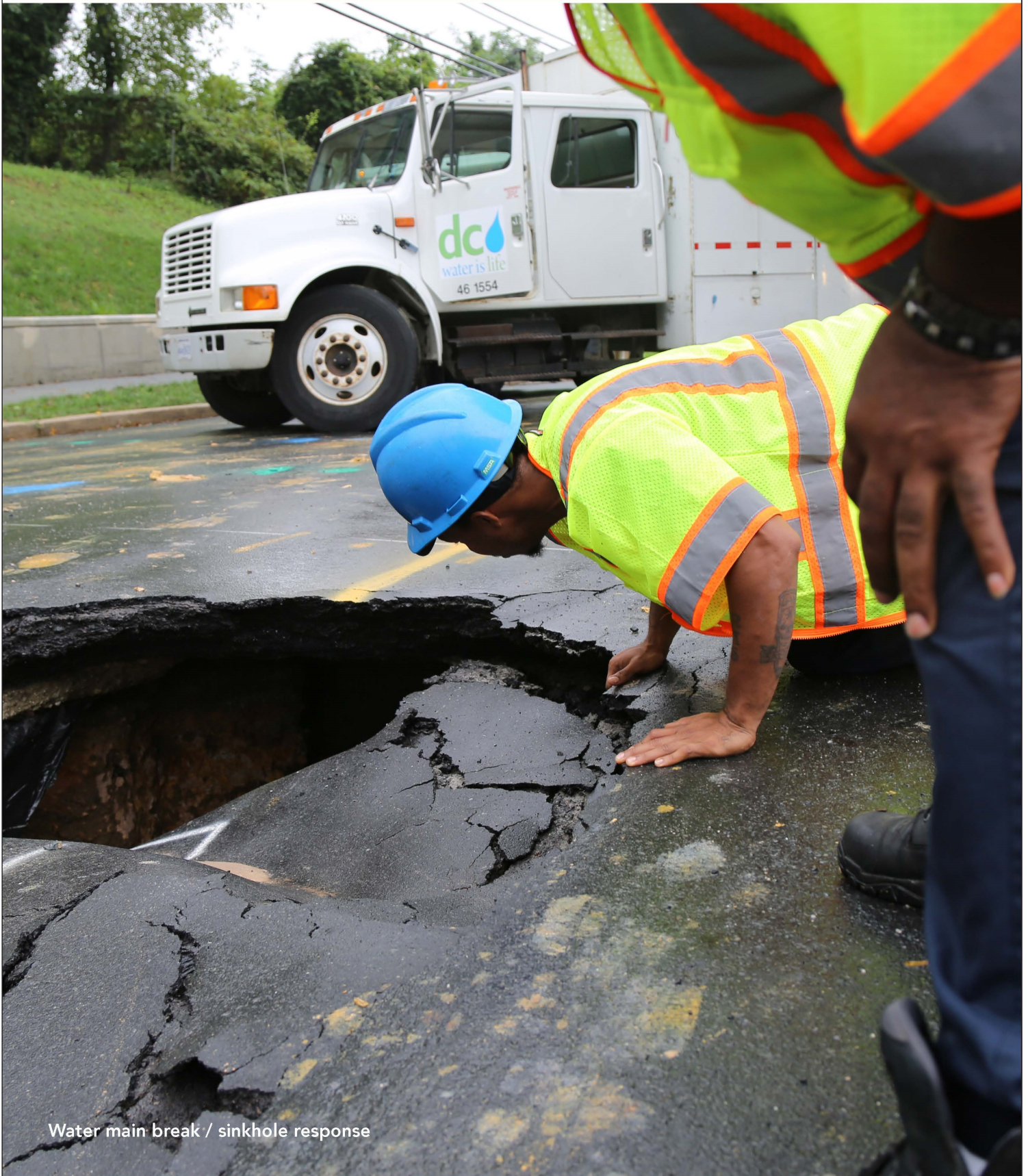


Approved FY 2022 Budgets  
**Section V: CAPITAL PROGRAMS**



Water main break / sinkhole response



(\$ in thousands)

FY 2020 Actual	FY 2021 - FY 2030 Disbursement Plan										10-Yr Total	Lifetime Budget
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030		
\$345,858	\$471,267	\$476,140	\$540,585	\$500,427	\$499,918	\$681,280	\$632,075	\$568,067	\$572,262	\$490,468	\$5,432,489	\$12,133,115



**Bryant Street Pump Station**



**DC Water Headquarters**



**Blue Plains**

## Overview

DC Water’s Capital Improvement Program (CIP) supports the continuation of major capital asset investment in programs and projects that will upgrade the water distribution and sewer system as well as maintain compliance with federal mandates, and improve the efficiency of operations. The CIP includes all mandated projects, rehabilitation of assets required to meet permit and other regulatory requirements, and projects to meet the immediate needs necessary to maintain existing service levels.

The CIP is presented on two different basis; the ten-year disbursement plan and lifetime budget.

- Ten-Year Disbursement Plan** – This category represents the actual cash disbursements “cash out of the door” for each project, excluding contingencies. It provides a more realistic approach and basis for forecasting the anticipated level of rate increases, as well as, timing for pursuing capital financing. In addition, the ten-year disbursement plan includes projected completion dates, program management, and in-house labor costs.
- Lifetime Budget** – The “lifetime” budget, reflects historical spending prior to, during, and beyond the current ten-year period, including in-house labor. Lifetime budgets represent projects active during the ten-year period, and are the primary area of focus in budget development and day-to-day monitoring. In addition to “active” projects, the lifetime budget includes projects for which all activities have been completed during the previous fiscal year and are listed as “closed” in the CIP. Closed projects are dropped from the CIP in the next fiscal year, and new projects are continuously added, as needed, each fiscal year.

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

## CIP Development and Approval Process

DC Water’s capital budget review process begins each year in the spring. The Department of CIP Infrastructure Management conducts a review of major accomplishments, priorities, status of major projects, and emerging regulatory and related issues impacting the capital program. The review process is a collaborative effort, and involves departments with responsibility for managing the operations of DC Water services and capital projects; staff from the department of Finance; and members of the Executive Team. The CIP is integrated into DC Water’s ten-year financial plan; and is the primary driver of DC Water’s projected rate increases over the ten-year planning period.

This review process spans over several months and culminates with the presentation of the CIP to DC Water’s Board of Directors’ Environmental Quality and Operations; Finance and Budget; and DC Retail Water and Sewer Rates Committees typically in January. The operating budgets, capital improvement program, and ten-year financial plan were adopted by the full Board on April 1, 2021.

After adoption by the Board of Directors, DC Water is required to submit its annual operating and ten-year capital budgets 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 service areas may vary up or down for a particular year. However, they are “not to exceed the total” FY 2022 – FY 2030 capital authority request in the amount of \$5.0 billion.

It should be noted that the execution of contracts require the approval of the CEO and 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 its projected useful life and the policy determines how projects will be financed.

### DEFINITION:

- Capital Project – an average life of 30 years and is financed with long-term debt
- Capital Equipment – has a life of at least three years, is financed with short-term debt or cash, an individual component cost of \$5,000 or more. The cost of capital equipment purchases that are part of a clearly identified capital program can be aggregated. In which case, capitalize all cost relating to the capital program at the project level regardless of the individual component amount.

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

Expenditure Type	Financial Treatment	Definition
<b>Rehabilitation</b>		
Enhancement	Capitalize	Addition/replacement of a sub-component of an asset, to improve the “attributes” of the asset. This will include all such work as valve replacement or replacement of a section of a pipe.
Refurbishment	Capitalize	Expenditure on an asset that creates a material extension to the Estimated Operating Life (EOL) of the asset. 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. An example of refurbishment would be pipe lining and pipe grouting.
Rebuild	Capitalize	Expenditures to reconstruct, renovate, remodel, remake or reassemble an asset or infrastructure after it has been damaged or destroyed. An example of a rebuild is a valve rehabilitation, reconstruction of the valve elements
<b>Replacement</b>	Capitalize	Expenditure to replace substantially all of an asset. An example is replacement and installation of a new pipe including the ensuing disinfection applications and all associated activities relating to the replacement
<b>Repair</b>	Expense	Expenditure on an asset that maintains or restores the design functionality or attributes of an asset, enabling the asset to perform its intended function during its EOL. Examples of these will include service line repairs such as clamp application on service pipes, bolt application/replacement/adjustment, small scale chemical applications such as use of dechlorinating tablets, meter shut off valve, curb stop, small service line repairs that does not involve replacement nor meter housing, high pressure jet vacuum or any other obstruction removal methodology
<b>Maintenance</b>	Expense	Scheduled and recurring costs for the continued performance of an asset



# Capital Improvement Program

summary overview financial plan rates&rev

capital

financing departmental glossary

(\$ in thousands)

FY 2020 Actual	FY 2021 - FY 2030 Disbursement Plan											Lifetime Budget		
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-yr Total			
<b>NON PROCESS FACILITIES</b>														
Facility Land Use	\$38,004	\$12,725	\$21,321	\$22,204	\$6,350	\$5,262	\$3,066	\$844	\$0	\$0	\$109,776	\$210,031		
<b>Subtotal</b>	<b>\$38,004</b>	<b>\$12,725</b>	<b>\$21,321</b>	<b>\$22,204</b>	<b>\$6,350</b>	<b>\$5,262</b>	<b>\$3,066</b>	<b>\$844</b>	<b>\$0</b>	<b>\$0</b>	<b>\$109,776</b>	<b>\$210,031</b>		
<b>WASTEWATER TREATMENT</b>														
Liquid Processing	\$27,817	\$32,187	\$43,326	\$57,315	\$49,011	\$72,645	\$95,707	\$98,920	\$84,012	\$82,419	\$643,359	\$1,250,842		
Plantwide	\$18,011	\$13,638	\$27,701	\$28,147	\$38,830	\$50,636	\$29,432	\$16,268	\$25,231	\$21,468	\$269,362	\$491,232		
Solids Processing	\$12,340	\$17,255	\$24,181	\$33,068	\$19,981	\$16,672	\$6,487	\$10,504	\$12,838	\$28,595	\$195,344	\$929,651		
Enhanced Nitrogen Removal Facilities	\$10,362	\$842	\$2,529	\$1,129	\$0	\$0	\$2,206	\$1,861	\$11,665	\$23,293	\$50,926	\$803,410		
<b>Subtotal</b>	<b>\$48,987</b>	<b>\$63,922</b>	<b>\$97,737</b>	<b>\$119,659</b>	<b>\$107,822</b>	<b>\$139,953</b>	<b>\$133,832</b>	<b>\$127,553</b>	<b>\$133,746</b>	<b>\$155,775</b>	<b>\$1,158,991</b>	<b>\$3,475,135</b>		
<b>COMBINED SEWER OVERFLOW</b>														
DC Clean Rivers Program	\$178,557	\$160,582	\$118,360	\$66,803	\$58,231	\$147,834	\$99,877	\$86,036	\$113,315	\$11,436	\$1,027,910	\$2,760,365		
Combined Sewer Program Management	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Combined Sewer Overflow Program	\$2,760	\$5,407	\$4,694	\$8,238	\$11,158	\$18,986	\$9,787	\$4,931	\$5,378	\$15,209	\$95,066	\$218,708		
<b>Subtotal</b>	<b>\$181,317</b>	<b>\$165,276</b>	<b>\$126,598</b>	<b>\$77,962</b>	<b>\$77,216</b>	<b>\$157,621</b>	<b>\$104,808</b>	<b>\$91,414</b>	<b>\$124,593</b>	<b>\$26,645</b>	<b>\$1,122,976</b>	<b>\$2,979,072</b>		
<b>STORMWATER</b>														
Storm Local Drainage Program	\$0	\$33	\$188	\$1,511	\$2,773	\$1,191	\$1,792	\$1,970	\$1,709	\$260	\$11,427	\$18,025		
Storm On-Going Program	\$818	\$649	\$837	\$866	\$526	\$875	\$843	\$1,084	\$1,287	\$935	\$9,217	\$10,788		
Storm Pumping Facilities	\$1,770	\$5,023	\$7,314	\$1,877	\$2,400	\$2,627	\$2,136	\$4,279	\$1,755	\$5,497	\$38,443	\$62,809		
Stormwater Program Management	\$0	\$164	\$429	\$653	\$506	\$604	\$318	\$385	\$306	\$236	\$4,192	\$14,179		
Stormwater Trunk/Force Sewers	\$0	\$95	\$137	\$202	\$123	\$0	\$0	\$0	\$0	\$0	\$615	\$15,510		
<b>Subtotal</b>	<b>\$2,587</b>	<b>\$9,228</b>	<b>\$7,209</b>	<b>\$5,109</b>	<b>\$6,328</b>	<b>\$5,297</b>	<b>\$5,089</b>	<b>\$7,718</b>	<b>\$5,057</b>	<b>\$6,928</b>	<b>\$63,894</b>	<b>\$121,310</b>		
<b>SANITARY SEWER</b>														
Sanitary Collection System	\$621	\$2,914	\$694	\$29,071	\$33,030	\$58,298	\$64,514	\$37,628	\$30,750	\$32,132	\$305,405	\$512,171		
Sanitary On-Going Projects	\$8,517	\$13,267	\$13,381	\$14,453	\$13,200	\$13,576	\$13,988	\$14,395	\$14,850	\$15,289	\$138,757	\$198,935		
Sanitary Pumping Facilities	\$497	\$2,076	\$4,358	\$6,831	\$10,669	\$8,852	\$12,329	\$25,188	\$30,468	\$31,299	\$145,894	\$251,721		
Sanitary Program Management	\$1,810	\$7,728	\$8,099	\$9,132	\$8,070	\$10,519	\$9,589	\$8,680	\$6,311	\$5,783	\$81,361	\$196,108		
Interceptor/Trunk Force Sewers	\$12,341	\$24,562	\$48,905	\$49,421	\$64,121	\$88,169	\$112,328	\$80,843	\$55,668	\$49,521	\$641,557	\$936,759		
<b>Subtotal</b>	<b>\$23,786</b>	<b>\$50,547</b>	<b>\$75,437</b>	<b>\$126,383</b>	<b>\$130,552</b>	<b>\$182,891</b>	<b>\$214,243</b>	<b>\$166,734</b>	<b>\$138,047</b>	<b>\$134,024</b>	<b>\$1,312,973</b>	<b>\$2,095,695</b>		
<b>WATER</b>														
Water Distribution Systems	\$16,509	\$46,643	\$68,528	\$82,740	\$89,272	\$82,322	\$85,853	\$87,095	\$87,109	\$84,434	\$785,895	\$1,502,345		
Lead Free DC Program	\$3,954	\$6,179	\$6,075	\$5,908	\$5,963	\$5,396	\$5,428	\$5,666	\$5,739	\$5,390	\$57,613	\$243,956		
Water On-Going Projects	\$12,825	\$12,126	\$12,480	\$13,457	\$15,287	\$14,390	\$16,670	\$17,818	\$18,000	\$19,000	\$153,502	\$212,590		
Water Pumping Facilities	\$297	\$1,328	\$5,045	\$10,281	\$3,947	\$5,814	\$2,395	\$4,495	\$215	\$2,571	\$42,827	\$72,646		
DDOT Water Projects	\$359	\$1,016	\$152	\$13	\$0	\$0	\$0	\$0	\$0	\$0	\$1,181	\$33,933		
Water Storage Facilities	\$4,514	\$4,521	\$3,056	\$2,498	\$4,724	\$9,333	\$7,967	\$6,841	\$2,611	\$3,602	\$54,718	\$155,760		
Water Service Program Management	\$3,263	\$3,550	\$4,873	\$4,193	\$2,762	\$4,354	\$5,689	\$8,380	\$5,157	\$5,157	\$51,981	\$125,733		
<b>Subtotal</b>	<b>\$41,721</b>	<b>\$75,362</b>	<b>\$100,209</b>	<b>\$112,118</b>	<b>\$122,534</b>	<b>\$122,944</b>	<b>\$126,693</b>	<b>\$129,781</b>	<b>\$118,831</b>	<b>\$120,155</b>	<b>\$1,147,717</b>	<b>\$2,346,963</b>		
<b>CAPITAL PROJECTS</b>	<b>\$308,415</b>	<b>\$419,678</b>	<b>\$426,797</b>	<b>\$463,435</b>	<b>\$450,803</b>	<b>\$613,968</b>	<b>\$587,731</b>	<b>\$524,044</b>	<b>\$520,274</b>	<b>\$443,526</b>	<b>\$4,916,327</b>	<b>\$11,228,206</b>		
<b>CAPITAL EQUIPMENT</b>	<b>\$24,371</b>	<b>\$36,207</b>	<b>\$36,019</b>	<b>\$28,578</b>	<b>\$33,103</b>	<b>\$33,103</b>	<b>\$33,103</b>	<b>\$33,103</b>	<b>\$33,103</b>	<b>\$33,103</b>	<b>\$336,036</b>	<b>\$336,036</b>		
<b>WASHINGTON AQUEDUCT</b>	<b>\$13,073</b>	<b>\$15,382</b>	<b>\$13,324</b>	<b>\$37,903</b>	<b>\$8,414</b>	<b>\$16,012</b>	<b>\$34,208</b>	<b>\$11,240</b>	<b>\$10,919</b>	<b>\$18,885</b>	<b>\$180,125</b>	<b>\$180,125</b>		
<b>ADDITIONAL CAPITAL PROGRAMS</b>	<b>\$37,443</b>	<b>\$51,589</b>	<b>\$49,343</b>	<b>\$74,513</b>	<b>\$36,992</b>	<b>\$49,115</b>	<b>\$67,312</b>	<b>\$44,344</b>	<b>\$51,988</b>	<b>\$46,942</b>	<b>\$516,161</b>	<b>\$516,161</b>		
<b>LABOR</b>														
<b>TOTAL CAPITAL BUDGETS</b>	<b>\$345,858</b>	<b>\$471,267</b>	<b>\$476,140</b>	<b>\$540,585</b>	<b>\$500,427</b>	<b>\$681,280</b>	<b>\$632,075</b>	<b>\$568,067</b>	<b>\$572,262</b>	<b>\$490,468</b>	<b>\$5,432,489</b>	<b>\$12,133,115</b>		



