DC Water's Green Bond Report

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY **FISCAL YEAR 2022**

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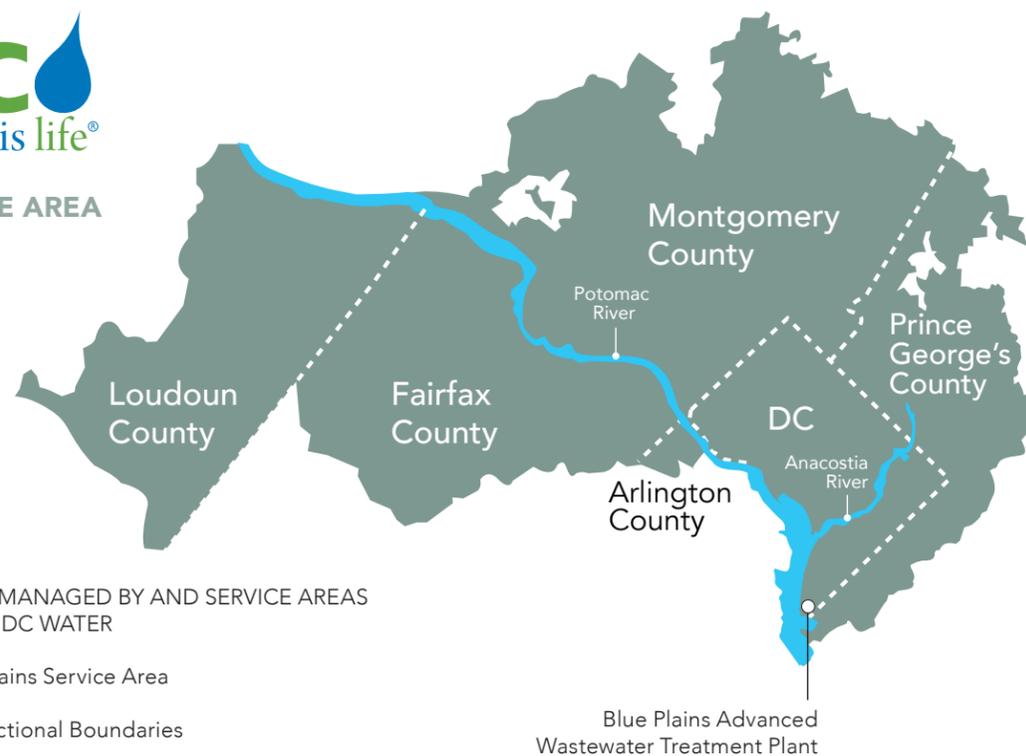
DC Water

The District of Columbia Water and Sewer Authority (DC Water) provides retail drinking water and wastewater services to the District of Columbia (District) and wholesale wastewater treatment services to several adjoining municipalities in Maryland and Virginia. DC Water was created in 1996 under District law, with the approval of the United States Congress, as an independent authority of the District government with legal, financial and operational autonomy. DC Water is governed by an 11-member Board of Directors, with representatives from the District, Montgomery and Prince George's counties in Maryland, and Fairfax County in Virginia. The Board is responsible for adopting DC Water's policies and procedures, and its District representatives are vested with the sole authority to set DC Water's rates, fees and charges.

In fiscal year (FY) 2022, DC Water had an operating budget of approximately $658.4 million and a 10-year, $5.45 billion capital improvement program. It employed over 1,000 people in the District and served a total population of more than 1.6 million within its 725 square mile service territory. DC Water pumped an average of 95 million gallons per day of drinking water through 1,305 miles of water mains and treated an average of 287 million gallons per day of wastewater through 1,963 miles of sanitary and combined sewers.
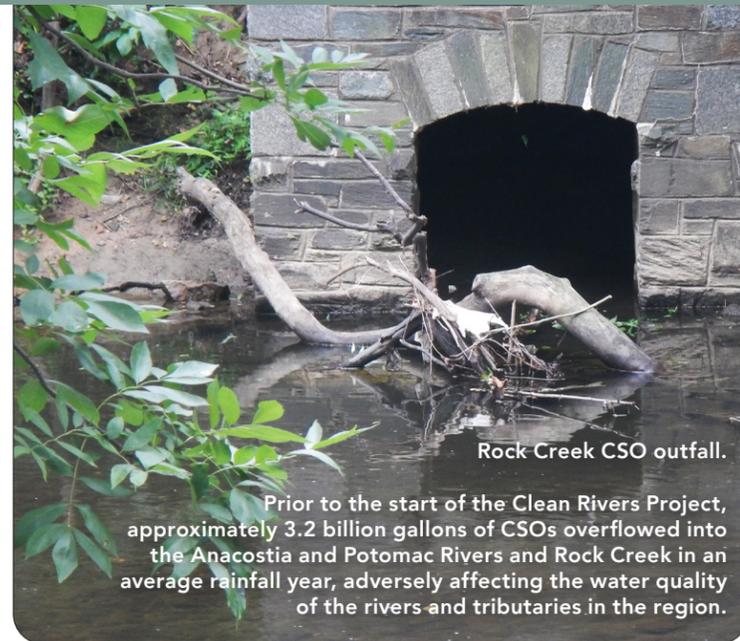
dc water is life®

SERVICE AREA

Montgomery County

Potomac River

Prince George's County

Loudoun County

Fairfax County

DC

Arlington County

Anacostia River

Blue Plains Advanced Wastewater Treatment Plant

FACILITIES MANAGED BY AND SERVICE AREAS SERVED BY DC WATER

■ Blue Plains Service Area

▨ Jurisdictional Boundaries

DC Water Clean Rivers Project – NEBT boring machine cutterhead.

Inside Content

DC Clean Rivers Project

Like many older cities in the United States, the sewer system in the District is comprised of both combined sewers and separate sanitary sewers. In a combined sewer system, sewage from homes and businesses during dry weather is conveyed to DC Water's Blue Plains Advanced Wastewater Treatment Plant (Blue Plains) located in the southwestern part of the District on the east bank of the Potomac River. At Blue Plains, wastewater is treated to remove pollutants prior to being discharged into the Potomac River. When the capacity of a combined sewer is exceeded during storms, the excess flow, which is a mixture of sewage and stormwater runoff, is discharged into the Anacostia and Potomac Rivers and Rock Creek. This excess flow is called combined sewer overflow (CSO). There are 48 potentially active CSO outfalls in the District's combined sewer system.

