	\$ 6.27	\$ 5.20	\$ 4.50	\$ 5.30	\$ 5.87		
District of Columbia PILOT Fee <sup>(1)</sup>	\$ 3.04	\$ 3.10	\$ 3.16	\$ 3.22	\$ 3.29	\$ 3.35	\$ 3.41	\$ 3.47	\$ 3.53	\$ 3.60		
District of Columbia Right-of-Way Fee <sup>(1)</sup>	1.12	1.12	1.18	1.18	1.18	1.18	1.24	1.24	1.24	1.24		
District of Columbia Stormwater Fee <sup>(2)</sup>	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67		
<b>Subtotal District of Columbia Charges</b>	<b>\$ 6.83</b>	<b>\$ 6.89</b>	<b>\$ 7.01</b>	<b>\$ 7.07</b>	<b>\$ 7.14</b>	<b>\$ 7.20</b>	<b>\$ 7.32</b>	<b>\$ 7.38</b>	<b>\$ 7.44</b>	<b>\$ 7.51</b>		
<b>Total Amount Appearing on DC Water Bill</b>	<b>\$ 102.30</b>	<b>\$ 108.32</b>	<b>\$ 114.48</b>	<b>\$ 121.63</b>	<b>\$ 127.75</b>	<b>\$ 134.08</b>	<b>\$ 139.40</b>	<b>\$ 143.96</b>	<b>\$ 149.32</b>	<b>\$ 155.26</b>		
Increase / Decrease Over Prior Year	\$ 5.95	\$ 6.02	\$ 6.16	\$ 7.15	\$ 6.12	\$ 6.33	\$ 5.32	\$ 4.56	\$ 5.36	\$ 5.94		
<b>Percent Increase in Total Bill</b>	<b>6.2%</b>	<b>5.9%</b>	<b>5.7%</b>	<b>6.2%</b>	<b>5.0%</b>	<b>5.0%</b>	<b>4.0%</b>	<b>3.3%</b>	<b>3.7%</b>	<b>4.0%</b>		

(1) Assumes average monthly consumption of 6.2 Ccf, or (4,638 gallons)

(2) District Department of the Environment stormwater fee of \$2.67 effective November 1, 2010

(3) DC Water "Water System Replacement Fee" of \$6.30 for 5/8" meter size effective October 1, 2015

**District of Columbia Water & Sewer Authority  
Retail Rates, Charges and Fees**

	Units	Current FY 2018	Proposed FY 2019	Proposed FY 2020
DC Water Retail Rates Water (Residential Lifeline 0 - 4 Ccf)	Ccf	\$ 3.39	\$ 2.91	\$ 3.06
DC Water Retail Rates Water (Residential > 4 Ccf)	Ccf	\$ 4.26	\$ 3.90	\$ 4.10
DC Water Retail Rates Water (Multi-Family)	Ccf	\$ 3.80	\$ 3.37	\$ 3.54
DC Water Retail Rates Water (Non-Residential)	Ccf	\$ 4.40	\$ 4.05	\$ 4.25
DC Water Retail Rates Sewer	Ccf	\$ 6.00	\$ 7.75	\$ 8.14
DC Water Clean Rivers IAC	ERU	\$ 25.18	\$ 23.00	\$ 25.58
DC Water Customer Metering Fee	5/8"	\$ 3.86	\$ 3.86	\$ 3.86
DC Water Water System Replacement Fee	5/8"	\$ 6.30	\$ 6.30	\$ 6.30
District of Columbia PILOT Fee	Ccf	\$ 0.49	\$ 0.50	\$ 0.51
District of Columbia Right-of-Way Fee	Ccf	\$ 0.18	\$ 0.18	\$ 0.19
District of Columbia Stormwater Fee	ERU	\$ 2.67	\$ 2.67	\$ 2.67

**Presented and Adopted: March 1, 2018**

**SUBJECT: Intent to Reimburse Capital Expenditures with Proceeds  
of a Borrowing**

**#18-23  
RESOLUTION  
OF THE  
BOARD OF DIRECTORS  
OF THE  
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY**

The Board of Directors ("Board") of the District of Columbia Water and Sewer Authority ("DC Water"), at the Board meeting held on December 1, 2016, upon consideration of a joint-use matter, decided by a vote of eleven (11) in favor and none (0) opposed, to take the following action.

**WHEREAS**, DC Water intends to acquire, construct and equip the items and projects set forth in Exhibit A hereto (collectively, the "Projects"); and

**WHEREAS**, plans for the Projects have advanced and DC Water expects to advance its own funds to pay expenditures related to the Projects ("Expenditures") prior to incurring indebtedness and to receive reimbursement for such Expenditures from proceeds of tax-exempt bonds or notes or taxable debt, or both.