# Capital Improvement Program

(\$ in thousands)

## Prioritization Schedule

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

Approximately 19 percent of the current CIP ten-year disbursements are for large regulatory mandates which includes the Clean Rivers Project. As we progress closer to the completion of the mandated projects, DC Water is able to increase investments in upgrading its aging water and sewer infrastructure, starting FY 2023 and beyond.

	MEASURE OF PRIORITY									
	1A		2A	2B	2C	2D	3A		3B	
	Mandates		Health & Safety	Board Policy	Potential Failure	High Profile Good Neighbor	Good Engineering High Payback		Good Engineering Lower Payback	
	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	
FY 2021	\$170,417	36%	\$7,791	\$76,575	\$37,106	\$1,689	\$107,677	23%	\$70,013	\$471,267
FY 2022	\$160,270	34%	\$16,498	\$70,078	\$32,087	\$233	\$126,413	27%	\$70,562	476,140
FY 2023	\$118,064	22%	\$42,291	\$79,481	\$29,317	\$403	\$145,800	27%	\$125,229	540,585
FY 2024	\$67,097	13%	\$4,969	\$57,844	\$39,023	\$1,588	\$175,715	35%	\$154,191	500,426
FY 2025	\$58,499	12%	\$7,416	\$67,563	\$42,883	\$1,312	\$182,509	37%	\$139,737	499,918
FY 2026	\$147,834	22%	\$22,248	\$60,258	\$51,330	\$714	\$241,608	35%	\$157,289	681,280
FY 2027	\$99,877	16%	\$25,742	\$61,311	\$44,187	\$352	\$224,563	36%	\$176,042	632,075
FY 2028	\$86,036	15%	\$9,822	\$63,142	\$28,722	\$202	\$198,325	35%	\$181,818	568,067
FY 2029	\$113,315	20%	\$1,271	\$68,984	\$29,780	\$215	\$176,513	31%	\$182,184	572,263
FY 2030	\$11,436	2%	\$3,632	\$69,615	\$33,382	\$2,571	\$166,956	34%	\$202,876	490,468
<b>Total</b>	<b>\$1,032,845</b>		<b>\$141,678</b>	<b>\$674,851</b>	<b>\$367,816</b>	<b>\$9,279</b>	<b>\$1,746,079</b>		<b>\$1,459,940</b>	<b>\$5,432,489</b>
<b>% of Total</b>	<b>19.0%</b>		<b>2.6%</b>	<b>12.4%</b>	<b>6.8%</b>	<b>0.2%</b>	<b>32.1%</b>		<b>26.9%</b>	

(\$ in thousands)

FY 2020 Actual	FY 2021 - FY 2030 Disbursement Plan										LifETIME Budget	
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030		10-Yr Total
\$10,016	\$38,004	\$12,725	\$21,321	\$22,204	\$6,350	\$5,262	\$3,066	\$844	\$0	\$0	\$109,776	\$210,031



*Main Pumping Station*



*DC Water Headquarters*



*Fleet Maintenance Facility*

## 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
- Introduce state-of-the-art material management technologies that will enhance inventory security, storage, distribution, and transportation
- 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 AREAS

**Facility Land Use** – The primary objective of this service area is to implement the NPFMP, and to ensure that we are meeting the health & hygiene needs of our workforce while efficiently maintaining facilities for our operations. Projects that generally improve DC Water’s facilities do not represent a core process area within DC Water’s mission, but they directly contribute to the health and well-being of our employees and visitors. Some of the projects included in this program are:

- **Headquarters Building** – The DC Water Administrative Headquarters Building, located next to the historic Main Pumping Station, is DC Water’s most sustainable construction project ever. The Headquarters anchor DC Water’s new publicly-accessible campus along the Anacostia River. By relocating nonessential personnel in FY 2019 from the Blue Plains industrial campus, DC Water preserved what little remaining space exists – an irreplaceable commodity – for future process improvements if required by permit or desired for innovation.
- **Floatable Debris Dock Replacement** – 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 allow 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 and 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. Costs associated with the acquisition of new land and construction of new facilities will be paid by the District of Columbia, with completion targets of FY 2022 for both the Fleet Facility, and Sewer Facility.
- **Renovations to Blue Plains Central Operations Facility** – The 2013 NPFMP called for utilizing the Central Operations Facility as the operations center for Blue Plains as originally intended, consolidating all Engineering staff except Clean Rivers. In addition to efficiently organizing the space vacated by Administrative personnel now located at Headquarters Building, this project consists of identifying a range of potential tasks, such as structural/building envelope analysis, energy efficiency and resiliency upgrades, and improved space planning and document storage that will modernize and improve operations at the facility.
- **Renovations to Bryant Street Campus** – The 2013 NPFMP required the development of improved spaces for our Water Operations and expanding critical functions through the development of a proper Emergency Operations Center (EOC), while maintaining the Bryant Street Pump Station’s historic character. In addition to efficiently organizing the space vacated by personnel now located at HQO, this project consists of identifying a range of potential tasks, such as structural/building envelope analysis, energy efficiency and resiliency upgrades, and improved space planning and document storage that will modernize and improve operations at the Bryant Street campus.



- **Non-Process Heating, Ventilation, and Air Conditioning (HVAC) and Roofing Projects** – This project is meant to holistically address some of the HVAC and roofing/building envelope challenges that exist throughout DC Water facilities. This will include undertaking proper analysis of our needs given the characterization of the space (occupied versus non-occupied for example) and then developing remediation and renovation plans as identified by the assessment. The initial analysis is coming from the Blueprint Health & Hygiene initiative, and then we will look to implement a proactive plan moving forward taking into account the proper lifecycle costs of these assets to ensure that our facilities meet the needs of our operations and workforce.

## ACCOMPLISHMENTS

- The Headquarters Building is a finalist for following 2021 awards:
  - Architizer A+ Awards for Architecture + New Technology
  - United States Green Building Council (USGBC) National Capital Region Community Leader Project
- The design stage for the new Fleet Service Facility and Sewer Services Field Operations Center has been completed for both projects, which are currently under construction with completion anticipated in FY 2022.
- DC Water is in the schematic design / program development phase for the renovations of Central Operations Facility and Bryant Street. Bryant Street planning is advancing with interactions with State Historic Preservation Office (SHPO) and an ongoing Determination of Eligibility for the Distribution Building and the warehouse at 200 Bryant Street. Central Operations Facility work has been pushed back to support COVID pandemic related reductions.
- Facilities is working in coordination with Procurement on a new A/E basic ordering agreement contract for program management, design and construction management services to support land use and non-process capital projects. The new non-process facilities program management consultant has been selected and approved by the Board. The Facilities department continues to work with the Procurement department to get the new agreement executed.
- Floor plans have been created for the renovation of Supply Building number one (SB-1) at Blue Plains to support designer construction cost estimating and the creation of full design documents for bidding purposes. SB-1 will be the new home for the Facilities Department making room for the Department of Maintenance Services to move their shops under one roof at the Central Maintenance Facility.

## OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

**Headquarters Building** – This new building is LEED® Platinum Class A certified, and incorporated environmentally sustainable features used to capture onsite rainfall 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.

# Non Process Facilities

(\$ in thousands)

FACILITY LAND USE	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
DS New Headquarters Building	\$6,608	\$1,220	\$10	\$10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,240	\$76,400	2023
DJ Water System Laboratory Facilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$646	2022
HE Bryant Street Pump Station Building Mod.	\$336	\$363	\$1,183	\$1,695	\$6,224	\$2,354	\$0	\$0	\$0	\$0	\$0	\$11,819	\$14,370	2025
HF Fort Reno Pump Station	\$0	\$266	\$31	\$1,115	\$1,294	\$0	\$0	\$0	\$0	\$0	\$0	\$2,706	\$2,950	2024
HH Main & O Redevelopment Efforts	\$2,902	\$30,435	\$5,304	\$146	\$8	\$0	\$0	\$0	\$0	\$0	\$0	\$35,893	\$50,130	2024
HJ Central Operations Facility Renovation	\$170	\$2,082	\$1,260	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,342	\$7,214	2022
HK CMF Renovations And Consolidation	\$0	\$357	\$1,226	\$311	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,894	\$4,920	2023
NZ Floatable Debris Dock Replacement	\$0	\$884	\$108	\$1,671	\$1,929	\$298	\$355	\$1	\$0	\$0	\$0	\$5,246	\$5,402	2027
RV Non-Process Area - HVAC And Roofing Projects	\$0	\$1,310	\$1,322	\$2,218	\$2,922	\$2,798	\$1,876	\$1,636	\$774	\$0	\$0	\$14,856	\$15,000	2028
SA Anacostia Pump Station - Field Ops East	\$0	\$50	\$44	\$0	\$0	\$142	\$398	\$1,290	\$70	\$0	\$0	\$1,994	\$2,000	2028
SB Bryant Street Parking Modifications	\$0	\$89	\$101	\$0	\$170	\$758	\$2,633	\$139	\$0	\$0	\$0	\$3,890	\$4,000	2027
SC Main & O Seawall Restoration (Phase 2, HQO)	\$0	\$531	\$1,600	\$4,730	\$5,082	\$0	\$0	\$0	\$0	\$0	\$0	\$11,943	\$12,000	2024
SD Main PS Building Modifications - Historic Restoration	\$0	\$418	\$536	\$9,425	\$4,575	\$0	\$0	\$0	\$0	\$0	\$0	\$14,954	\$15,000	2024
<b>TOTAL FACILITY LAND USE BUDGETS</b>	<b>\$10,016</b>	<b>\$38,004</b>	<b>\$12,725</b>	<b>\$21,321</b>	<b>\$22,204</b>	<b>\$6,350</b>	<b>\$5,262</b>	<b>\$3,066</b>	<b>\$844</b>	<b>\$0</b>	<b>\$0</b>	<b>\$109,776</b>	<b>\$210,031</b>	
<b>TOTAL NON PROCESS FACILITIES BUDGETS</b>	<b>\$10,016</b>	<b>\$38,004</b>	<b>\$12,725</b>	<b>\$21,321</b>	<b>\$22,204</b>	<b>\$6,350</b>	<b>\$5,262</b>	<b>\$3,066</b>	<b>\$844</b>	<b>\$0</b>	<b>\$0</b>	<b>\$109,776</b>	<b>\$210,031</b>	

(\$ in thousands)

FY 2020 Actual	FY 2021 - FY 2030 Disbursement Plan										Lifetime Budget	
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030		10-Yr Total
\$48,987	\$78,992	\$63,922	\$97,737	\$119,659	\$107,822	\$139,953	\$133,832	\$127,553	\$133,746	\$155,775	\$1,158,991	\$3,475,135



**Blue Plains Advanced Wastewater**



**Secondary Sedimentation**



**Nitrification Reactors**

## 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 biosolids product. DC Water’s current NPDES permit is effective from August 26, 2018 through August 25, 2023. This permit requires wastewater treatment to a level that meets one of the most stringent NPDES discharge permits in the United States.

Wastewater flows in from the District of Columbia, Montgomery and Prince George’s Counties in Maryland, and Fairfax and Loudoun counties in Virginia. 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 design capacity to treat more than 555 MGD. An additional 225 MGD can be treated utilizing the Wet Weather Treatment Facility at Blue Plains.