Communities in the United States with combined sewer systems were required to prepare long term control plans for managing CSO in accordance with Section 402(q) of the Clean Water Act (CWA).

A United States Environmental Protection Agency (EPA) Report to Congress on the Impacts and Controls of CSOs and Sanitary Sewer Overflows (EPA 833-R- 04-001 dated August 26, 2004 or the "2004 EPA Report") concluded that occurrence of CSOs are widespread and cause or contribute to adverse environmental and human health impacts. DC Water, in compliance with the requirements of the CWA and its National Pollutant Discharge Elimination System (NPDES) permit issued by the EPA, prepared a Long Term Control Plan (LTCP). The LTCP is a plan that outlines infrastructure improvements with a proposed implementation schedule to control CSO discharges into the area waterways.
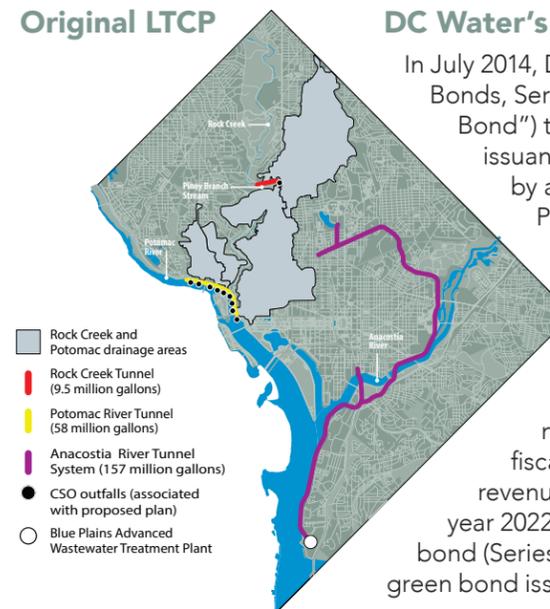
In addition to controlling CSO discharges into the area waterways, select projects in the LTCP are designed to relieve and mitigate flooding in certain areas of the District by the Mayor's Task Force on the Prevention of Flooding in Bloomingdale and LeDroit Park (Mayor's Task Force).

Rock Creek CSO outfall.

Prior to the start of the Clean Rivers Project, approximately 3.2 billion gallons of CSOs overflowed into the Anacostia and Potomac Rivers and Rock Creek in an average rainfall year, adversely affecting the water quality of the rivers and tributaries in the region.

The LTCP infrastructure improvements that provide flood relief and mitigation include:

- Irving Street Green Infrastructure
- First Street Tunnel
- Northeast Boundary Tunnel

A draft of the LTCP was submitted for public comment, as well as to the EPA and the District Department of Health in June 2001. After addressing public comments, the final LTCP proposed significant reductions in CSO compared to the draft plan and was approved by the District Department of Health in August 2003 and by EPA in November 2004. On March 25, 2005, DC Water and the District government entered into a Consent Decree (Civil Action No. 1:00-cv-00183-TFH) with the United States Department of Justice (DOJ) and the EPA. This Consent Decree established a schedule for the implementation of the LTCP. In 2010, DC Water renamed the LTCP the DC Clean Rivers Project. On May 20, 2015, DC Water, District of Columbia, EPA and DOJ announced an agreement to modify the March 2005 consent decree to allow for large scale green infrastructure (GI) installations and other modifications to the DC Clean Rivers Project impacting the Potomac River and Rock Creek watersheds. The modification was approved and became effective on January 14, 2016. On December 22, 2020, a nonmaterial modification of the Consent Decree was filed revising the magnitude of GI to be constructed based on the results of the practicability assessment prepared by DC Water.

Original LTCP

- Rock Creek and Potomac drainage areas
- Rock Creek Tunnel (9.5 million gallons)
- Potomac River Tunnel (58 million gallons)
- Anacostia River Tunnel System (157 million gallons)
- CSO outfalls (associated with proposed plan)
- Blue Plains Advanced Wastewater Treatment Plant

Mod

- Rock Creek and Potomac drainage areas
- Rock Creek and Potomac drainage areas with Green Infrastructure and targeted sewer separation
- Drainage areas with sewer separation
- Rock Creek Storage (4.2 million gallons)
- Potomac River Tunnel (30 million gallons via gravity)
- Anacostia River Tunnel System (157 million gallons)
- Blue Plains Advanced Wastewater Treatment Plant

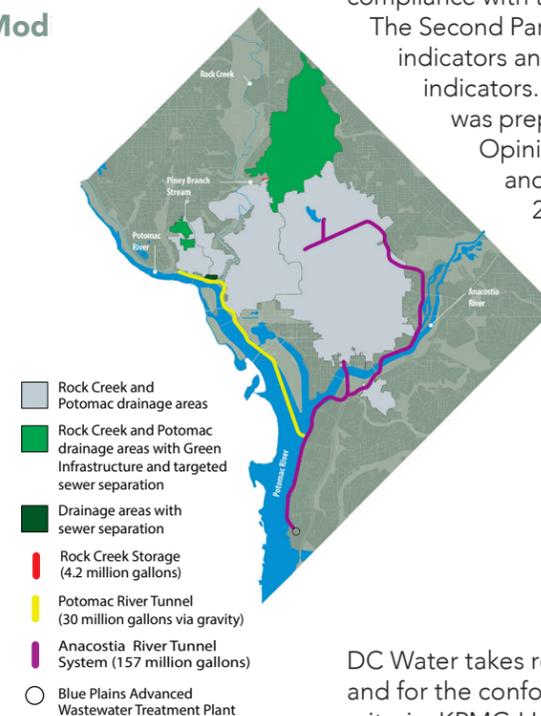## DC Water's Green Bond and Annual Reporting Commitments

In July 2014, DC Water issued its inaugural green bond (Public Utility Senior Lien Revenue Bonds, Series 2014A, Offering Memorandum dated July 10, 2014 or the "Series 2014A Bond") to finance a portion of the DC Clean Rivers Project. This historic $350 million issuance marked the first green bond issued in the United States to be supported by an independent "Second Potomac River Rock Creek and Piney Branch Stream Party Opinion" and the first 100-year "Century" bond issued by a municipal water utility.