**NOW THEREFORE BE IT RESOLVED THAT:**

1. DC Water utilizes the proceeds of tax-exempt bonds, taxable bonds or notes (the "Bonds") or other debt in an amount not currently expected to exceed \$410,000,000 to pay costs of the Projects. These costs include amounts heretofore unreimbursed pursuant to Resolution 16-95 of the Board adopted on December 1, 2016, plus amounts projected to be reimbursed during Fiscal Year 2018 – 2019.
2. DC Water intends to use the proceeds of the Bonds to reimburse itself for Expenditures with respect to the Projects made on or after the date that is 60 days prior to the date of this Resolution. DC Water reasonably expects on the date hereof that it will reimburse the Expenditures with the proceeds of the Bonds or other debt.
3. Each Expenditure was or will be, unless otherwise supported by the opinion of bond counsel, either (a) of a type properly chargeable to a capital account under general federal income tax principles (determined in each case as of the date of the Expenditure), (b) a cost of issuance with respect to the Bonds, (c) a nonrecurring item that is not customarily payable from current revenues, or (d) a grant to a party that is not related to or an agent of DC Water so long as such

grant does not impose any obligation or condition (directly or indirectly) to repay any amount to or for the benefit of DC Water.

4. DC Water makes a reimbursement allocation, which is a written allocation by DC Water that evidences DC Water's use of proceeds of the Bonds to reimburse an Expenditure, no later than 18 months after the later of the date on which the Expenditure is paid or the Project is placed in service or abandoned, but in no event more than three years after the date on which the Expenditure is paid. The DC Water recognizes that exceptions are available for certain "preliminary expenditures," costs of issuance, certain de minimis amounts, expenditures by "small issuers" and expenditures for any construction, the completion of which is expected to require at least five years.
5. The Board adopts this resolution confirming the "official intent" within the meaning of Treasury Regulations Section 1.150-2 promulgated under the Internal Revenue Code of 1986, as amended.

This resolution is effective immediately.

  
Secretary to the Board of Directors

## EXHIBIT A — LIST OF PROJECTS

Blue Plains Plantwide Projects  
Blue Plains Enhanced Nitrogen Removal Facilities  
Blue Plains Liquid and Solids Processing Projects  
Sanitary Sewer System Projects  
Combined Sewer System Projects  
DC Clean Rivers Project  
Stormwater Sewer System Projects  
Water Pumping, Distribution and Storage Projects  
Metering and Capital Equipment  
Washington Aqueduct Projects



**Presented and Adopted: March 1, 2018**  
**Subject: Approval of Proposed Fiscal Year 2019 Operating Budget**

**#18-24**  
**RESOLUTION**  
**OF THE**  
**BOARD OF DIRECTORS**  
**OF THE**  
**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY**

The Board of Directors ("Board") of the District of Columbia Water and Sewer Authority, ("DC Water") at its meeting on March 1, 2018, upon consideration of a joint-use matter, decided by a vote of eleven (10) in favor and one (1) opposed, to take the following action with respect to the Fiscal Year 2019 Proposed Operating Budget.

**WHEREAS**, on January 4, 2018, the Interim Chief Executive Officer and General Manager, Chief Engineer, Chief Operating Officer, and Chief Financial Officer, at the budget workshop briefed Board members on the Proposed FY 2019 Operating Budget that totaled \$582,781,000; and

**WHEREAS**, on January 18, 2018, the Environmental Quality and Operations Committee reviewed the budget proposals and discussed in detail the alternative budget scenarios, budget drivers, strategic budget decisions, budget assumptions, customer and operational impacts; and

**WHEREAS**, on January 23, 2018, the Finance and Budget Committee and the DC Retail Water and Sewer Rates Committee, in a joint meeting, reviewed the budget proposals and discussed in detail the alternative budget scenarios, budget drivers, strategic budget decisions, budget assumptions, customer and operational impacts; and

**WHEREAS**, on February 22, 2018, the Finance and Budget Committee further reviewed the budget proposals, budget drivers, strategic budget decisions, budget assumptions, customer and operational impacts, and recommended that the Board adopt the FY 2019 Operating Budget that totals \$582,781,000.

**NOW THEREFORE BE IT RESOLVED THAT:**

The Board hereby approves and adopts DC Water's Proposed Fiscal Year 2019 Operating Budget totaling \$582,781,000 and as further detailed in the Interim Chief Executive Officer and General Manager's Proposed Fiscal Year 2019 Budget presented on January 4, 2018 and accompanying materials.

This resolution is effective immediately.

  
Secretary to the Board of Directors