## PROGRAM AREAS

**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.

**Solids Processing** – Biosolids processing involves reductions in volume along with treatment to meet applicable federal, state and local requirements for beneficial reuse of biosolids. Treatment is provided by a system of processing facilities that include gravity thickening of primary sludge, floatation thickening of the biological waste sludge produced by the secondary and nitrogen removal processes, pre-dewatering of blended thickened solids by centrifuge, pretreatment of solids by thermal hydrolysis, anaerobic digestion, and final 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. In addition to expansion of existing nitrification and denitrification processes, this program includes a new wet weather treatment facility that simultaneously treats combined stored sewage and reduces the peak flow through the biological treatment system. The necessary facilities to meet the current NPDES permit are in operation. However, close out activities continued into fiscal year 2021 and an expansion will be required in the future to treat future increases in influent load to the Plant.

## ACCOMPLISHMENTS

- Ongoing construction of Raw Wastewater Pumping Station 2 – The pump station delivers wastewater from the wastewater collection system to the east preliminary treatment processes at Blue Plains. This project updates aging electrical equipment, both replacing equipment that is beyond its useful life and relocating sensitive electronic equipment to a less corrosive environment to reduce the rate of deterioration of the equipment. Several replaced pumps have been placed in service.
- Ongoing construction of Floodwall Segment C at Blue Plains. This is one of five segments that once completed, will protect the wastewater treatment plant from river levels up to the 500-year flood elevation with sufficient freeboard to protect against storm surge as well.
- Ongoing construction for replacement of Filter Influent Pumps 1-10. These pumps deliver nitrified and denitrified effluent to the filtration process at Blue Plains, which removes solids and phosphorus to meet permit limits.
- Ongoing construction for Gravity Thickener Upgrades. This project includes upgrading 10 gravity thickeners as well as the primary sludge de-gritting systems and associated electrical and instrumentation and control systems.
- Ongoing construction to replace thirteen influent screens. This equipment screens all the wastewater influent to Blue Plains and removes rags and objects upstream of critical treatment processes protecting equipment and performance effectiveness.
- Completed construction of hauled waste receiving station at the East Preliminary Treatment Process. This station provides a redundant location to receive hauled waste at Blue Plains.
- Completed design of Final Reclaimed Effluent Pump Station Upgrade. The Reclaimed Final Effluent (RFE) pump system is the source of water for the Process Service Water system (PSW) at Blue Plains. The project upgrades equipment for reliability as well as increasing capacity to meet the demand of facilities that have been added to the wastewater treatment plant in recent years.

## ACCOMPLISHMENTS CONTINUED

- Completed design of Transfer Trip and Stuck Breaker at Blue Plains. In support of the resiliency strategic program, the Electrical & Mechanical Design group is working with Pepco to restart a project to establish back up feeders to our existing feeders to Blue Plains. This will improve reliability and reduce outage restoration if there is trouble with an existing feeder.

## OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

**Liquid Processing Program** – Projects in this program enable DC Water to continue to produce excellent quality effluent into the Potomac River and meet NPDES permit requirements.

**Plantwide Projects Program** – Significant projects in this program upgrade the power distribution system at Blue Plains and include investment in power monitoring and control. This new equipment will be used to optimize the distributed energy system, which includes an on-site solar generation and a combined heat and power plant.

## LIQUID PROCESSING

	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
A2 Liquid Processing Program Management	\$270	\$0	\$0	\$4,088	\$5,546	\$3,193	\$4,927	\$6,675	\$7,099	\$7,761	\$2,202	\$39,491	\$4,648	2035
B6 Primary Sedimentation Tank Covers	\$0	\$0	\$0	\$0	\$0	\$0	\$646	\$1,017	\$137	\$2,168	\$2,620	\$6,588	43,598	2032
B7 Primary Sedimentation Tank Odor Scrubblers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,433	\$1,456	\$2,640	\$5,529	45,870	2032
BC Headworks Influent Structures	\$413	\$2,571	\$83	\$2,780	\$6,170	\$3,632	\$388	\$0	\$0	\$0	\$0	\$15,624	16,960	2026
BG Dual Purpose Rehabilitation	\$2	\$7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7	32,250	2021
BP Grit Chamber Facilities Phase II	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-	2021
BQ Grit and Screenings and Primary	\$867	\$2,068	\$2,336	\$7,205	\$21,366	\$8,790	\$0	\$0	\$0	\$0	\$0	\$41,765	50,320	2025
BR Nitrification/Denitrification Facility	\$581	\$129	\$1,392	\$1,757	\$194	\$100	\$20	\$0	\$0	\$0	\$0	\$3,592	54,568	2026
BT Filtration/Disinfection Facility Phase II	\$95	\$5	\$0	\$143	\$73	\$952	\$1,295	\$122	\$0	\$0	\$0	\$2,590	24,018	2027
BV Raw Wastewater Pump Station No. 2 Upgrades	\$5,868	\$3,338	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,338	46,870	2021
I4 Grit Removal Facilities - 20 Year Rebuild	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,314	\$9,312	\$16,390	\$28,016	52,500	2033
I5 Raw Water Pump Stations I & 2 - 20 Year Rebuild	\$0	\$0	\$0	\$26	\$879	\$768	\$9,569	\$10,766	\$1,706	\$0	\$0	\$23,714	29,000	2028
I7 Primary Treatment - 20 Year Rebuild	\$0	\$0	\$0	\$95	\$402	\$2,637	\$3,637	\$13,845	\$20,310	\$8,702	\$0	\$49,628	54,600	2029
IY Effluent Filter Upgrade	\$962	\$1,971	\$11,852	\$11,258	\$12,543	\$20,485	\$28,743	\$20,612	\$12,642	\$1,921	\$5,392	\$127,419	167,099	2031
IZ Replace/Upgrade Influent Screens	\$461	\$7,890	\$5,287	\$0	\$0	\$0	\$0	\$260	\$2,723	\$2,264	\$6,551	\$24,975	81,476	2033
J2 Replace/Upgrade Primary Treatment Mechanisms	\$107	\$338	\$3,257	\$5,734	\$5,181	\$3,510	\$1,042	\$77	\$1,034	\$3,050	\$1,703	\$24,926	27,627	2031
J6 Deammonification Project	\$0	\$0	\$0	\$34	\$405	\$275	\$1,618	\$931	\$0	\$0	\$0	\$3,263	3,503	2027
JC Secondary East and West - 20 Year Rebuild	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$559	\$6,462	\$16,422	\$20,596	\$44,039	96,000	2034
LC Effluent Disinfection Upgrades	\$0	\$0	\$0	\$1	\$769	\$79	\$481	\$4,301	\$1,538	\$0	\$0	\$7,169	8,011	2028
LF Nitrification Reactor/Sedimentation - 20 Year Rebuild	\$0	\$0	\$0	\$202	\$608	\$1,169	\$1,765	\$5,734	\$11,815	\$18,268	\$23,506	\$63,067	139,760	2035
OZ Grit Chambers I & 2 Upgrades	\$0	\$28	\$0	\$1	\$463	\$620	\$5,036	\$3,913	\$0	\$0	\$0	\$10,061	15,129	2027
PD Secondary East & West Upgrades	\$70	\$0	\$0	\$0	\$367	\$507	\$4,032	\$3,222	\$0	\$0	\$0	\$8,128	9,685	2028
PE Nitrification Reactor/Sedimentation Upgrades	\$46	\$1,009	\$1,905	\$5,449	\$2,594	\$642	\$0	\$0	\$0	\$0	\$0	\$11,599	14,611	2025
RN Liquids Processing Rehabilitation	\$0	\$0	\$0	\$1,000	\$122	\$1,792	\$10,105	\$8,170	\$551	\$0	\$0	\$21,740	23,321	2028
RW Long-term Concrete Rehabilitation Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$2,866	\$14,693	\$25,934	\$14,688	\$819	\$59,000	62,820	2030
UC Filtration/Disinfection Facility	\$5,068	\$8,463	\$6,075	\$3,553	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,091	96,600	2023
<b>TOTAL LIQUID PROCESSING BUDGETS</b>	<b>\$14,810</b>	<b>\$27,817</b>	<b>\$32,187</b>	<b>\$43,326</b>	<b>\$57,315</b>	<b>\$49,011</b>	<b>\$72,645</b>	<b>\$95,707</b>	<b>\$98,920</b>	<b>\$84,012</b>	<b>\$82,419</b>	<b>\$643,359</b>	<b>\$1,250,842</b>	

# Wastewater Treatment

summary overview financial plan rates&rev capital financing departmental glossary

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>PLANTWIDE</b>	<b>FY 2020 Actual</b>												
AL Plantwide Project Program Management	\$1,707	\$3,491	\$2,700	\$1,677	\$2,088	\$1,693	\$1,285	\$4	\$0	\$0	\$16,697	\$48,777	2030
BY Additional Chemical Systems Phase III	\$0	\$0	\$0	\$120	\$443	\$874	\$934	\$563	\$465	\$0	\$3,399	\$3,822	2029
CH Miscellaneous Facility Projects	\$0	\$5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10	\$8,039	2022
CV Laboratory Upgrades	\$0	\$630	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$630	\$9,268	2021
CW Security at Blue Plains	\$265	\$1,229	\$120	\$72	\$72	\$48	\$0	\$0	\$0	\$0	\$1,613	\$6,568	2026
DQ Non-OEM PLC Interfaces/Replacements	\$75	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	2020
EI Plantwide Painting of Steel Pipes	\$0	\$0	\$0	\$1,139	\$2,594	\$1,147	\$0	\$0	\$0	\$0	\$4,880	\$4,960	2026
GP Instrumentation & Control & Electric Program Management	\$542	\$933	\$303	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,236	\$5,673	2022
GW Control Systems Replacement	\$0	\$0	\$420	\$490	\$618	\$1,732	\$1,466	\$7,871	\$12,387	\$6,630	\$31,614	\$37,000	2031
HL DWT - Process and Operations Jobs	\$508	\$281	\$28	\$868	\$306	\$0	\$0	\$0	\$0	\$0	\$1,683	\$8,852	2025
IC Electrical Monitoring Systems	\$0	\$2	\$478	\$453	\$5,385	\$14,817	\$3,182	\$0	\$0	\$0	\$24,317	\$26,130	2027
IT Hauled Waste Receiving Facility	\$254	\$226	\$0	\$39	\$1,300	\$2,006	\$1,056	\$0	\$0	\$0	\$4,627	\$5,000	2026
IU Solar Photovoltaic System	\$9	\$488	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$488	\$960	2021
IV Blue Plains IT Backbone Fibre-Optic Cables Tubes	\$0	\$2	\$202	\$582	\$328	\$64	\$0	\$0	\$0	\$0	\$3,138	\$5,899	2026
JF Construction of Flood Seawall	\$838	\$5,072	\$62	\$5,106	\$987	\$1	\$0	\$0	\$0	\$0	\$12,723	\$15,053	2026
LP Wastewater Asset Management Technical Support	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,825	2020
LS Miscellaneous Facility Projects FY 2013	\$1,448	\$914	\$7	\$304	\$681	\$754	\$748	\$451	\$450	\$115	\$5,178	\$16,864	2030
LX Process Control System Upgrade	\$0	\$225	\$575	\$1,373	\$1,326	\$2	\$0	\$0	\$0	\$0	\$3,501	\$4,000	2025
OD Plantwide Paving	\$0	\$42	\$227	\$776	\$2,094	\$529	\$0	\$0	\$0	\$0	\$6,484	\$8,240	2026
OE Plantwide Drainage & Runoff	\$0	\$381	\$4,476	\$1,458	\$4,773	\$1,969	\$0	\$0	\$0	\$0	\$14,515	\$17,289	2026
OG City Water & Sewer Upgrades at Wastewater Treatment Plant	\$0	\$0	\$29	\$512	\$488	\$0	\$0	\$0	\$0	\$0	\$1,029	\$1,250	2025
OH Plantwide Demolition	\$0	\$0	\$0	\$0	\$0	\$0	\$1,163	\$3,750	\$2,137	\$2,223	\$9,273	\$11,100	2032
OM Plantwide Hot Water System/ Loop Rehabilitation	\$3,588	\$83	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$83	\$7,075	2021
ON Plantwide Grounding Upgrades	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,500	2028
OP Plantwide Sump Pump Rehabilitation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000	2028
OQ Plantwide Roofing Upgrades	\$0	\$0	\$114	\$496	\$764	\$4,101	\$4,524	\$0	\$0	\$0	\$9,999	\$10,000	2027
OS Plantwide Lighting Upgrades	\$5	\$882	\$0	\$621	\$3	\$0	\$0	\$0	\$0	\$0	\$1,506	\$3,701	2024
PF Chemical System/Building Upgrades	\$368	\$273	\$284	\$171	\$756	\$2,339	\$7,208	\$2,909	\$71	\$0	\$14,011	\$23,982	2028
TZ Electric Power System - Power Gear	\$989	\$1,935	\$2,512	\$8,093	\$5,370	\$11,491	\$11,449	\$3,138	\$0	\$0	\$49,020	\$71,332	2028
U2 Wastewater Thermal Energy	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,430	2030
VI MFUB - Rehabilitation and Emergency Response VIII	\$0	\$0	\$1,064	\$3,169	\$3,550	\$2,083	\$414	\$0	\$0	\$0	\$10,280	\$10,280	2026
V2 MFU9 - Rehabilitation and Emergency Response IX	\$0	\$0	\$591	\$2,438	\$3,812	\$2,290	\$1,151	\$0	\$0	\$0	\$10,282	\$10,280	2027
YD Miscellaneous Projects	\$881	\$651	\$80	\$227	\$1,267	\$448	\$621	\$420	\$271	\$0	\$5,125	\$51,084	2029
XP Efficiency Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,521	\$12,500	\$22,021	\$25,000	2031
<b>TOTAL PLANTWIDE BUDGETS</b>	<b>\$11,475</b>	<b>\$18,011</b>	<b>\$13,638</b>	<b>\$27,701</b>	<b>\$28,147</b>	<b>\$38,830</b>	<b>\$50,636</b>	<b>\$29,432</b>	<b>\$16,268</b>	<b>\$21,468</b>	<b>\$269,362</b>	<b>\$491,232</b>	



(\$ in thousands)