During fiscal year 2016, DC Water issued $100 million of Series 2015A, a subordinate lien revenue bond (Series 2015A Bond). During fiscal year 2017, DC Water issued $100 million of Series 2017A, a senior lien revenue bond (Series 2017A Bond). During fiscal year 2018, DC Water issued $100 million of Series 2018A, a senior lien revenue bond (Series 2018A). During fiscal year 2020, DC Water issued $104 million (par value) 2019A, subordinate lien revenue bond (2019A) at an original issue premium of $21.7 million. During fiscal year 2022, DC Water issued $79.6 million (par value) 2022B subordinate lien revenue bond (Series 2022B) at an original issue premium of $20.9 million, which brings the total green bond issuances to $833.6 million as of September 30, 2022.

DC Water retained Vigeo to provide the Second Party Opinion on its green bonds in accordance with Vigeo's environmental, social and governance (ESG) assessment methodology, which is based upon criteria aligned with public international standards in compliance with the International Organization for Standardization (ISO) 26000 guidelines. The Second Party Opinion included the identification of certain ESG performance indicators and DC Water's commitment to undertake annual reporting on those indicators. This Green Bond Report for the fiscal year ended September 30, 2022, was prepared to satisfy reporting commitments outlined in Vigeo's Second Party Opinion, which is included within the offering memoranda of the Series 2014A and Series 2015A Bonds. The offering memoranda of the Series 2017A, 2018A, and 2019A Bonds reference Vigeo's prior Second Party Opinion. The offering memoranda of the Series 2022B Bonds reference Vigeo's 2022 Second Party Opinion. DC Water's green bond reporting commitments for the fiscal year ended September 30, 2022, include the following:

- **$** **Use of Proceeds** of the green bond for the DC Clean Rivers Project

- **Environmental and Social Outcomes** achieved by the DC Clean Rivers Project

- **Responsible Management** of the DC Clean Rivers Project

DC Water takes responsibility for the completeness, accuracy and validity of the indicators and for the conformity of the indicators with DC Water's internally developed reporting criteria. KPMG LLP reviewed the indicators identified in this report with the respective indicator reference letters (**A**) through (**E**) and (**G**) through (**V**) (see accompanying Independent Accountants' Review Report on page 14). Indicator (**F**) was not included within the scope of the review.

$ Use of Proceeds

DC Water established the following performance indicators and related criteria to report on the use of proceeds:

Indicator Reference	Indicator	Criteria
(A)	Net Proceeds Deposited	Par amount plus the issue premium of the Series 2022B Bond less the underwriters' discount and costs of issuance as presented in the Series 2022B Bond offering memorandum
(B)	Bond Draws	Amounts reimbursed to DC Water from the Series 2019A and 2022B Bond Construction Account(s) for expenses paid related to the DC Clean Rivers Project during the fiscal year.
(C)	Unspent Bond Proceeds	The total amount of unspent proceeds held with the trustee and invested in 100% US Treasury Money Market Funds from the Series 2019A and 2022B bonds as of the fiscal year-end.

The net proceeds of each of the Series 2022B Bond, 2019A Bond, 2018A Bond, 2017A Bond, 2015A Bond and 2014A Bond were deposited into segregated accounts (the Series 2022B Bond, 2019A Bond, 2018A Bond, 2017A Bond, 2015A Bond, and Series 2014A Bond Construction Accounts) under DC Water's Master Indenture of Trust, as amended and supplemented (the Indenture) and are invested pursuant to the Indenture and DC Water's Investment Policy. All uses of the proceeds taken from the respective Construction Accounts were used to fund DC Clean Rivers Project costs. The following tables provides the FY 2022 bond draws reimbursed to DC Water from the Series 2019A Bond Construction Account, as well as the cumulative net proceeds deposited and bond draws from the bond issuance dates through September 30, 2022:

Net Proceeds Deposited

Description	Net Proceeds Deposited as of 9/30/2021	Net Proceeds Deposited in FY 2022 (A)	Cumulative Net Gains on Investments as of 9/30/2022	Cumulative Net Proceeds Deposited in Construction Accounts as of 9/30/2022
Series 2022B Bond	$0	$100,000,000	$432,222	$100,432,222
Series 2019A Bond	126,014,822	-	46,345	126,061,167
Series 2018A Bond	117,402,737	-	-	117,402,737
Series 2017A Bond	108,347,426	-	-	108,347,426
Series 2015A Bond	116,549,708	-	-	116,549,708
Series 2014A Bond	346,468,661	-	-	346,468,661
Total	$814,783,354	$100,000,000	$478,567	$915,261,921

Bond Draws

Description	Cumulative Bond Draws as of 9/30/2021	Bond Draws in FY 2022 (B)	Cumulative Bond Draws as of 9/30/2022
Series 2022B Bond	$0	$0	$0
Series 2019A Bond	(75,355,548)	(36,808,141)	(112,163,689)
Series 2018A Bond	(117,402,737)	-	(117,402,737)
Series 2017A Bond	(108,347,426)	-	(108,347,426)
Series 2015A Bond	(116,549,708)	-	(116,549,708)
Series 2014A Bond	(346,468,661)	-	(346,468,661)
Total	(764,124,080)	(36,808,141)	(800,932,221)

As of September 30, 2022, the unspent amount related to the Series 2022B and 2019A Bonds including cumulative net gains on investments was $114,329,700, which was invested in Wells Fargo 100% Treasury Money Market Fund (**C**).

◊ Environmental and Social Outcomes

The DC Clean Rivers Project is designed and engineered to achieve three core environmental and social outcomes:

- **Water Quality** – Improve water quality by capturing and treating CSOs before entering the District's rivers and waterways.
- **Climate Resilience** – Promote climate resilience, with the objective of flood relief and mitigation.
- **Quality of Life** – Enhance the quality of life associated with restoring the District's rivers, waterways and waterfront areas by removing harmful contaminants and pollutants.