	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>SOLIDS PROCESSING</b>														
AM Solids Processing Program Management	\$491	\$1,406	\$1,359	\$1,396	\$2,143	\$1,505	\$1,609	\$1,540	\$1,198	\$168	\$0	\$12,324	\$18,205	2029
BX Gravity Thickener Upgrades Phase II	\$11,050	\$21,206	\$14,793	\$11,941	\$10,484	\$0	\$0	\$0	\$0	\$0	\$0	\$58,424	\$83,066	2024
EY Area Substation No. 6	\$35	\$853	\$8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$861	\$22,104	2021
I3 Biosolids Blending Development Center	\$0	\$0	\$169	\$748	\$9,854	\$124	\$0	\$0	\$0	\$0	\$0	\$10,895	\$12,093	2025
LD Pre-Dewatering Additional Centrifuges	\$0	\$306	\$423	\$2,532	\$4,903	\$1,036	\$0	\$0	\$0	\$0	\$0	\$9,200	\$10,118	2025
LE High Strength Waste Receiving Facility (Includes Fats, Oils & Grease)	\$0	\$0	\$0	\$0	\$271	\$726	\$3,804	\$481	\$0	\$0	\$0	\$5,282	\$6,008	2027
RM Biosolids Rehabilitation	\$0	\$0	\$22	\$7,531	\$1,721	\$11,572	\$8,233	\$3,453	\$360	\$325	\$16,250	\$49,467	\$79,996	2033
XA New Digestion Facilities	\$159	\$1,450	\$481	\$7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,938	\$52,896	2022
XB Centrifuge Thickener Facility	\$7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$48,726	2020
XZ Solids Processing Building / Dewatered Sludge Loading Facility	\$596	\$542	\$0	\$26	\$3,692	\$5,018	\$3,026	\$1,013	\$1,147	\$1,956	\$1,956	\$18,376	\$42,440	2032
XY Process Control & Computer Sys	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,799	\$10,389	\$10,389	\$28,577	\$54,000	2033
<b>TOTAL SOLIDS PROCESSING BUDGETS</b>	<b>\$12,340</b>	<b>\$25,763</b>	<b>\$17,255</b>	<b>\$24,181</b>	<b>\$33,068</b>	<b>\$19,981</b>	<b>\$16,672</b>	<b>\$6,487</b>	<b>\$10,504</b>	<b>\$12,838</b>	<b>\$28,595</b>	<b>\$195,344</b>	<b>\$929,651</b>	

	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>ENHANCED NITROGEN REMOVAL</b>														
BI Enhanced Nitrogen Removal (ENR) North	\$225	\$67	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$67	\$77,076	2021
E8 Enhanced Clarification Facilities	\$5,073	\$4,404	\$842	\$2,529	\$1,129	\$0	\$0	\$0	\$0	\$0	\$0	\$8,904	\$176,629	2024
E9 Nitrogen Removal Facilities	\$119	\$81	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$81	\$272,930	2021
EE Filtrate Treatment Facilities	\$672	\$377	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$377	\$107,951	2021
EG Blue Plains Tunnel	\$19	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	2020
FG Secondary Treatment Upgrades for Total Nitrogen	\$25	\$355	\$0	\$0	\$0	\$0	\$0	\$2,206	\$1,861	\$11,665	\$23,293	\$39,380	\$57,168	2032
FR Blue Plains Tunnel Dewatering Pumping Station	\$56	\$1,168	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,168	\$35,617	2021
FS Bolling Overflow & Diversion	\$455	\$600	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$600	\$55,937	2021
LM Enhanced Nitrogen Removal Program Management	\$3,717	\$349	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$349	\$20,100	2025
<b>TOTAL ENHANCED NITROGEN REMOVAL BUDGETS</b>	<b>\$10,362</b>	<b>\$7,401</b>	<b>\$842</b>	<b>\$2,529</b>	<b>\$1,129</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,206</b>	<b>\$1,861</b>	<b>\$11,665</b>	<b>\$23,293</b>	<b>\$50,926</b>	<b>\$803,410</b>	
<b>TOTAL WASTEWATER TREATMENT BUDGETS</b>	<b>\$48,987</b>	<b>\$78,992</b>	<b>\$63,922</b>	<b>\$97,737</b>	<b>\$119,659</b>	<b>\$107,822</b>	<b>\$139,953</b>	<b>\$133,832</b>	<b>\$127,553</b>	<b>\$133,746</b>	<b>\$155,775</b>	<b>\$1,158,991</b>	<b>\$3,475,135</b>	

(\$ in thousands)

FY 2020 Actual	FY 2021 - FY 2030 Disbursement Plan											Lifetime Budget
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	
\$181,317	\$170,842	\$165,276	\$126,598	\$77,962	\$77,216	\$157,621	\$104,808	\$91,414	\$124,593	\$26,645	\$1,122,976	\$2,979,072



**Clean Rivers Tunnel**



**Tunnel**



**Green Infrastructure**

## Overview

Similar to more than 700 older communities primarily 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. Combined sewers convey both stormwater runoff and sanitary sewage from homes and businesses in a single pipe. 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 to prevent surface flooding and basement backups. This discharge is called Combined Sewer Overflow (CSO). Approximately one-third of the system is combined, mostly in the downtown and older parts of the city. There are 48 potentially active CSO outfalls in the District.

DC Water has made substantial progress in the implementation of 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. The first phase of the Anacostia River tunnel system was completed and all structures south of RFK stadium placed into operation as of March 2018. DC Water continues to implement the remaining project for the Anacostia River (currently under construction), as well as future projects for the Potomac River and Rock Creek currently under design. When fully implemented, CSO's will be reduced by a projected 96 percent city-wide during an average year (98 percent on the Anacostia River), resulting in improved water quality and significantly reducing debris in our nations capital waterways.

## PROGRAM AREAS

**DC Clean Rivers** – The plan includes a variety of improvements throughout portions of the District served by combined sewers, including a series of massive tunnels and diversion facilities to control CSOs and relieve surface flooding, a tunnel dewatering pumping station and wet weather treatment facility at Blue Plains. The controls for the Anacostia River are scheduled to be complete by 2023, ahead of the 2025 Consent Decree deadline. The Potomac River and Rock Creek Controls are scheduled to be complete in 2030. The Potomac River controls include the Potomac Tunnel, which is currently in planning and design. The Rock Creek controls include a hybrid mix of Green Infrastructure and gray storage optimizing the benefits provided by each technology. Planning is underway for future projects.

**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 include planned upgrades to facilities based on our long term facilities plan.

## ACCOMPLISHMENTS

- Continued construction of the Northeast Boundary Tunnel—94% of the mining is complete
- Finding of No Significant Impact (FONSI) for the Potomac River Tunnel Environmental Assessment (EA) was approved on March 30, 2021
- Programmatic Agreement for the Potomac River Tunnel was approved on March 16, 2021
- Completed the design and shortlisted 4 contractors for the Potomac River Tunnel—Contract A—Utility Relocation Construction
- Completed 60% design of Request for Proposal (RFP) documents for the Potomac River Tunnel - Contract B—Tunnel System Construction Project
- Completed design of the CSO 025/026 Sewer Separation Project
- On January 28, 2021, DC Water issued Notice to Proceed for construction of CSO 025/026 Sewer Separation Project
- On November 23, 2020, EPA approved the Rock Creek Practicability Assessment, recommending a hybrid (Green-Gray) approach

## ACCOMPLISHMENTS CONTINUED

- Completed the non-material Consent Decree (CD) modification for Gray and Green Infrastructure in Rock Creek CSO 049 on December 22, 2020, with approval by all parties (United States Environmental Protection Agency, United States Department of Justice, DC Water, and the District)
- On February 8, 2021, EPA approved the Potomac River GI Practicability Assessment, recommending all gray solution
- Began planning and procurement for Rock Creek Green Infrastructure (GI) Project B (RC-B)
- Continued the deployment of Clean Rivers' assets into DC Water's enterprise asset management system
- Continued the coordination of preventive maintenance of Clean Rivers assets
- Completed the procurement for new GI maintenance contracts
- Continued the maintenance of GI facilities
- Began NEPA Studies for Rock Creek control facilities
- Regulatory requirements compliance
- Completed upgrades to the Potomac Pumping Station
- Continued construction of Main Pump Station Flood Hardening Project



## 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 and addressing flooding in Northeast Boundary. This ongoing project includes green infrastructure initiatives that will divert stormwater runoff prior to entering the sewer system. The first portion of Anacostia River Tunnel System, between Blue Plains and Overflow and Diversion Facilities (CSO-019) is complete. All structures south of RFK Stadium are in operation since March 20, 2018. As of March 2021, the first portion of the Anacostia River Tunnel system had captured approximately 10 billion gallons of combined sewer overflows and nearly 5,000 tons of trash, debris, and other solids. The system is achieving a 90% CSO capture rate, exceeding the projected 80% capture rate at this stage of implementation. 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 throughout the combined sewer system.

***Potomac Pump Station Upgrades*** – Phase 3 upgrades to address health & safety improvements and increase the reliability of the pumping station completed.



# Combined Sewer Overflow

summary overview financial plan rates&rev financing departmental glossary

capital

(\$ in thousands)

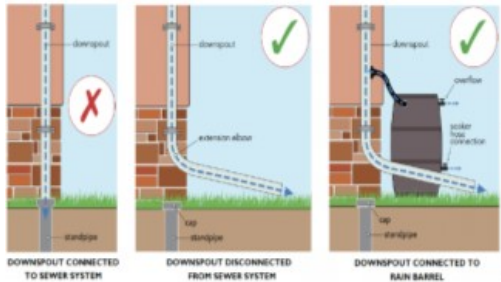
	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>DC CLEAN RIVERS</b>														
CY Anacostia Long Term Control Plan Projects	\$164,696	\$145,110	\$122,679	\$55,306	\$542	\$541	\$479	\$437	\$438	\$437	\$437	\$326,405	\$1,943,252	2031
CZ Potomac Long Term Control Plan Projects	\$12,512	\$11,908	\$22,959	\$38,472	\$61,494	\$43,320	\$120,037	\$86,477	\$51,270	\$40,553	\$0	\$476,490	\$561,079	2029
DZ Rock Creek CSS LTCP Project	\$1,349	\$8,416	\$14,945	\$24,582	\$4,767	\$14,370	\$27,318	\$12,964	\$34,328	\$73,326	\$10,999	\$225,015	\$256,033	2031
<b>TOTAL DC CLEAN RIVERS BUDGETS</b>	<b>\$178,557</b>	<b>\$165,435</b>	<b>\$160,582</b>	<b>\$118,360</b>	<b>\$66,803</b>	<b>\$58,231</b>	<b>\$147,834</b>	<b>\$99,877</b>	<b>\$86,036</b>	<b>\$113,315</b>	<b>\$11,436</b>	<b>\$1,027,910</b>	<b>\$2,760,365</b>	

	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>COMBINED SEWER</b>														
BA DC Water Low Impact Development Projects	\$91	\$314	\$116	\$26	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$456	\$2,870	2023
EJ Potomac Pumping Station - Phase III Rehabilitation	\$114	\$910	\$35	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$945	\$36,088	2022
EK Long Term Rehabilitation - Main & O Pump Station	\$0	\$96	\$644	\$730	\$2,595	\$5,685	\$5,241	\$4,876	\$5,321	\$11,223	\$15,161	\$51,572	\$74,495	2031
EQ Potomac Pumping Station-Phase IV Rehabilitation	\$0	\$200	\$0	\$204	\$411	\$226	\$0	\$0	\$0	\$0	\$0	\$1,041	\$2,325	2025
FQ Main & O Street PS Intermediate Upgrade	\$2,545	\$3,839	\$3,632	\$4,332	\$848	\$78	\$0	\$0	\$0	\$0	\$0	\$12,729	\$36,949	2025
FX Rehabilitation Northeast Boundary Sewer - Phase I	\$0	\$10	\$7	\$12	\$23	\$39	\$49	\$55	\$57	\$55	\$48	\$355	\$4,628	2032
FZ Tiber Creek Sewer Lining - Phase I	\$0	\$0	\$0	\$574	\$301	\$0	\$0	\$0	\$0	\$0	\$0	\$875	\$1,000	2024
G7 Combined Sewers Under Buildings	\$10	\$13	\$83	\$756	\$2,354	\$6,703	\$0	\$0	\$0	\$0	\$0	\$9,910	\$21,881	2025
IH Combined Sewer Rehabilitation 2	\$0	\$25	\$1	\$1,036	\$877	\$5,259	\$4,497	\$0	\$0	\$0	\$0	\$11,695	\$31,798	2026
OB FY 2024 - Inflatable Dams Replacement	\$0	\$0	\$176	\$568	\$3,749	\$996	\$0	\$0	\$0	\$0	\$0	\$5,489	\$6,675	2025
<b>TOTAL COMBINED SEWER BUDGETS</b>	<b>\$2,760</b>	<b>\$5,407</b>	<b>\$4,694</b>	<b>\$8,238</b>	<b>\$11,158</b>	<b>\$18,986</b>	<b>\$9,787</b>	<b>\$4,931</b>	<b>\$5,378</b>	<b>\$11,278</b>	<b>\$15,209</b>	<b>\$95,066</b>	<b>\$218,708</b>	

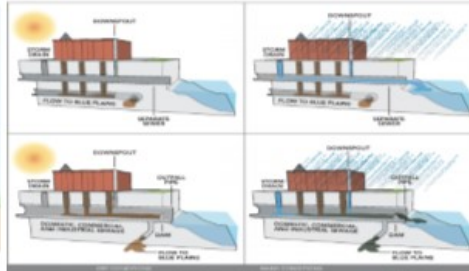
	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget
<b>TOTAL COMBINED SEWER OVERFLOW BUDGETS</b>	<b>\$181,317</b>	<b>\$170,842</b>	<b>\$165,276</b>	<b>\$126,598</b>	<b>\$77,962</b>	<b>\$77,216</b>	<b>\$157,621</b>	<b>\$104,808</b>	<b>\$91,414</b>	<b>\$124,593</b>	<b>\$26,645</b>	<b>\$1,122,976</b>	<b>\$2,979,072</b>

(\$ in thousands)

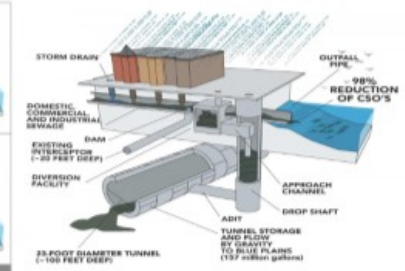
FY 2020 Actual	FY 2021 - FY 2030 Disbursement Plan											Lifetime Budget
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	
\$2,587	\$5,931	\$9,228	\$7,209	\$5,109	\$6,328	\$5,297	\$5,089	\$7,718	\$5,057	\$6,928	\$63,894	\$121,310



**Downspout Disconnection Program**



**Combined Sewer Overflow System**



**Anacostia River Tunnel**

## Overview

Stormwater runoff occurs when rain or snowmelt flows over impervious surfaces or surfaces that do not allow water to soak into the ground such as roads, driveways, sidewalks, parking lots, and buildings. The District is required to meet certain regulatory requirements in managing its separate stormwater system under the District’s Municipal Separate Storm Sewer System (MS4) permit issued by the federal government.

The stormwater system has about 575 miles of storm sewer pipes and 16,000 manholes, about 15,000 catch basins and inlets, and other barrel 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** – This category includes several projects for investigation, design and rehabilitation of local sewers to relieve local flooding and to address short term needs for improvements to storm sewers located in the separate and combined sewer areas.

**On-Going** – These include storm sewer rehabilitation projects carried out by DC Water’s Department of Sewer Services. These annual projects also provide funding to assist in immediate storm sewer construction to alleviate flooding.

**Pumping Facilities** – DC Water’s 16 stormwater pump 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 upgrade all 16 of these stormwater pump stations to replace aging equipment and improve reliability, safety, and code compliance.

**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 stormwater system. It also provides engineering services for condition assessment of the storm sewer system.

**Interceptor 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. As the assessment of the storm sewer system progresses and specific rehabilitation needs are identified, jobs will be created under this program area to remediate system problems.

## ACCOMPLISHMENTS

- Construction continued for the rehabilitation and improvement of the Watts Branch Storm Sewer Phase 3
- Design is complete, and construction bidding is pending for rehabilitation of the Kenilworth and 1<sup>st</sup> and D Stormwater Pump Stations
- Design is underway for rehabilitation of the 12<sup>th</sup> and Maine Street SW, and Portland Street Stormwater Pump Stations
- An evaluation of hydraulic capacity requirements and pump sizing; redundant power needs, including utility power and backup generators, is underway for all 16 Stormwater Pump Stations
- SCADA control system upgrades are planned for all 16 stormwater pumping stations. Recent upgrades have been completed at 14<sup>th</sup> Street Bridge, 23<sup>rd</sup> and Virginia, and 9<sup>th</sup> and D stormwater pumping stations. This work is partially funded by a grant from FEMA
- Rehabilitation of a number of stormwater outfalls area included in a number of sewer rehabilitation projects.

## OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

**Stormwater Pumping Stations Rehabilitation** – This project implements the highest priority rehabilitation or upgrades, addresses issues related to health and safety and station reliability, and will reduce maintenance needs.



(\$ in thousands)

LOCAL DRAINAGE		Start	Status	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
GY	Storm Sewer Rehabilitation at Various Location	2013	Ongoing	\$0	\$0	\$12	\$0	\$283	\$833	\$0	\$0	\$0	\$0	\$0	\$1,128	\$5,908	2025
IE	Storm Sewer Rehabilitation 3	2020	Ongoing	\$0	\$0	\$21	\$188	\$1,228	\$1,860	\$797	\$0	\$0	\$0	\$0	\$4,094	\$4,817	2026
RR	Local Storm Sewer Rehabilitation	2025	Ongoing	\$0	\$0	\$0	\$0	\$0	\$80	\$394	\$1,792	\$1,970	\$1,709	\$260	\$6,205	\$7,300	2030
<b>TOTAL LOCAL DRAINAGE BUDGETS</b>				\$0	\$0	\$33	\$188	\$1,511	\$2,773	\$1,191	\$1,792	\$1,970	\$1,709	\$260	\$11,427	\$18,025	
ON-GOING		Start	Status	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
HM	FY2019 - DSS Stormwater Projects	2019	Ongoing	\$692	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$794	2020
JH	FY2020 - DSS Stormwater Projects	2020	Ongoing	\$126	\$394	\$138	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$532	\$820	2022
LO	FY2021 - DSS Stormwater Projects	2021	Ongoing	\$0	\$255	\$590	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$845	\$845	2022
M8	FY2022 - DSS Stormwater Projects	2022	Ongoing	\$0	\$0	\$587	\$233	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$820	\$820	2023
MG	FY2023 - DSS Stormwater Projects	2023	Ongoing	\$0	\$0	\$0	\$604	\$240	\$0	\$0	\$0	\$0	\$0	\$0	\$844	\$845	2024
NV	FY2024 - DSS Stormwater Projects	2024	Ongoing	\$0	\$0	\$0	\$0	\$626	\$245	\$0	\$0	\$0	\$0	\$0	\$871	\$870	2025
PI	FY2025 - DSS Stormwater Projects	2025	Ongoing	\$0	\$0	\$0	\$0	\$0	\$281	\$615	\$0	\$0	\$0	\$0	\$896	\$896	2026
QA	FY2026 - DSS Stormwater Projects	2026	Ongoing	\$0	\$0	\$0	\$0	\$0	\$0	\$260	\$571	\$0	\$0	\$0	\$923	\$923	2027
T7	FY2028 - DSS Stormwater Projects	2028	Ongoing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$501	\$380	\$0	\$881	\$979	2029
T9	FY2027 - DSS Stormwater Projects	2027	Ongoing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$272	\$583	\$0	\$0	\$855	\$950	2028
U6	FY2029 DSS Stormwater Project	2029	New	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$907	\$0	\$907	\$1,008	2029
U8	FY2030 DSS Stormwater Project	2030	New	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$935	\$935	\$1,039	2030
<b>TOTAL ON-GOING BUDGETS</b>				\$818	\$649	\$1,315	\$837	\$866	\$526	\$875	\$843	\$1,084	\$1,287	\$935	\$9,217	\$10,788	

(\$ in thousands)

	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>PUMPING FACILITIES</b>														
NG Stormwater Pumping Station Rehabilitation	\$1,770	\$5,023	\$7,314	\$5,535	\$1,877	\$2,400	\$2,627	\$2,136	\$4,279	\$1,755	\$5,497	\$38,443	\$62,809	2033
<b>TOTAL PUMPING FACILITIES BUDGETS</b>	<b>\$1,770</b>	<b>\$5,023</b>	<b>\$7,314</b>	<b>\$5,535</b>	<b>\$1,877</b>	<b>\$2,400</b>	<b>\$2,627</b>	<b>\$2,136</b>	<b>\$4,279</b>	<b>\$1,755</b>	<b>\$5,497</b>	<b>\$38,443</b>	<b>\$62,809</b>	
<b>RESEARCH &amp; PROGRAM MANAGEMENT</b>														
AT Stormwater Program Management	\$0	\$164	\$429	\$591	\$653	\$487	\$368	\$0	\$0	\$0	\$0	\$2,672	\$12,679	2026
RQ Storm Water Program Management	\$0	\$0	\$0	\$0	\$0	\$318	\$236	\$385	\$385	\$306	\$236	\$1,500	\$1,500	2030
<b>TOTAL RESEARCH &amp; PROGRAM MANAGEMENT BUDGETS</b>	<b>\$0</b>	<b>\$164</b>	<b>\$429</b>	<b>\$591</b>	<b>\$653</b>	<b>\$804</b>	<b>\$604</b>	<b>\$318</b>	<b>\$385</b>	<b>\$306</b>	<b>\$236</b>	<b>\$4,192</b>	<b>\$14,179</b>	
<b>TRUNK/FORCE SEWERS</b>														
BO Future Stormwater Projects	\$0	\$95	\$137	\$58	\$202	\$123	\$0	\$0	\$0	\$0	\$0	\$615	\$15,510	2025
<b>TOTAL TRUNK/FORCE SEWERS BUDGETS</b>	<b>\$0</b>	<b>\$95</b>	<b>\$137</b>	<b>\$58</b>	<b>\$202</b>	<b>\$123</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$615</b>	<b>\$15,510</b>	
<b>TOTAL STORMWATER BUDGETS</b>	<b>\$2,587</b>	<b>\$5,931</b>	<b>\$9,228</b>	<b>\$7,209</b>	<b>\$5,109</b>	<b>\$6,328</b>	<b>\$5,297</b>	<b>\$5,089</b>	<b>\$7,718</b>	<b>\$5,057</b>	<b>\$6,928</b>	<b>\$63,894</b>	<b>\$121,310</b>	

(\$ in thousands)

FY 2020 Actual	FY 2021 - FY 2030 Disbursement Plan										LifETIME Budget	
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030		10-Yr Total
\$23,786	\$50,547	\$75,437	\$94,116	\$126,383	\$130,552	\$182,891	\$214,243	\$166,734	\$138,047	\$134,024	\$1,312,973	\$2,095,695



**Sewer Rehab Soapstone Valley Park**



**Skimmer Boats Cleaning the Potomac River**



**Sewer Rehabilitation/Replacements**

## Overview

DC Water is responsible for wastewater collection in the District of Columbia, including operation and maintenance of the sanitary sewer system. The sewer system includes approximately 720 miles of large interceptor sewers and smaller gravity collection sewers, for a total of approximately 2,000 miles of combined, separate and stormwater sewers, 50,000 manholes and 25,000 catch basins, 16 stormwater pumping stations and 9 offsite wastewater pumping stations. In addition, DC Water is responsible for the 50-mile long Potomac Interceptor System, which provides conveyance of wastewater from Dulles International Airport, and areas in Virginia and Maryland, to the Blue Plains AWWTP.

### PROGRAM AREAS

**Sanitary Collection System** – Projects to rehabilitate sanitary sewer pipes based on the findings of inspection and assessment conducted on these assets.

**On-Going** – Urgent projects managed by the Department of Sewer Services including the replacement of sewer laterals, sewer mains, inspection and cleaning of sewer laterals and mains.

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

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

**Interceptor/Trunk Force Sewers** – The rehabilitation of large diameter sewers that have reached the end of their useful life or are in need of major rebuild or refurbishment.

## ACCOMPLISHMENTS

- Notice to Proceed was issued in FY 2020 to a progressive design-build contractor for the rehabilitation of Potomac Interceptor between MH31 and MH30. Design is currently underway and construction is scheduled to start in early FY 2022.
- A three party Memorandum of Understanding was executed with Virginia Department of Transportation and their contractor to rehabilitate a section of the Potomac Interceptor as part of the Route 7 improvements project.
- An emergency contract was executed to rehabilitate an aerial sewer crossing in the National Arboretum for a 51-inch sewer that was in danger of being damaged by continuing erosion of the stream underneath.
- A Finding of No Significant Impact was issued by the National Park Service for the Soapstone Sewer rehabilitation project in Rock Creek National Park allowing this critical project to proceed to construction. Construction is scheduled to start in late FY 2021 or early FY 2022.
- Construction was completed on the Low Area Trunk Sewer Rehabilitation project and the B Street/ New Jersey Avenue Trunk Sewer Rehabilitation project.
- Major Potomac Interceptor projects currently in design include:
  - Phase 2 Rehabilitation at Potomac River Crossing
  - Phase 4 Rehabilitation at Fairfax and Loudoun Counties
  - Phase 6 Rehabilitation at Clara Barton Parkway
  - Cabin John Rehabilitation
- Other major sewer projects currently in design include Creekbed projects for:
  - Fenwick Branch Sewer Rehabilitation
  - Norman stone Sewer Rehabilitation
- Local sewer projects currently in design include:
  - Service Life Restoration Program Phase 2
  - Service Life Restoration Program Phase 4
  - Service Life Restoration Program Phase 5
- Condition assessments are planned for the following major sewers:
  - Potomac Force Mains
  - Anacostia Force Main/Gravity Sewer
  - Lower Eastside Interceptor
  - Rock Creek Siphons
  - Anacostia Siphons

## ACCOMPLISHMENTS CONTINUED

- Extensive coordination continues with DDOT’s South Capitol Street Bridge project to protect critical sewer assets:
  - Completed construction on Main Pump Station Hardening Improvements to protect this critical infrastructure from 100-year storm plus approximately 3 feet.
  - Installed influent new screens at Main Pump Station and O Street Pump Station. These screens protect critical equipment in the pump station from accelerated wear and disruption of service.
  - Completed installation of a new seal water pump protection system at Potomac Pump Station.

## OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

***Pump Stations*** – Continued improvements and other upgrades will ensure proper operations of the pump stations to improve reliability and maintain compliance with regulatory requirements and customer expectations.

***Ongoing and Local Sewer Rehabilitation*** – Renewal of small diameter sewer infrastructure will reduce emergency rehabilitations and maintenance demands for these neighborhood sewers.

***Major Sewer Rehabilitation*** – Renewal of major sewers will reduce emergency rehabilitation and maintenance demands for these sewers.



(\$ in thousands)