Water Quality

The first core outcome of the DC Clean Rivers Project is to improve water quality by capturing and treating CSOs before entering the District's rivers and waterways. DC Water established the following performance indicators and related criteria to report on water quality:

Indicator Reference	Indicator	Criteria
(D)	Percent Reduction in Predicted Pollutants	Percentage reduction in pounds of total nitrogen, total phosphorus, and total suspended solids from predicted 1996 pre-DC Clean Rivers Project discharge calculated in the LTCP compared to predicted discharge as calculated in the LTCP based on 1988-1990 average year rainfall and the portion of tunnel volume in service compared to the total tunnel volume.
(E)	Tunnel Construction Progress	Progress towards completion as indicated by the percentage of distance in feet from beginning of tunnel (as defined in DC Clean Rivers Project's tunnel contract drawings) to the position of the tunnel boring machine as of fiscal year end, as measured by the Tunnel Process Control Program of the tunnel boring machine divided by the planned length of the completed tunnel according to the DC Clean Rivers Project's tunnel contract drawings.
(F)	Carbon Measure	Percentage reduction in carbon footprint since the baseline year (2007) as of the fiscal year end, as reported to the DC Department of Energy & Environment (DOEE) in the Annual Carbon Footprint Report.
(G)	Biosolids Reuse	Percentage of biosolids recycled for the current fiscal year reported to the EPA in the 2021 and 2022 Annual Biosolids Reports, as measured by dry metric tons of biosolids weighed at Blue Plains that were recycled compared to total dry metric tons of biosolids produced.

From 1999-2002, as part of the LTCP, DC Water sampled representative CSOs and certain areas of the rivers and waterways near CSO outfalls for nitrogen, phosphorus and suspended solids levels. Using the data collected and three year average rainfall for 1988 to 1990, DC Water modeled the predicted discharge of total nitrogen (TN), total phosphorus (TP) and total suspended solids (TSS) in the District Rivers and waterways in 1996 (base year).

The DC Clean Rivers Project is implemented and placed in operation in phases. The first phase included various infrastructure projects, primarily upgrades to existing facilities in the sewer system such as inflatable dams and pumping stations. As of September 30, 2015, the first phase (Phase 1) of the DC Clean Rivers Project was completed. Upon completion of Phase 1 post construction monitoring for the DC Clean Rivers Project in 2016, DC Water calculated the Predicted Discharge to evidence the impact of Phase 1 of the project. The next phase consisted of the Blue Plains and Anacostia River Tunnels and associated treatment facilities at the Blue Plains, which were placed in operation on March 20, 2018. The last tunnel to be placed in service for the Anacostia River is the Northeast Boundary Tunnel, scheduled to be completed and placed in service in 2023.

For FY 2022, CSO reduction performance was based on modeling using the portion of tunnel volume in service compared to the total tunnel volume. After the Northeast Boundary Tunnel is placed in operation, another round of post construction monitoring is planned pursuant to the NPDES Permit issued by the EPA to validate the performance of the completed Anacostia CSO controls.

Year to year variability in the nature and quantity of rainfall has a significant impact on the volume of CSOs and the quantities of CSO related pollutants. More rain and more intense storms typically increase CSOs, while less rain and lower intensity storms produce fewer CSOs. As a result, this year's Green Bond Report presents predicted pollutant loads for FY 2022 actual rainfall, but also presents predicted loads using average year rainfall conditions. Presentation of the data based on average year rainfall normalizes the climate conditions to a common base which allows direct year over year comparison of the degree of CSO control being provided without variations produced by differences in rainfall.

The results of the predicted discharge in 1996 and FY 2022 based on 1988 to 1990 average year rainfall and predicted discharge in FY 2022 based on FY 2022 actual rainfall are as follows:

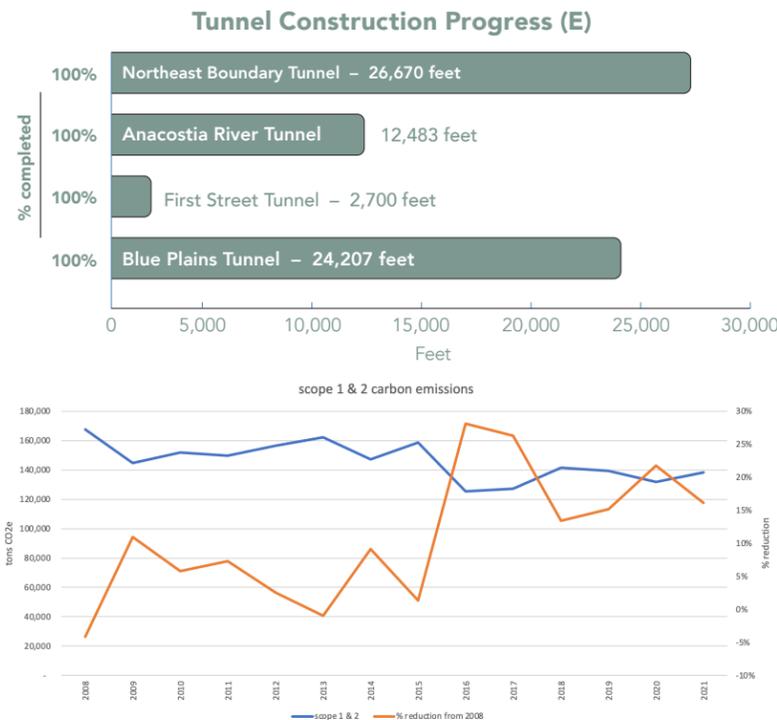| Pollutants	Average Year Rainfall			2022 Actual Rainfall
	Predicted Discharge in FY2022 (lbs)	Predicted Discharge in 1996 (Prior to Clean Rivers Project) (lbs)	Percent Reduction (D)	Predicted Discharge in FY2022 (lbs)
Total Nitrogen	43,552	127,550	66%	30,907
Total Phosphorus	9,266	27,138	66%	6,576
Total Suspended Solids	1,204,621	3,527,987	66%	854,870

Average year rainfall conditions are defined as the average of the rainfall in the years 1988, 1989 and 1990 or about 41 inches of rain per calendar year. In fiscal year 2022, total rainfall as measured at Ronald Reagan Washington National Airport was approximately 39 inches.