SANITARY COLLECTION SYSTEM		Start	Status	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
G1	Small Local Sewer Rehabilitation 1	2010	Ongoing	\$308	\$136	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$136	\$29,169	2021
GA	Small Local Sewer Rehabilitation 4	2014	Ongoing	\$108	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20	\$9,074	2021
J3	Sewer Upgrade - City Wide	2000	Ongoing	\$185	\$2,211	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,211	\$18,390	2021
JX	Sanitary Sewer Rehabilitation 10	2016	Ongoing	\$0	\$156	\$140	\$1,537	\$7,073	\$3,030	\$0	\$0	\$0	\$0	\$0	\$11,936	\$13,607	2025
QS	Local Sewer Rehabilitation 5	2020	Ongoing	\$0	\$9	\$535	\$7,885	\$14,632	\$13,595	\$6,095	\$0	\$0	\$0	\$0	\$42,751	\$45,004	2026
QT	Local Sewer Rehabilitation 6	2024	Ongoing	\$0	\$0	\$0	\$0	\$841	\$4,379	\$21,435	\$24,840	\$8,398	\$0	\$0	\$59,893	\$63,846	2028
QU	Local Sewer Rehabilitation 7	2026	Ongoing	\$0	\$0	\$0	\$0	\$0	\$0	\$906	\$4,046	\$7,975	\$8,864	\$12,263	\$34,054	\$71,964	2030
QW	Local Sewer Rehabilitation 8	2028	Ongoing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$968	\$4,428	\$0	\$14,165	\$19,561	\$119,100	2036
QX	Local Sewer Assessment 1	2020	Ongoing	\$20	\$382	\$14	\$5,246	\$1,795	\$0	\$0	\$0	\$0	\$0	\$0	\$7,437	\$8,264	2024
QY	Local Sewer Rehabilitation 2	2022	Ongoing	\$0	\$0	\$5	\$1,706	\$3,904	\$3,500	\$3,695	\$1,691	\$0	\$0	\$0	\$14,501	\$16,553	2027
QZ	Local Sewer Assessment 3	2026	Ongoing	\$0	\$0	\$0	\$0	\$0	\$11	\$4,094	\$4,106	\$4,106	\$4,094	\$4,094	\$16,399	\$17,200	2030
RG	Local Sewer Rehabilitation 9	2024	Ongoing	\$0	\$0	\$0	\$0	\$826	\$3,526	\$14,656	\$16,343	\$16,181	\$13,364	\$1,610	\$66,506	\$70,000	2030
T4	District Energy Buzzard Point	2021	New	\$0	\$0	\$0	\$0	\$0	\$5,000	\$11,500	\$13,500	\$0	\$0	\$0	\$30,000	\$30,000	2027
<b>TOTAL SANITARY COLLECTION SYSTEM BUDGETS</b>				<b>\$621</b>	<b>\$2,914</b>	<b>\$694</b>	<b>\$16,374</b>	<b>\$29,071</b>	<b>\$33,030</b>	<b>\$58,298</b>	<b>\$64,514</b>	<b>\$37,628</b>	<b>\$30,750</b>	<b>\$32,132</b>	<b>\$305,405</b>	<b>\$512,171</b>	
ON-GOING		Start	Status	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
FP	FY2017 - DSS Sanitary Sewer Projects	2017	Closed	\$64	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	2020
H6	FY2018 - DSS Sanitary Sewer Projects	2018	Ongoing	\$225	\$69	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$69	\$12,335	2021
HN	FY2019 - DSS Sanitary Sewer Projects	2019	Ongoing	\$4,427	\$1,613	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,613	\$12,200	2021
J1	FY2020 - DSS Sanitary Sewer Projects	2020	Ongoing	\$3,802	\$4,537	\$1,258	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,795	\$12,568	2022
LN	FY2021 - DSS Sanitary Sewer Projects	2021	Ongoing	\$0	\$6,970	\$2,540	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,510	\$12,945	2022
M9	FY2022 - DSS Sanitary Sewer Projects	2021	Ongoing	\$0	\$5	\$9,583	\$1,577	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,165	\$13,335	2023
MF	FY2023 - DSS Sanitary Sewer Projects	2023	Ongoing	\$0	\$0	\$0	\$10,781	\$1,660	\$0	\$0	\$0	\$0	\$0	\$0	\$12,441	\$13,735	2024
NW	FY2024 - DSS Sanitary Sewer Projects	2024	Ongoing	\$0	\$0	\$0	\$0	\$12,793	\$0	\$0	\$0	\$0	\$0	\$0	\$12,793	\$14,225	2024
OX	FY2025 - DSS Sanitary Sewer Projects	2024	Ongoing	\$0	\$0	\$0	\$0	\$0	\$13,185	\$0	\$0	\$0	\$0	\$0	\$13,185	\$14,650	2025
PZ	FY2026 - DSS Sanitary Sewer Projects	2025	Ongoing	\$0	\$0	\$0	\$0	\$0	\$15	\$13,561	\$0	\$0	\$0	\$0	\$13,576	\$15,090	2026
Q3	FY2003 - DSS Sanitary Sewer Projects	2003	Ongoing	\$0	\$74	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$74	\$12,784	2021
T6	FY2028 - DSS Sanitary Sewer Projects	2027	Ongoing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8	\$14,387	\$0	\$0	\$14,395	\$16,020	2028
T8	FY2027 - DSS Sanitary Sewer Projects	2026	Ongoing	\$0	\$0	\$0	\$0	\$0	\$0	\$15	\$13,980	\$0	\$0	\$0	\$13,995	\$15,550	2027
U7	FY2029 DSS Sewer Sanitary Project	2028	New	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8	\$14,842	\$0	\$14,850	\$16,501	2029
U9	FY2030 DSS Stormwater Project	2029	New	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8	\$15,289	\$16,997	2030	
<b>TOTAL ON-GOING BUDGETS</b>				<b>\$8,517</b>	<b>\$13,267</b>	<b>\$13,381</b>	<b>\$12,358</b>	<b>\$14,453</b>	<b>\$13,200</b>	<b>\$13,576</b>	<b>\$13,988</b>	<b>\$14,395</b>	<b>\$14,850</b>	<b>\$15,289</b>	<b>\$138,757</b>	<b>\$198,935</b>	

(\$ in thousands)

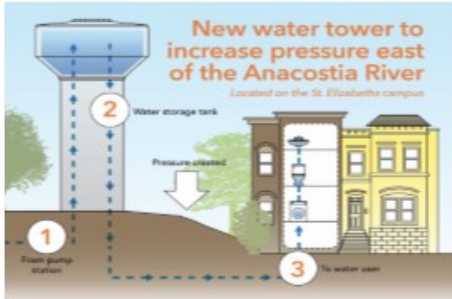
	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>PUMPING FACILITIES</b>														
CX Sewer Facilities Security Upgrades	\$53	\$103	\$52	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$155	\$1,428	2022
GZ Sewer Instrumentation & Control	\$0	\$774	\$326	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,100	\$9,143	2022
LY Sewer Facilities Security Upgrades	\$6	\$56	\$151	\$129	\$60	\$0	\$0	\$0	\$0	\$0	\$0	\$396	\$2,000	2024
MB 3rd Street & Constitution Ave NW - Pumping Station	\$30	\$0	\$0	\$1,910	\$2,532	\$221	\$0	\$0	\$0	\$0	\$0	\$4,663	\$7,501	2025
MC Additional Sewer SCADA System Sites	\$380	\$241	\$326	\$1,560	\$1,728	\$646	\$0	\$0	\$0	\$0	\$0	\$4,501	\$8,116	2025
PM East Side Pumping Station	\$28	\$91	\$117	\$391	\$1,781	\$930	\$0	\$0	\$0	\$0	\$0	\$3,310	\$4,024	2025
PT Existing Sewer Facilities Building Optimization	\$0	\$0	\$0	\$15	\$59	\$185	\$378	\$0	\$0	\$0	\$0	\$636	\$705	2026
RH Sewer Pump Stations Upgrades	\$0	\$811	\$3,383	\$895	\$986	\$2	\$0	\$0	\$0	\$0	\$0	\$6,076	\$8,100	2025
RS Sewer Pump Station Upgrades 2	\$0	\$0	\$0	\$0	\$0	\$3,852	\$5,470	\$17,538	\$23,373	\$28,190	\$0	\$80,424	\$150,720	2032
RT Sewer Pump Station Upgrades 3	\$0	\$0	\$0	\$0	\$0	\$0	\$1,525	\$4,496	\$5,095	\$3,109	\$0	\$14,225	\$24,034	2035
RU Sewer Pump Station Upgrades -Pumps & VFDs	\$0	\$0	\$3	\$1,931	\$3,524	\$6,869	\$8,099	\$6,829	\$3,154	\$0	\$0	\$30,408	\$35,950	2028
<b>TOTAL PUMPING FACILITIES BUDGETS</b>	<b>\$497</b>	<b>\$2,076</b>	<b>\$4,358</b>	<b>\$6,831</b>	<b>\$10,669</b>	<b>\$8,852</b>	<b>\$12,329</b>	<b>\$13,824</b>	<b>\$25,188</b>	<b>\$30,468</b>	<b>\$31,299</b>	<b>\$145,894</b>	<b>\$251,721</b>	
<b>PROGRAM MANAGEMENT</b>														
AU Sanitary Sewer Program Management	\$244	\$3,912	\$4,028	\$5,146	\$4,122	\$2,692	\$1,128	\$0	\$0	\$0	\$0	\$21,028	\$65,441	2026
AV Combined Sewer Overflow Program Management	\$427	\$1,127	\$749	\$3,097	\$3,465	\$4,277	\$3,454	\$2,478	\$0	\$0	\$0	\$18,647	\$57,756	2027
DN Sewer Inspection Program	\$1,139	\$2,689	\$3,322	\$889	\$483	\$482	\$482	\$454	\$313	\$253	\$6	\$9,373	\$27,833	2030
LR Sanitary Sewer Asset Management	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,279	2020
QH Sanitary Sewer Program Management FY26-30	\$0	\$0	\$0	\$0	\$0	\$2,739	\$3,304	\$4,200	\$4,200	\$3,119	\$2,900	\$16,261	\$20,800	2031
RP CSO Program Management	\$0	\$0	\$0	\$0	\$0	\$2,717	\$3,354	\$4,167	\$4,167	\$2,939	\$2,876	\$16,052	\$20,000	2031
<b>TOTAL PROGRAM MANAGEMENT BUDGETS</b>	<b>\$1,810</b>	<b>\$7,728</b>	<b>\$8,099</b>	<b>\$9,132</b>	<b>\$8,070</b>	<b>\$7,451</b>	<b>\$10,519</b>	<b>\$9,589</b>	<b>\$8,680</b>	<b>\$6,311</b>	<b>\$5,783</b>	<b>\$81,361</b>	<b>\$196,108</b>	

(\$ in thousands)

	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>INTERCEPTOR/TRUNK FORCE</b>														
A4 Future Sewer System Upgrades	\$1,110	\$1,067	\$391	\$2,828	\$2,127	\$658	\$0	\$0	\$0	\$0	\$0	\$7,071	\$46,053	2025
DR Low Area Trunk Sewer Rehabilitation	\$4,680	\$2,102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,102	\$23,073	2021
FW Rehab Piney Branch Trunk Sewer	\$10	\$173	\$747	\$3,635	\$12,916	\$3,979	\$0	\$0	\$0	\$0	\$0	\$21,450	\$30,668	2025
FY Rehab Upstream Rock Creek Main Interceptor	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,516	2030
G2 Sewer Structure Rehabilitation 1	\$0	\$218	\$370	\$1,635	\$333	\$0	\$0	\$0	\$0	\$0	\$0	\$2,555	\$9,325	2024
G4 Upper Potomac Interceptor Sewer Rehabilitation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	2024
G5 Sewer Rehab Near Creek Beds	\$373	\$1,004	\$5,554	\$7,156	\$1,710	\$1,091	\$9,128	\$17,764	\$9,429	\$953	\$1,896	\$55,686	\$74,261	2030
G6 Sanitary Sewers Under Buildings 1	\$0	\$14	\$16	\$0	\$714	\$2,025	\$0	\$0	\$0	\$0	\$0	\$2,769	\$6,805	2025
GH Large Sewer Rehabilitation 3	\$0	\$30	\$703	\$1,375	\$8,460	\$6,627	\$712	\$0	\$0	\$0	\$0	\$17,908	\$24,332	2026
HS Rehabilitation of Influent Sewers	\$0	\$0	\$0	\$1,380	\$910	\$166	\$0	\$517	\$1,999	\$5,849	\$18,764	\$29,585	\$37,430	2030
HT Rehabilitation of Anacostia Force Main	\$28	\$1,584	\$231	\$0	\$0	\$0	\$0	\$0	\$68	\$333	\$375	\$2,591	\$11,376	2032
IF Sanitary Sewer Rehabilitation 2	\$0	\$107	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$107	\$1,594	2021
IK Potomac Force Main Rehabilitation	\$0	\$824	\$5	\$1	\$142	\$163	\$123	\$317	\$944	\$1,752	\$308	\$4,579	\$6,127	2030
IL Creekbred Sewer Rehabilitation 2	\$713	\$1,792	\$2,424	\$1,097	\$2,640	\$3,632	\$5,909	\$1,462	\$200	\$0	\$0	\$19,156	\$54,608	2032
IM Creekbred Sewer Rehabilitation 3	\$0	\$64	\$343	\$407	\$402	\$925	\$4,857	\$6,483	\$193	\$318	\$1,451	\$15,442	\$23,993	2031
IN Upper East Side Trunk Sewer Rehabilitation	\$0	\$0	\$459	\$923	\$501	\$865	\$3,850	\$10,504	\$0	\$0	\$0	\$17,102	\$19,044	2027
JO B Street New Jersey Avenue Trunk Sewer Rehab	\$4,351	\$673	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$673	\$18,038	2021
LZ Potomac Interceptor Projects - Rehab. Phase 2	\$1,075	\$10,374	\$29,692	\$19,180	\$16,631	\$20,750	\$15,732	\$15,173	\$13,130	\$6,249	\$221	\$147,132	\$167,095	2030
N7 Potomac Sewer System Rehabilitation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$48,684	2020
PJ Re-Activation of Anacostia Force Main(Gravity Main as Relief to Anacostia Force Main	\$0	\$567	\$3	\$803	\$1,201	\$4,755	\$9,151	\$1,030	\$0	\$0	\$0	\$17,510	\$20,001	2027
RA Major Sewer Assessment and Heavy Cleaning 1	\$0	\$2,018	\$3,878	\$2,998	\$2,308	\$2,394	\$123	\$0	\$0	\$0	\$0	\$13,718	\$15,800	2026
RB Major Sewer Assessment and Heavy Cleaning 2	\$0	\$0	\$0	\$0	\$0	\$4,027	\$4,200	\$4,200	\$4,200	\$173	\$0	\$12,600	\$14,100	2029
RC Major Sewer Rehabilitation 1	\$1	\$755	\$2,496	\$5,101	\$11,391	\$6,182	\$8,090	\$16,980	\$3,140	\$6,086	\$3,969	\$64,190	\$73,298	2034
RD Major Sewer Rehabilitation 2	\$0	\$1,197	\$1,593	\$902	\$1,225	\$11,106	\$19,398	\$17,459	\$13,043	\$2,585	\$0	\$48,508	\$75,783	2029
RE Major Sewer Rehabilitation 3	\$0	\$0	\$0	\$0	\$510	\$2,701	\$7,069	\$20,439	\$23,966	\$14,680	\$10,447	\$79,811	\$88,255	2031
RJ Creekbred Sewer Rehabilitation 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,082	\$10,259	\$5,659	\$20,000	\$22,000	2030
RL Potomac Interceptor Projects - Rehab Phase 3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,449	\$6,431	\$6,431	\$19,311	\$22,500	2032
<b>TOTAL INTERCEPTOR/TRUNK FORCE SEWER BUDGETS</b>	<b>\$12,341</b>	<b>\$24,562</b>	<b>\$48,905</b>	<b>\$49,421</b>	<b>\$64,121</b>	<b>\$68,019</b>	<b>\$88,169</b>	<b>\$112,328</b>	<b>\$80,843</b>	<b>\$55,668</b>	<b>\$49,521</b>	<b>\$641,537</b>	<b>\$936,759</b>	
<b>TOTAL SANITARY SEWER BUDGETS</b>	<b>\$23,786</b>	<b>\$50,547</b>	<b>\$75,437</b>	<b>\$94,116</b>	<b>\$126,303</b>	<b>\$130,552</b>	<b>\$182,891</b>	<b>\$214,243</b>	<b>\$166,734</b>	<b>\$138,047</b>	<b>\$134,024</b>	<b>\$1,312,973</b>	<b>\$2,095,695</b>	

(\$ in thousands)

FY 2020 Actual	FY 2021 - FY 2030 Disbursement Plan										Lifetime Budget	
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030		10-Yr Total
\$41,721	\$75,362	\$100,209	\$119,090	\$112,118	\$122,534	\$122,944	\$126,693	\$129,781	\$118,831	\$120,155	\$1,147,717	\$2,346,963



**St. Elizabeth Water Tower**



**Anacostia Pump Distribution Systems**



**Monitoring of Water Quality**

## 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 responsible for treating the drinking water. DC Water purchases water from the Aqueduct and is responsible for maintaining the distribution system that delivers drinking water to customers. DC Water distributes drinking water through 1,300 miles of pipes to more than 700,000 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 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 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.