Subsequent phases of the DC Clean Rivers Project include the construction of a deep tunnel system that is engineered to capture and divert CSOs into underground sewer structures to reduce CSO discharges into the Anacostia and Potomac Rivers and the Rock Creek. Once diverted into the tunnels, the CSOs will be conveyed to and treated at Blue Plains before being discharged back into the Potomac River. Upon completion of the tunnel system, DC Water anticipates that CSOs will have been reduced system wide by 96% and in the Anacostia River by 98% (using the same model and inputs described above). Since March 20, 2018, the first portion of the Anacostia River Tunnel System (the Blue Plains Tunnel and the Anacostia River Tunnel) is operational.

The Anacostia River Tunnel System includes the following tunnel projects:

1. **First Street Tunnel** – this tunnel is complete and was placed in operation on October 22, 2016.
2. **Blue Plains Tunnel** – this tunnel is complete and was placed in operation on March 20, 2018.
3. **Anacostia River Tunnel** – this tunnel is complete and was placed in operation on March 20, 2018.
4. **Northeast Boundary Tunnel** – the construction work associated with this tunnel is complete. Remaining work includes making connections from the sewer system down to the tunnel. It is scheduled to be placed in service in 2023.

As a result, DC Water has committed to report on the progress of the DC Clean Rivers Project tunnel system construction. The Tunnel Construction Progress shown on the following graphic represents the progress of the Anacostia River Tunnel System as of September 30, 2022, and does not include the Potomac since the Potomac River Tunnel projects have not yet started pursuant to the LTCP schedule:

As of September 30, 2021, there was 16% reduction in carbon footprint as compared to the baseline year 2007. This data represents scope 1 (process emissions) and scope 2 (non-renewable electricity use) data from our dynamic working model for the Authority. The model employs assumptions across all plants and is based on evolving science and calculation methodology that may change. 2022 Carbon footprint data was not yet available at the time of issuance of this report. The following chart highlights the trend of carbon footprint since the baseline year 2007 through fiscal year 2021 (**F**).

DC Water recycled 100% of the Biosolids produced by the Blue Plains Advanced Wastewater Treatment Plant in FY 2022 (**G**).

Climate Resilience
A second core outcome of the DC Clean Rivers Project is to promote climate resilience, with the objective of flood relief and mitigation. DC Water established the following performance indicator and related criteria to report on climate resilience:

Indicator Reference	Indicator	Criteria
(H)	Flood Relief and Mitigation Projects Progress	Progress towards completion as indicated by the percentage of cumulative amounts paid for each project through the fiscal year end to the total budget approved by the Board of Directors, including change orders not requiring Board approval, for the identified programs

The table below reports on the major flood relief and mitigation related projects contained within the DC Clean Rivers Project that have been approved for funding and their respective progress towards completion as indicated by the percentage of cumulative amounts paid for each project as of September 30, 2022, to the total approved budget for the identified projects.

Flood Relief and Mitigation Projects Progress	Board Approved Contract Funding	Amounts Paid	Percent (H)
McMillan Stormwater Storage	$12,403,945	$12,403,945	100%
First Street Tunnel	$157,675,000	$154,700,310	98%
Northeast Boundary Tunnel	$596,971,686	$523,674,379	88%
Total	$767,050,631	$690,778,634	90%

Tunnel Construction Progress (E)

scope 1 & 2 carbon emissions

McMillan Stormwater Storage project funding of $12,403,945 includes $12,000,000 of Board approved funding and $403,945 in additional change orders which did not require separate board approval. The McMillan Stormwater Storage project was substantially completed on April 11, 2018. The First Street Tunnel was completed with an unspent budget of $2,974,690.

The Northeast Boundary Tunnel is made up of two contracts totaling $596,971,686; the first is for utility relocations in the amount of $16,996,686, while the second is for the construction of the tunnel and diversion chambers in the amount of $579,975,000. The utility relocation construction contract was substantially completed on November 27, 2017. In July 2017, DC Water Board of Directors awarded the $579,975,000 Northeast Boundary Tunnel Project (NEBT) construction contract, which is a major component of the DC Clean Rivers Project's objective of meeting CSO control objectives and providing flood relief and mitigation in the Northeast Boundary drainage area of the District. The NEBT Notice to Proceed (NTP) was issued on September 15, 2017. The NEBT will provide CSO storage capacity for the Anacostia River as required by the Consent Decree and will also serve to relieve and mitigate sewer flooding and basement backups in the Northeast Boundary drainage area.

In 2012, a series of heavy storms caused significant overland flooding and sewer system backups in certain areas of the District. In 2013, in response to the recommendations made by the Mayor's Task Force, the timeline of construction of the NEBT was accelerated and the project was modified to more effectively relieve and mitigate flooding in the Bloomingdale and LeDroit Park neighborhoods prior to the scheduled completion of the DC Clean Rivers Project.

Quality of Life
A third core outcome of the DC Clean Rivers Project is to enhance the quality of life associated with restoring the District's rivers, waterways and waterfront areas by removing harmful contaminants and pollutants. As CSOs are diverted from the District's rivers and waterways because of the completion of the DC Clean Rivers Project, influent at Blue Plains will increase. Therefore, in addition to the reduction in predicted pollutants indicator (**D**) previously presented, DC Water established the following performance indicator and related criteria for quality of life:

Indicator Reference	Indicator	Criteria
(I)	Pollutants Removed at Blue Plains	Percentage removal of total nitrogen, total phosphorus and total suspended solids in pounds contained in the water entering (influent) and exiting (effluent) Blue Plains for the current fiscal year as measured at Blue Plains and used to calculate information submitted in EPA Monthly Reports.

The table below represents the percentage removal of contaminants and pollutants by the DC Water Advanced Wastewater Treatment Plant at Blue Plains, in Fiscal Year 2022.