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 EPA. 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 hundreds of 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 system program area is the largest program for the water service area and includes three primary elements: small diameter water main renewal, large diameter water main rehabilitation, and DDOT project relocation needs.

***Lead Free DC Program*** – The lead service line replacement includes the replacement of lead service liens in public and private right of way with copper piping. The replacement continues throughout the water distribution system as part of water main renewal projects, emergency rehabilitation of water service lines, and for customers that request full replacement as part of the Voluntary Lead Service Replacement (LSR) Program.

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

***Pumping Facilities*** – Rehabilitate or upgrade water-pumping stations in the system. All four water pump stations have completed major upgrades within the last fifteen years, and only minor projects are anticipated for the near future.

***Storage Facilities*** – Rehabilitation or upgrade of elevated tanks and reservoirs. Studies to the system have identified the need for upgrades and/or new storage facilities to support changing development patterns, for regulatory compliance, to provide additional water pressure to certain areas of the District, and to provide redundant service during unplanned outages.

***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.

***Program Management*** – Provides engineering program management services for the drinking water system capital improvements program, including asset management, developing facilities plans, advancement of the smart infrastructure program, conceptual designs, design scopes of work, cost estimates, and design document review.



## ACCOMPLISHMENTS

- The water service area continues to install small diameter water mains to meet the DC Water Board goal of renewing 1 percent of the system annually. This renewal includes a combination of replacement with new water mains to reduce water quality degradation from tuberculation, reduce the likelihood of water main breaks and increase the service life the small diameter water mains.
- In FY 2020 3.4 miles of small diameter water mains were replaced. However, in FY 2021 we plan to advertise five jobs for construction totaling over 14 miles and project that 9 miles will be replaced in FY 2021. For FY 2022 we are projecting to meet or exceed the goal of replacing 11 miles.
- Completed design for rehabilitation of the N Street 66/72-inch Prestressed Concrete Cylinder Pipe (PCCP) and advertised for construction in late FY 2020. This project is expected to start construction in FY 2021.
- DC Water continues its Pipe Condition Assessment (PCA) of large diameter water mains. The assessments include detailed field inspection and leak detection of high-risk water transmission mains. In FY 2020 a condition assessment was completed for the 66-inch Low Service Main along 8<sup>th</sup> Street NE and SE. The total length inspected was 1.6 miles. The project also included the construction of access ports and installation of a 66-inch butterfly valve to facilitate the inspection. Immediate rehabilitations were made to several areas. The results of the inspection will be analyzed and will be used to recommend any required rehabilitation. Planned inspections for FY 2021 include large diameter water mains on Franklin St NE, N Street NW, 11<sup>th</sup> Street NE and R Street NW.
- Construction continues on the Soldiers Home Reservoir. This project corrects several deficiencies identified during an EPA annual sanitary survey, and makes several other improvements to the reservoir which was originally constructed in 1939.
- Extensive coordination continues with DDOT's South Capitol Street Bridge project to relocate water mains and protect critical transmission mains.

## OPERATIONAL IMPACT OF MAJOR CAPITAL PROGRAMS

**Water Mains** – During FY 2021, the Authority continues renewal of small diameter water pipes with the goal of 1% annual renewal. Large diameter water main condition assessment and rehabilitation projects continue with several large diameter water main condition assessment planned for FY 2021. These projects require extensive coordination with Operations to ensure system operations are not impacted by these projects. The goal of the capital expenditures for linear water asset is to reduce reactive maintenance due to breaks and other unscheduled rehabilitations thereby reducing maintenance costs over time.

**Water Pumping and Storage** – The Soldiers Home reservoir upgrade project is scheduled for completion in FY 2021 with the purpose of ensuring regulatory compliance and making a number of operational improvements. We are continuing with minor pump station upgrades and improvements to operational procedures which serve to reduce maintenance costs and avoid the need for major upgrades later.

(\$ in thousands)

DISTRIBUTION SYSTEMS		Start	Status	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
C9	Large Diameter Water Mains I	2014	Ongoing	\$4,067	\$1,636	\$1,670	\$2,427	\$203	\$0	\$0	\$0	\$0	\$0	\$0	\$5,935	\$20,217	2024
DE	Small Diameter Water Main Rehabilitation 12	2014	Ongoing	\$3,982	\$2,704	\$1,304	\$5,279	\$590	\$0	\$0	\$0	\$0	\$0	\$0	\$9,876	\$48,836	2023
FI	Small Diameter Water Main Rehabilitation 13	2014	Ongoing	\$2,273	\$1,132	\$6,779	\$100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,011	\$41,142	2022
F2	Small Diameter Water Main Rehabilitation 14	2017	Ongoing	\$901	\$4,008	\$25,527	\$5,034	\$50	\$0	\$0	\$0	\$0	\$0	\$0	\$34,619	\$57,913	2024
F6	Steel Water Main Rehabilitation - Rehabilitation I	2009	Ongoing	\$0	\$33	\$185	\$746	\$4,108	\$348	\$0	\$0	\$0	\$0	\$0	\$5,420	\$12,139	2023
FE	20 Low Service Main & Pressure Reducing Valve	2012	Ongoing	\$102	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,540	2020
FT	Water Mains Rehabilitation Phase II	2014	Ongoing	\$1,014	\$5,631	\$7,740	\$5,562	\$4,451	\$1,523	\$233	\$0	\$0	\$0	\$0	\$25,139	\$35,662	2026
GQ	Fire Hydrant Replacement Program - Phase II	2010	Ongoing	\$661	\$1,976	\$1,653	\$1,443	\$1,624	\$1,619	\$0	\$0	\$0	\$0	\$0	\$8,315	\$28,767	2026
GR	Small Diameter Water Main Rehabilitation 15	2018	Ongoing	\$137	\$3,058	\$15,170	\$20,160	\$268	\$0	\$0	\$0	\$0	\$0	\$0	\$38,657	\$52,000	2023
HX	Small Diameter Water Main Rehabilitation 16	2018	Ongoing	\$1	\$3,824	\$5,171	\$24,232	\$6,697	\$0	\$0	\$0	\$0	\$0	\$0	\$39,924	\$58,000	2024
I8	Large Valve Replacement (Contract 11-13)	2012	Ongoing	\$135	\$428	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$428	\$19,677	2020
JZ	Large Diameter Water Main Replacement 3 - 4 & 5	2021	Ongoing	\$0	\$806	\$659	\$2,274	\$7,112	\$21,153	\$16,004	\$8,760	\$5,501	\$1,099	\$0	\$63,366	\$81,320	2027
K7	Large Diameter Water Main Replacement 6 - 7 & 8	2024	Ongoing	\$0	\$0	\$0	\$0	\$523	\$2,089	\$9,420	\$19,559	\$21,287	\$13,945	\$2,935	\$69,757	\$89,140	2030
K8	Large Diameter Water Main Replacement 9 - 10 & 11	2027	Ongoing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$446	\$1,803	\$8,079	\$16,802	\$27,131	\$76,400	2033
KE	Small Diameter Water Main Rehabilitation 18	2020	Ongoing	\$0	\$378	\$859	\$11,950	\$10,682	\$3,844	\$0	\$0	\$0	\$0	\$0	\$27,712	\$46,340	2025
KF	Small Diameter Water Main Rehabilitation 19	2022	Ongoing	\$0	\$288	\$1,016	\$1,198	\$25,511	\$22,442	\$0	\$0	\$0	\$0	\$0	\$50,455	\$59,950	2026
KG	Small Diameter Water Main Rehabilitation 20	2023	Ongoing	\$0	\$30	\$331	\$726	\$827	\$2,345	\$19,609	\$0	\$0	\$0	\$0	\$53,280	\$63,140	2028
KH	Small Diameter Water Main Rehabilitation 21	2024	Ongoing	\$0	\$0	\$0	\$296	\$827	\$2,345	\$30,776	\$20,265	\$0	\$0	\$0	\$54,539	\$64,547	2029
KI	Small Diameter Water Main Rehabilitation 22	2025	Ongoing	\$0	\$0	\$0	\$26	\$338	\$833	\$3,293	\$31,206	\$20,596	\$0	\$0	\$56,292	\$66,553	2030
KJ	Small Diameter Water Main Rehabilitation 23	2026	Ongoing	\$0	\$0	\$0	\$0	\$30	\$341	\$840	\$3,340	\$31,916	\$20,864	\$0	\$57,330	\$67,760	2031
KK	Small Diameter Water Main Rehabilitation 24	2027	Ongoing	\$0	\$0	\$0	\$0	\$0	\$30	\$343	\$846	\$2,516	\$33,278	\$21,532	\$58,544	\$69,178	2032
KL	Small Diameter Water Main Rehab 25	2028	Ongoing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$82	\$786	\$5,261	\$36,863	\$42,992	\$79,378	2032
MV	Small Diameter Water Main Rehabilitation 3	2006	Ongoing	\$0	\$32	\$35	\$116	\$1,168	\$700	\$0	\$0	\$0	\$0	\$0	\$2,052	\$15,677	2023
OI	Small Diameter Water Main Rehabilitation 9	2012	Ongoing	\$0	\$20	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20	\$26,423	2020
O2	Small Diameter Water Main Rehabilitation 10	2013	Ongoing	\$1,266	\$2,393	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,393	\$38,700	2021
O3	Small Diameter Water Main Rehabilitation 11	2014	Ongoing	\$1,969	\$545	\$29	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$574	\$42,235	2021
QF	District Metering	2022	Ongoing	\$0	\$0	\$0	\$443	\$958	\$1,174	\$1,066	\$1,204	\$1,029	\$741	\$473	\$7,086	\$9,930	2031
S3	Large Valve Replacement (Contract 3-7)	1999	Ongoing	\$2	\$640	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$640	\$23,185	2022
U5	WSSC Interconnection Project	2023	New	\$0	\$81	\$372	\$726	\$3,624	\$1,386	\$738	\$0	\$0	\$0	\$0	\$6,927	\$9,107	2026
KM	Small Diameter Water Main Rehab 26	2029	New	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$145	\$1,662	\$3,757	\$5,579	\$11,143	\$83,084	2033
KN	Small Diameter Water Main Rehab 27	2029	New	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$86	\$251	\$338	\$107,405	2030
RY	Small Diameter Water Main FY27-FY29	2026	New	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	2029
<b>TOTAL DISTRIBUTION SYSTEMS BUDGETS</b>				<b>\$16,509</b>	<b>\$46,643</b>	<b>\$68,528</b>	<b>\$82,740</b>	<b>\$71,899</b>	<b>\$89,272</b>	<b>\$82,322</b>	<b>\$85,853</b>	<b>\$87,095</b>	<b>\$87,109</b>	<b>\$84,434</b>	<b>\$785,895</b>	<b>\$1,502,345</b>	

(\$ in thousands)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>LEAD PROGRAM</b>													
BW	\$6,179	\$6,075	\$5,908	\$5,869	\$5,963	\$5,396	\$5,428	\$5,666	\$5,739	\$5,390	\$37,613	\$243,956	2038
<b>TOTAL LEAD PROGRAM BUDGETS</b>	<b>\$6,179</b>	<b>\$6,075</b>	<b>\$5,908</b>	<b>\$5,869</b>	<b>\$5,963</b>	<b>\$5,396</b>	<b>\$5,428</b>	<b>\$5,666</b>	<b>\$5,739</b>	<b>\$5,390</b>	<b>\$37,613</b>	<b>\$243,956</b>	
<b>ON-GOING</b>													
D5 FY 2014 - DWS Water Projects	\$95	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$95	\$10,248	2020
DY FY 2016 - DWS Water Projects	\$44	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,330	2020
FK FY 2017 - DWS Water Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	2021
GS FY 2018 - DWS Water Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	2021
HY FY 2019 - DWS Water Projects	\$204	\$35	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$239	\$9,631	2021
JA FY 2020 - DWS Water Projects	\$4,141	\$35	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,176	\$15,070	2021
KW FY 2021 - DWS Water Projects	\$7,686	\$2,113	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,799	\$11,630	2022
KX FY 2022 - DWS Water Projects	\$0	\$10,297	\$171	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,468	\$11,664	2023
KY FY 2023 - DWS Water Projects	\$0	\$0	\$12,272	\$35	\$0	\$0	\$0	\$0	\$0	\$0	\$12,307	\$13,150	2024
KZ FY 2024 - DWS Water Projects	\$0	\$0	\$0	\$12,804	\$36	\$0	\$0	\$0	\$0	\$0	\$12,840	\$14,452	2025
L1 FY 2025 - DWS Water Projects	\$0	\$0	\$0	\$0	\$13,030	\$30	\$0	\$0	\$0	\$0	\$13,060	\$14,780	2026
L2 FY 2026 - DWS Water Projects	\$0	\$0	\$0	\$0	\$0	\$14,360	\$0	\$0	\$0	\$0	\$14,360	\$15,890	2026
L6 FY 2027 - DWS Water Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$16,670	\$0	\$0	\$0	\$16,670	\$18,250	2027
L7 FY 2028 - DWS Water Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,818	\$0	\$0	\$17,818	\$19,575	2028
QJ DDCS Water Pumping and Storage Projects FY19-21	\$0	\$0	\$1,014	\$2,448	\$1,208	\$0	\$0	\$0	\$0	\$0	\$4,670	\$4,921	2021
QK DDCS Water Pumping and Storage Projects FY22-28	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	2028
L8 FY 2029 - DWS Water Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,000	\$0	\$18,000	\$21,000	2030
L9 FY 2030 - DWS Water Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,000	\$19,000	\$22,000	2031
<b>TOTAL ON-GOING BUDGETS</b>	<b>\$12,126</b>	<b>\$12,480</b>	<b>\$13,457</b>	<b>\$15,287</b>	<b>\$14,274</b>	<b>\$14,390</b>	<b>\$16,670</b>	<b>\$17,818</b>	<b>\$18,000</b>	<b>\$19,000</b>	<b>\$153,502</b>	<b>\$212,590</b>	
<b>PUMPING FACILITIES</b>													
AY Upgrades to Fort Reno Pumping Station	\$621	\$167	\$49	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$837	\$14,442	2022
FD Water Facility Security System Upgrades	\$75	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$75	\$2,137	2021
FH Discharge Piping Bryant Street Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	2020
HI Bryant Street Pump Station Phase III	\$0	\$0	\$0	\$0	\$209	\$334	\$1,596	\$3,573	\$0	\$0	\$5,712	\$6,620	2026
HR Anacostia Pump Station Improvements Phase II	\$0	\$0	\$0	\$0	\$0	\$0	\$61	\$202	\$215	\$2,571	\$3,049	\$4,700	2027
HV Bryant Street Pump Station - Spill Header-Flow Control	\$133	\$316	\$1,475	\$3,297	\$1,077	\$0	\$0	\$0	\$0	\$0	\$6,298	\$8,251	2024
JB Bryant Street PS Improvements - Phase II	\$175	\$431	\$4,573	\$1,241	\$9	\$0	\$0	\$0	\$0	\$0	\$6,420	\$12,185	2023
LT Water System SCADA	\$324	\$3,217	\$2,330	\$504	\$9	\$0	\$0	\$0	\$0	\$0	\$6,364	\$8,391	2023
LU Water Facilities Security System Upgrades 2	\$0	\$125	\$392	\$606	\$390	\$266	\$0	\$0	\$0	\$0	\$1,779	\$2,000	2026
OR Fort Reno Pump Station Improvements Phase II	\$0	\$0	\$210	\$291	\$1,197	\$3,874	\$18	\$0	\$0	\$0	\$5,590	\$6,430	2028
OW Water System Sensor Program (WaSSP)	\$0	\$720	\$719	\$721	\$720	\$720	\$720	\$720	\$0	\$0	\$5,040	\$5,600	2028
PS Existing Water Facilities Building Optimization	\$0	\$69	\$531	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$600	\$695	2023
S6 West Venturi Meter - Bryant Street Pumping Station	\$0	\$0	\$2	\$76	\$345	\$620	\$0	\$0	\$0	\$0	\$1,043	\$1,196	2025
<b>TOTAL PUMPING FACILITIES BUDGETS</b>	<b>\$1,328</b>	<b>\$5,045</b>	<b>\$10,281</b>	<b>\$6,736</b>	<b>\$3,947</b>	<b>\$5,814</b>	<b>\$23,395</b>	<b>\$4,495</b>	<b>\$2,115</b>	<b>\$2,571</b>	<b>\$42,827</b>	<b>\$72,646</b>	