Pollutants Removed at Blue Plains			
Parameter	Influent (lbs)	Effluent (lbs)	Percent Removed (I)
Total Nitrogen	30,974,513	2,772,921	91.0%
Total Phosphorus	3,749,864	97,782	97.4%
Total Suspended Solids	180,004,872	978,711	99.5%

Responsible Management

DC Water has also committed to report on the responsible management of the DC Clean Rivers Project on the degree of implementation of select environmental, social and governance (ESG) criteria at the project level. The criteria are organized in five ESG domains: **Human Rights, Human Resources, Environment, Business Behavior and Community Involvement.**

Human Rights

DC Water established the following performance indicators and related criteria for this domain as follows:

Indicator Reference	Indicator	Criteria
(J)	DC Clean Rivers Project full time employees by gender, age, and ethnicity (indicators of diversity)	Number of DC Water employees working full-time solely assigned to the DC Clean Rivers Project by self-reported gender, age group, and ethnicity as of the fiscal year end.
(K)	Total number of incidents of discrimination and actions taken	Number of reported incidents of discrimination against DC Clean Rivers Project employees reported to the DC Water Human Resources Department through the hotline or by employees during the fiscal year and actions taken by DC Water to address the reported incidents.

The DC Clean Rivers Project employed 9 full time employees with the following self-reported indicators of diversity: gender (7 male and 2 female); age (0 aged 18-44 years, 8 aged 45-64 years, and 1 aged 65 years and above); ethnicity (6 White (non-Hispanic) and 3 African American) as of September 30, 2022 (**J**).

The DC Clean Rivers Project had no reported incidents of discrimination during FY 2022 (**K**).

Human Resources

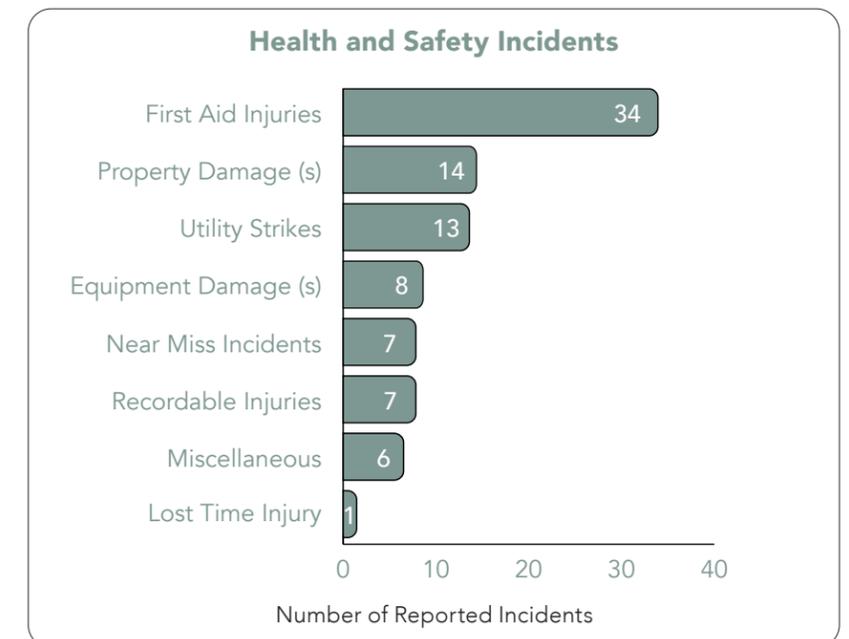DC Water established the following performance indicators and related criteria for this domain as follows:

Indicator Reference	Indicator	Criteria
(L)	Percent of DC Clean Rivers Project employees receiving a performance review during the fiscal year	Percentage of DC Clean Rivers Project full time employees that received a performance review during the fiscal year divided by total number of DC Clean Rivers Project employees as of the fiscal year end.

Indicator Reference	Indicator	Criteria
(M)	Number of project person hours spent on the DC Clean Rivers Project	Number of cumulative hours reported by contractors as time worked on the DC Clean Rivers Project during the fiscal year.
(N)	Number of safety committee meetings	Safety committee meetings conducted and reported by DC Clean Rivers Project contractors to DC Water during the fiscal year.
(O)	Number of safety inspection reports	Safety inspection reports prepared and submitted to DC Clean Rivers Project contractors by DC Water during the fiscal year.
(P)	DC Clean Rivers Project recorded injuries incident rate	Recorded injuries incident rate of DC Clean Rivers Project contracts for the fiscal year, calculated as number of recorded injuries times 200,000 divided by the number of project person hours spent on the DC Clean Rivers Project.
(Q)	Health and safety incidents for contractors	Health and safety incidents by type reported by DC Clean Rivers Project contractors during the fiscal year.

89% of DC Clean Rivers Project full time employees received a performance review during FY 2022 (**L**). One employee retired October 29, 2021 and therefore did not receive a performance review.

In FY 2022, a total of 668,370 project person hours were spent on the DC Clean Rivers Project by contractors (**M**), 71 safety committee meetings (**N**) were held, and 114 Safety Inspections Reports (SIRs) (**O**) were submitted. Until FY 2019, significant safety observations were summarized in Safety Observation Reports (SORs). Starting in FY 2020, SORs are no longer issued as standalone reports, and all safety observations are captured in two categories of reports: Safety Inspection Report and Safety Manager Report. This change was made to improve the degree of detail and usefulness of the reports for DC Water and the contractors. For FY 2022, safety observations are captured only in Safety Inspection Reports. The DC Clean Rivers Project recorded injuries incident rate was 2.39 (**P**) for FY 2022. The following health and safety incidents for contractors (**Q**) were reported during FY 2022:

Health and Safety Incidents

Category	Number of Reported Incidents
First Aid Injuries	34
Property Damage (s)	14
Utility Strikes	13
Equipment Damage (s)	8
Near Miss Incidents	7
Recordable Injuries	7
Miscellaneous	6
Lost Time Injury	1

Number of Reported Incidents

Environment

The successful completion of the DC Clean Rivers Project may result in environmental improvements, including the promotion of subaqueous vegetation, marine life, and other plants and wildlife through the restoration of natural habitats. According to the 2004 EPA Report, the principal pollutants in CSOs include: 1) pathogens; 2) oxygen depleting substances measured as Biochemical Oxygen Demand (BOD); 3) total suspended solids; 4) toxins; 5) nutrients; and 6) floatables. All of these pollutants, at elevated levels, can have negative impacts on the aquatic biota of the local rivers and waterways.