(\$ in thousands)

	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>DDOT</b>														
B0 B0 FY 2010 - DDOT Water Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,171	2021
BN FY 2011 - DDOT Water Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,738	2021
CJ FY 2012 - DDOT Water Projects	\$74	\$512	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$512	\$6,474	2022
CM FY 2013 - DDOT Water Projects	\$284	\$504	\$152	\$13	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$669	\$1,549	2021
<b>TOTAL DDOT BUDGETS</b>	<b>\$359</b>	<b>\$1,016</b>	<b>\$152</b>	<b>\$13</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,181</b>	<b>\$33,933</b>	

	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>STORAGE FACILITIES</b>														
FA Water Storage Facility Upgrades	\$3,574	\$3,066	\$2,532	\$859	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,457	\$37,510	2023
HW Rehabilitation of Elevated Water Tanks	\$0	\$0	\$0	\$171	\$728	\$941	\$2,171	\$1,377	\$561	\$0	\$0	\$5,949	\$7,000	2026
MA Saint Elizabeth Water Tank	\$906	\$1,310	\$24	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,334	\$47,501	2023
MQ 2MG 4th High Storage Tank	\$34	\$145	\$79	\$127	\$890	\$864	\$0	\$0	\$0	\$0	\$0	\$2,105	\$9,735	2027
MR 2nd High Water Storage	\$0	\$0	\$72	\$96	\$626	\$1,287	\$6,495	\$4,324	\$0	\$0	\$0	\$12,900	\$17,043	2027
QG Anacostia First and Second High Storage	\$0	\$0	\$349	\$1,245	\$7,321	\$1,632	\$486	\$1,846	\$4,193	\$0	\$0	\$17,072	\$19,171	2027
RX Water Storage Facility Upgrades Phase II	\$0	\$0	\$0	\$0	\$0	\$0	\$181	\$420	\$2,087	\$2,611	\$3,602	\$8,901	\$17,800	2036
<b>TOTAL STORAGE FACILITIES BUDGETS</b>	<b>\$4,514</b>	<b>\$4,521</b>	<b>\$3,056</b>	<b>\$2,498</b>	<b>\$9,565</b>	<b>\$4,724</b>	<b>\$9,333</b>	<b>\$7,967</b>	<b>\$6,841</b>	<b>\$2,611</b>	<b>\$3,602</b>	<b>\$54,718</b>	<b>\$155,760</b>	

	FY 2020 Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Lifetime Budget	Completion
<b>PROGRAM MANAGEMENT</b>														
KV Water Program Management Services 2F	\$2,743	\$3,038	\$4,475	\$4,193	\$2,762	\$921	\$0	\$0	\$0	\$0	\$0	\$15,389	\$30,610	2025
LB Water Program Management Services 2G	\$0	\$0	\$0	\$0	\$0	\$3,433	\$5,689	\$8,380	\$7,866	\$5,157	\$1,724	\$32,249	\$35,480	2029
LQ Water Service Area Asset Management	\$0	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$4,309	2023
ME Water System Program Management Services	\$520	\$511	\$398	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$909	\$19,854	2024
NU Water Program Management Services 2H	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,433	\$3,433	\$35,480	2035
<b>TOTAL PROGRAM MANAGEMENT BUDGETS</b>	<b>\$3,263</b>	<b>\$3,550</b>	<b>\$4,873</b>	<b>\$4,193</b>	<b>\$2,762</b>	<b>\$4,354</b>	<b>\$5,689</b>	<b>\$8,380</b>	<b>\$7,866</b>	<b>\$5,157</b>	<b>\$5,157</b>	<b>\$51,981</b>	<b>\$125,733</b>	

<b>TOTAL WATER BUDGETS</b>	\$41,721	\$75,362	\$100,209	\$119,090	\$112,118	\$122,534	\$122,944	\$126,693	\$129,781	\$118,831	\$120,155	\$1,147,717	\$2,346,963	
----------------------------	----------	----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-------------	-------------	--



(\$ in thousands)

	FY 2020	FY 2021 - FY 2030 Disbursement Plan											Lifetime
	Actual	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total	Budget
CAPITAL EQUIPMENT	\$24,371	\$36,207	\$36,019	\$36,611	\$28,578	\$33,103	\$33,103	\$33,103	\$33,103	\$33,103	\$33,103	\$336,036	\$336,036
WASHINGTON AQUEDUCT	\$13,073	\$15,382	\$13,324	\$37,903	\$8,414	\$16,012	\$34,208	\$11,240	\$10,919	\$18,885	\$13,838	\$180,125	\$180,125
<b>TOTAL ADDITIONAL CAPITAL PROGRAMS</b>	<b>\$37,443</b>	<b>\$51,589</b>	<b>\$49,343</b>	<b>\$74,513</b>	<b>\$36,992</b>	<b>\$49,115</b>	<b>\$67,312</b>	<b>\$44,344</b>	<b>\$44,023</b>	<b>\$51,988</b>	<b>\$46,942</b>	<b>\$516,161</b>	<b>\$516,161</b>



**Sink Hole Rehabilitation**



**Clean Rivers Tunnel**



**Small Diameter Replacement Program**

## Overview

Additional Capital Programs is a subset of DC Water’s Capital Improvement Program (CIP) and is comprised of Capital Equipment and the Washington Aqueduct.

**Capital Equipment** – This category accounts for over 65% of the Additional Capital Programs budget and includes capital equipment purchases, refurbishment, replacement and enhancement of operational facilities, vehicle equipment, office renovations, mechanical equipment, and Information Technology (IT) software/hardware needs. The current capital equipment disbursement budget includes the following cluster groups:

- **Administration** – Capital equipment within this cluster are primarily for the departments of Emergency Management, Facilities Management, Fleet Management, Security, and Safety. The activities/purchases include, plumbing, elevators, photocopiers, appliances, furniture, vehicles, buses, vacuum trucks, boats, backhoes, cranes, trailers, forklifts, fire suppression system equipment, renovations, cameras, and sensors.
- **Customer Experience** – The cluster is comprised of the following departments: Customer Care, and Information Technology (IT). The Customer Care activities/purchases support the enhancements, replacements, and upgrades of residential and commercial water meters. The IT activities are for equipment purchases for infrastructure and enterprise projects which include: laptops, cabling, radios, servers, telephones, and software applications.
- **Finance and Procurement** – This cluster includes the departments of Finance, and Procurement & Compliance. The activities/purchases are primarily for reserve funds to support additional capital equipment needs for new facilities, unplanned emergencies, and capital equipment requiring long-lead times.

- Operations & Engineering** – This cluster is comprised of Wastewater Operations, Water Operations, Sewer Operations, and Engineering. The capital equipment activities/purchases support work attributable to rehabilitation, replacement, and continuous improvements or enhancements for pumps, screens, large motors, centrifuges, process control systems, actuators, flow meters, and Supervisory Control and Data Acquisition (SCADA) hardware. In addition, it includes the purchases of pipes/fittings, manhole covers/frames, sewer cameras, generators, and various other equipment for the plant, distribution and collection systems.

**Washington Aqueduct** – The Washington Aqueduct, managed by the U.S. Army Corps of Engineers (USACE), provides wholesale water treatment services to DC Water and wholesale customers in Northern Virginia, (Arlington County and Fairfax County Water Authority). DC Water purchases approximately 74 percent of the water produced by the Aqueduct’s two treatment facilities, the Dalecarlia and McMillan Treatment Plants, and thus is responsible for approximately 74 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 inherited a much greater role in oversight of the Aqueduct’s operations and its Capital Improvement Program, than prior to 1997.

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.

DC Water’s share of Washington Aqueduct’s infrastructure improvements to achieve established service levels for FY 2021 – FY 2030 is \$180.1 million. This investment of \$15.1 million funds Washington Aqueduct’s risk-based asset management CIP, except the following projects: Federally Owned Water Mains, Travilah Quarry Acquisition Outfitting, and Advanced Treatment.



(\$ in thousands)

# Additional Capital Programs

summary overview financial plan rates&rev capital financing departmental glossary

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	10-Yr Total
<b>FY 2020 Actual</b>											
<b>CAPITAL EQUIPMENT</b>											
<b>OPERATIONS &amp; ENGINEERING</b>											
<b>WASTEWATER OPERATIONS</b>											
810006 Wastewater Operations	\$50	\$50	\$50	\$88	-	-	-	-	-	-	\$238
812003 Wastewater Process Engineering	\$375	\$400	\$400	\$400	-	-	-	-	-	-	\$1,575
811003 Maintenance Services	\$3,000	\$4,000	\$4,000	\$4,000	-	-	-	-	-	-	\$15,000
815000 Pumping Services	\$1,400	\$1,765	\$1,765	\$1,765	-	-	-	-	-	-	\$6,695
Subtotal	\$4,825	\$6,215	\$6,215	\$6,253	-	-	-	-	-	-	\$23,508
<b>WATER OPERATIONS</b>											
813003 Water Operations	\$600	\$800	\$900	\$900	-	-	-	-	-	-	\$3,200
813012 Water Quality and Technology	-	-	-	-	-	-	-	-	-	-	\$0
Subtotal	\$600	\$800	\$900	\$900	-	-	-	-	-	-	\$3,200
<b>SEWAGE OPERATIONS</b>											
814000 Sewer Operations	\$185	\$235	\$235	\$235	-	-	-	-	-	-	\$890
Subtotal	\$185	\$235	\$235	\$235	-	-	-	-	-	-	\$890
<b>ENGINEERING</b>											
801000 Engineering & Technical Services	\$317	\$25	\$25	\$25	-	-	-	-	-	-	\$392
Subtotal	\$317	\$25	\$25	\$25	-	-	-	-	-	-	\$392
<b>FINANCE &amp; PROCUREMENT</b>											
<b>FINANCE</b>											
300003 Finance, Accounting & Budget	\$10	\$10	\$10	\$10	-	-	-	-	-	-	\$40
300003 Reserve Fund	\$7,112	\$8,613	\$13,500	\$5,500	\$30,070	\$30,070	\$30,070	\$30,070	\$30,070	\$30,070	\$215,145
Subtotal	\$7,122	\$8,623	\$13,510	\$5,510	\$30,070	\$30,070	\$30,070	\$30,070	\$30,070	\$30,070	\$215,185
<b>CUSTOMER EXPERIENCE</b>											
<b>CUSTOMER CARE</b>											
600018 AMR Replacement	-	-	-	-	-	-	-	-	-	-	\$0
600018 On-Going Replacement	\$2,930	\$2,900	\$2,800	\$3,300	\$3,033	\$3,033	\$3,033	\$3,033	\$3,033	\$3,033	\$30,131
600018 SDWM Meter Program	-	179	184	188	-	-	-	-	-	-	\$551
Subtotal	\$2,930	\$3,079	\$2,984	\$3,488	\$3,033	\$3,033	\$3,033	\$3,033	\$3,033	\$3,033	\$30,682
<b>INFORMATION TECHNOLOGY</b>											
601003 IT Infrastructure	\$2,350	\$2,910	\$2,522	\$2,522	-	-	-	-	-	-	\$10,304
601012 IT Enterprise Technology	\$9,200	\$4,359	\$2,720	\$3,145	-	-	-	-	-	-	\$19,424
Subtotal	\$11,550	\$7,269	\$5,242	\$5,667	-	-	-	-	-	-	\$29,728
<b>ADMINISTRATION</b>											
204000 Facilities Management	\$1,400	\$2,168	\$1,650	\$1,650	-	-	-	-	-	-	\$6,868
205003 Security	\$1,253	\$1,407	\$800	\$800	-	-	-	-	-	-	\$4,260
202006 Fleet Management	\$6,000	\$6,148	\$5,000	\$4,000	-	-	-	-	-	-	\$21,148
201006 Emergency Management	\$25	\$50	\$50	\$50	-	-	-	-	-	-	\$175
Subtotal	\$8,678	\$9,773	\$7,500	\$6,500	-	-	-	-	-	-	\$32,451
<b>TOTAL CAPITAL EQUIPMENT</b>	\$36,207	\$36,019	\$36,611	\$28,578	\$33,103	\$33,103	\$33,103	\$33,103	\$33,103	\$33,103	\$336,036
<b>WASHINGTON AQUEDUCT</b>	\$15,382	\$13,324	\$37,903	\$8,414	\$16,012	\$34,208	\$11,240	\$10,919	\$18,885	\$13,838	\$180,125
<b>TOTAL ADDITIONAL CAPITAL PROGRAMS</b>	\$51,589	\$49,343	\$74,514	\$36,992	\$49,115	\$67,312	\$44,344	\$44,023	\$51,988	\$46,942	\$516,161



**this page intentionally left blank**