The 2004 EPA Report further states that pathogens can cause disease in aquatic life; high levels of oxygen depleting substances and nutrients in rivers can cause fish kills; increased total suspended solids can damage habitats for aquatic life; acute effects of exposure to toxins can be observed as immediate fish kills or severely reduced biologic diversity; and floatables have an adverse impact on wildlife, primarily through entanglement or ingestion. These pollutants have been reported to be at high levels at CSO outfalls. The 2004 EPA Report also states that the reduction of CSOs would reduce the pollutants entering the Potomac and Anacostia Rivers and the Rock Creek and would have a positive impact on the biodiversity of its aquatic life.

Impacts to the fauna and flora during the construction phase of the DC Clean Rivers Project will be temporary and the natural environments will be restored upon completion of the project.

DC Water established the following performance indicator and related criteria for this domain as follows:

Indicator Reference	Indicator	Criteria
(R)	Predicted volume of CSO discharged per average rainfall year	Predicted volume in gallons of CSO discharged subsequent to completion of phase one of the DC Clean Rivers Project as approved under the LTCP by river and waterway.

The predicted volume of CSO discharged in FY 2022, based on historical annual average rainfall conditions, totaled approximately 1.1 billion gallons, with approximately 399 million gallons in the Anacostia River, 677 million gallons in the Potomac River, and 35 million gallons in the Rock Creek (R).

Business Behavior

DC Water established the following performance indicators and related criteria for this domain as follows:

Indicator Reference	Indicator	Criteria
(S)	Percent of all DC Water invoices paid within 30 days Percent of all DC Water invoices paid within 45 days	All invoices paid by DC Water during the fiscal year within 30 and 45 days of invoice receipt date as a percentage of all invoices paid by DC Water during the fiscal year.

Indicator Reference	Indicator	Criteria
(T)	Percentage of EPA Fair Share Objective construction contracts awarded to Women and Minority Business Enterprises	Percentage of total EPA Fair Share Objective contract dollars DC Water awarded to businesses owned or controlled by minorities or at least 51 percent owned or controlled by women, as defined by 40 CFR Part 33 and as certified by relevant state governments, for all DC Water construction contracts receiving federal funds awarded during the fiscal year.

In FY 2022, DC Water paid approximately 94.5% of its invoices within 30 days and approximately 96.8% within 45 days (S).

The DC Clean Rivers Project adheres to DC Water's Disadvantaged Business Enterprise Program (DBE Program) as established by the EPA. In accordance with the DBE Program, an EPA Fair Share Objective for Minority Business Enterprises (MBE) and Women Business Enterprises (WBE) participation of 32% and 6%, respectively, has been established for construction contracts. In support of these objectives, DC Water encourages MBEs and WBEs to participate at all levels of its procurement opportunities.

In FY 2022, two (2) EPA (funded) Fair Share Objective contracts were awarded for construction totaling approximately $25.5 million. The DBE and WBE participation for this project was $8.19 million (32%) and $1.53 million (6%), respectively as of September 30, 2022 (T).

Community Involvement

Indicator Reference	Indicator	Criteria
(U)	Total number of contractors employed by the DC Clean Rivers Project Percentage of DC Clean Rivers Project contractors that reside within the District or DC Water's service territory	Number of employees, as reported by DC Clean Rivers Project contractors, employed by DC Clean Rivers Project contractors from inception to date as of fiscal year end. Percentage of DC Clean Rivers Project contractors that reside within the District of Columbia and Montgomery, Prince George's, Fairfax, and Loudoun Counties as of fiscal year end.
(V)	Number of public meetings	Number of public meetings, including meetings with neighborhood groups, elected officials, civic associations, local businesses, community groups, and public town halls related to DC Clean Rivers Project conducted by DC Water staff members during the fiscal year.

The DC Clean Rivers Project employed a total of 7,052 contractors from inception through September 30, 2022 (U). Approximately 3,352 or 48% of the contractors (U) reside within the District or DC Water's service territory, which includes the suburban jurisdictions of Montgomery and Prince George's counties in Maryland, and Fairfax and Loudoun counties in Virginia. In FY 2022, the DC Clean Rivers Project held a total of 86 public meetings (V), including meetings with neighborhood groups, elected officials, civic associations, local businesses, community groups, and block meetings.

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KPMG

KPMG LLP
Suite 12000
1801 K Street, NW
Washington, DC 20006

Independent Accountants' Review Report

Board of Directors
District of Columbia Water and Sewer Authority:

We have reviewed the indicators identified by Indicator Reference Letters (A) – (E) and (G) – (V) (the Indicators) in the accompanying District of Columbia Water and Sewer Authority Green Bond Report for the year ended September 30, 2022 (the Green Bond Report). The District of Columbia Water and Sewer Authority's (the Authority) management is responsible for presenting the Indicators in accordance with the corresponding criteria set forth in Appendix I (the Criteria). Our responsibility is to express a conclusion on the Indicators based on our review.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform the review to obtain limited assurance about whether any material modifications should be made to the Indicators in order for them to be presented in accordance with the Criteria. The procedures performed in a review vary in nature and timing from and are substantially less in extent than an examination, the objective of which is to obtain reasonable assurance about whether the Indicators are in accordance with the Criteria, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. Because of the limited nature of the engagement, the level of assurance obtained in a review is substantially lower than the assurance that would have been obtained had an examination been performed. We believe that the review evidence obtained is sufficient and appropriate to provide a reasonable basis for our conclusion.

We are required to be independent and to meet our other ethical responsibilities in accordance with relevant ethical requirements related to the engagement.

The procedures we performed were based on our professional judgment and included inquiries of the Authority's management to gain an understanding of the Criteria, evaluation of the Authority's application of the stated methodology for deriving the Indicators based on the Criteria, inspection of a selection of source documents supporting the Indicators, recalculation of the calculations used to derive the Indicators, and analytical procedures.

Our review was limited to indicators identified by Indicator Reference Letters (A) – (E) and (G) – (V) in the accompanying Green Bond Report. Accordingly, we do not express a conclusion or any other form of assurance on Indicator Reference Letter (F) or any other information in the Green Bond Report.

Based on our review, we are not aware of any material modifications that should be made to the Indicators in the accompanying Green Bond Report in order for them to be presented in accordance with the Criteria.

KPMG LLP

Washington, D.C.
March 30, 2023

Appendix I

Indicators and Criteria Presented in the Green Bond Report

Indicator Reference	Indicator	Criteria	Page Number
(A)	Net Proceeds Deposited	Par amount plus the issue premium of the Series 2022B Bond less the underwriters' discount and costs of issuance as presented in the Series 2022B Bond offering memorandum.	3
(B)	Bond Draws	Amounts reimbursed to DC Water from the Series 2019A and 2022B Bond Construction Account(s) for expenses paid related to the DC Clean Rivers Project during the fiscal year.	3
(C)	Unspent Bond Proceeds	The total amount of unspent proceeds held with the trustee and invested in 100% US Treasury Money Market Funds from the Series 2019A and 2022B bonds as of the fiscal year-end.	3
(D)	Percent Reduction in Predicted Pollutants	Percentage reduction in pounds of total nitrogen, total phosphorus, and total suspended solids from predicted 1996 pre-DC Clean Rivers Project discharge calculated in the LTCP compared to predicted discharge for the fiscal year as calculated in the LTCP based on 1988-1990 average year rainfall and the portion of tunnel volume in service compared to the total tunnel volume.	5
(E)	Tunnel Construction Progress	Progress towards completion as indicated by the percentage of distance in feet from beginning of tunnel (as defined in DC Clean Rivers Project's tunnel contract drawings) to the position of the tunnel boring machine as of fiscal year end, as measured by the Tunnel Process Control Program of the tunnel boring machine divided by the planned length of the completed tunnel according to the DC Clean Rivers Project's tunnel contract drawings.	5
(G)	Biosolids Reuse	Percentage of biosolids recycled for the current fiscal year reported to EPA in the 2021 and 2022 Annual Biosolids Reports, as measured by dry metric tons of biosolids weighed at Blue Plains that were recycled compared to total dry metric tons of biosolids produced.	5
(H)	Flood Relief and Mitigation Projects Progress	Progress towards completion as indicated by the percentage of cumulative amounts paid for each project through the fiscal year end to the total budget approved by the Board of Directors, including change orders not requiring Board approval, for the identified programs.	7

Appendix I

Indicators and Criteria Presented in the Green Bond Report

Indicator Reference	Indicator	Criteria	Page Number
(I)	Pollutants Removed at Blue Plains	Percentage removal of total nitrogen, total phosphorus and total suspended solids in pounds contained in the water entering (influent) and exiting (effluent) Blue Plains for the current fiscal year as measured at Blue Plains and used to calculate information submitted in EPA Monthly Reports.	8
(J)	DC Clean Rivers Project full-time employees by gender, age, and ethnicity (indicators of diversity)	Number of DC Water employees working full-time solely assigned to the DC Clean Rivers Project by self-reported gender, age group, and ethnicity as of the fiscal year end.	9
(K)	Total number of incidents of discrimination and actions taken	Number of reported incidents of discrimination against DC Clean Rivers Project employees reported to the DC Water Human Resources Department through the hotline or by employees during the fiscal year and actions taken by DC Water to address the reported incidents.	9
(L)	Percent of DC Clean Rivers Project employees receiving a performance review during the fiscal year	Percentage of DC Clean Rivers Project full time employees that received a performance review during the fiscal year divided by total number of DC Clean Rivers Project employees as of the fiscal year end.	9
(M)	Number of project person hours spent on the DC Clean Rivers Project	Number of cumulative hours reported by contractors as time worked on the DC Clean Rivers Project during the fiscal year.	10
(N)	Number of safety committee meetings	Safety committee meetings conducted and reported by DC Clean Rivers Project contractors to DC Water during the fiscal year.	10
(O)	Number of safety inspection reports	Safety inspection reports prepared and submitted to DC Clean Rivers Project contractors by DC Water during the fiscal year.	10
(P)	DC Clean Rivers Project recorded injuries incident rate	Recorded injuries incident rate of DC Clean Rivers Project contracts for the fiscal year, calculated as number of recorded injuries times 200,000 divided by the number of project person hours spent on the DC Clean Rivers Project.	10
(Q)	Health and safety incidents for contractors	Health and safety incidents by type reported by DC Clean Rivers Project contractors during the fiscal year.	10

Appendix I

Indicators and Criteria Presented in the Green Bond Report

Indicator Reference	Indicator	Criteria	Page Number
(R)	Predicted volume of CSO discharged per average rainfall year	Predicted volume in gallons of CSO discharged subsequent to completion of phase one of the DC Clean Rivers Project as approved under the LTCP by river and waterway.	11
(S)	Percent of all DC Water invoices paid within 30 days Percent of all DC Water invoices paid within 45 days	All invoices paid by DC Water during the fiscal year within 30 and 45 days of invoice receipt date as a percentage of all invoices paid by DC Water during the fiscal year.	11
(T)	Percentage of EPA Fair Share Objective construction contracts awarded to Women and Minority Business Enterprises	Percentage of total EPA Fair Share Objective contract dollars DC Water awarded to businesses owned or controlled by minorities or at least 51 percent owned or controlled by women, as defined by 40 CFR Part 33 and as certified by relevant state governments, for all DC Water construction contracts receiving federal funds awarded during the fiscal year.	12
(U)	Total number of contractors employed by the DC Clean Rivers Project Percentage of DC Clean Rivers Project contractors that reside within the District or DC Water's service territory	Number of employees, as reported by DC Clean Rivers Project contractors, employed by DC Clean Rivers Project contractors from inception to date as of fiscal year end. Percentage of DC Clean Rivers Project contractors that reside within the District of Columbia and Montgomery, Prince George's, Fairfax, and Loudoun Counties as of fiscal year end.	12
(V)	Number of public meetings	Number of public meetings, including meetings with neighborhood groups, elected officials, civic associations, local businesses, community groups, and public town halls related to DC Clean Rivers Project conducted by DC Water staff members during the fiscal year.	12

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