DATE: October 1, 2023
Revised March 1, 2024

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

BI-COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 23	EST. EXPEND 24	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YEAR 1 FY25	YEAR 2 FY26	YEAR 3 FY27	YEAR 4 FY28	YEAR 5 FY29	YEAR 6 FY30		
Wastewater Collection (Sewer and Pump Stations)													
S - 000089.24	Anacostia #2 WWPS Upgrades	85,707	3,211	7,455	75,041	35,778	32,102	7,161	-	-	-	-	4-7
S - 000170.09	Trunk Sewer Reconstruction Program	352,539	-	55,019	297,520	49,430	51,039	46,707	49,028	49,665	51,651	-	4-10
	CATEGORY SUBTOTAL	**438,246**	**3,211**	**62,474**	**372,561**	**85,208**	**83,141**	**53,868**	**49,028**	**49,665**	**51,651**	**-**	
Interjurisdictional Agreements (Blue Plains, Mattawoman)													
S - 000022.06	Blue Plains WWTP: Liquid Train Projects, Part 2	387,893	-	23,800	248,338	18,447	30,186	40,755	43,693	56,237	59,020	115,755	4-3
S - 000022.07	Blue Plains WWTP: Biosolids Management, Part 2	127,386	-	15,521	77,015	13,663	12,896	5,146	13,897	15,068	16,345	34,850	4-4
S - 000022.09	Blue Plains WWTP: Plant-wide Projects	141,582	-	15,214	114,330	15,933	19,464	23,549	20,905	21,512	12,967	12,038	4-5
S - 000022.11	Blue Plains: Pipelines & Appurtenances	289,363	-	16,452	196,511	15,943	18,736	29,388	46,517	44,756	41,171	76,400	4-6
	CATEGORY SUBTOTAL	**946,224**	**-**	**70,987**	**636,194**	**63,986**	**81,282**	**98,838**	**125,012**	**137,573**	**129,503**	**239,043**	
Innovation and Investment Priorities (Water Supply, Meters, Climate Action)													
S - 000103.02	Piscataway Bioenergy	332,774	291,308	29,978	11,488	10,448	1,040	-	-	-	-	-	4-8
	CATEGORY SUBTOTAL	332,774	291,308	29,978	11,488	10,448	1,040	-	-	-	-	-	
Mixed-use (ESP, Other Capital Programs, Land, Beltway)													
S - 000203.00	Land & Rights-of-Way Acquisition - Bi-County Sewer	2,165	-	195	1,970	595	595	195	195	195	195	-	4-12
	CATEGORY SUBTOTAL	**2,165**	**-**	**195**	**1,970**	**595**	**595**	**195**	**195**	**195**	**195**	**-**	
	Projects Pending Close-Out	-	-	-	-	-	-	-	-	-	-	-	
	TOTALS	**1,719,409**	**294,519**	**163,634**	**1,022,213**	**160,237**	**166,058**	**152,901**	**174,235**	**187,433**	**181,349**	**239,043**	

BLUE PLAINS WASTEWATER TREATMENT PLANT PROJECTS

(COSTS IN THOUSANDS)

AGENCY NUMBER	PROJECT NAME	ADOPTED FY'24 TOTAL COST	PROPOSED FY'25 TOTAL COST	CHANGE $	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
S-22.06	Blue Plains WWTP: Liquid Train Projects, Part 2	$326,696	$387,893	$61,197	18.7%	$248,338	On-Going
S-22.07	Blue Plains WWTP: Biosolids Management, Part 2	97,319	127,386	30,067	30.9%	77,015	On-Going
S-22.09	Blue Plains WWTP: Plant-wide Projects	128,926	141,582	12,656	9.8%	114,330	On-Going
S-22.11	Blue Plains: Pipelines & Appurtenances	225,898	289,363	63,465	28.1%	196,511	On-Going
	TOTALS	**$778,839**	**$946,224**	**$167,385**	**21.5%**	**$636,194**	

Summary: These four projects, with an estimated total cost of $946.2 million, provide funding for the upgrade, expansion, and enhancement of wastewater treatment and solids handling facilities at the regional Blue Plains Wastewater Treatment Plant, located in the District of Columbia. Whereas typical WSSC Water projects encompass planning, design, construction, and start-up for a single project, with defined starting and ending dates, the Blue Plains projects are comprised of many sub-projects and are "open-ended." As the Blue Plains Facility Plans move forward and new sub-projects are approved, the costs of these new sub-projects are added to the appropriate existing Blue Plains project. The expenditures displayed represent WSSC Water's calculated share. There are four main funding divisions: liquid treatment train (S-22.06); biosolids management (S-22.07); plant-wide projects (S-22.09); and, pipelines & appurtenances (S-22.11).

Cost Impact: These four Blue Plains projects, which comprise one of the largest groups of expenditures in the CIP, represent 14.4% of the Six-Year WSSC Water combined program. The figures shown above are derived from the latest available spending projections provided by the District of Columbia Water and Sewer Authority (DCWASA). Spending at the DCWASA staff-proposed rate in future years may challenge the WSSC Water's ability to stay within County-established spending affordability limits. It is, therefore, recommended that the coordination of development and approval of the DCWASA's and WSSC Water's CIPs be sustained in order that the economic development and environmental objectives of the region be met, without causing a rapid increase in WSSC Water customers' bills.

Blue Plains WWTP: Liquid Train Projects, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S - 000022.06	954811	Change

PDF Date	October 1, 2023
Date Revised	February 1, 2024

Pressure Zones	
Drainage Basins	Bi-County 30
Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'23	Estimate FY'24	Total 6 Years	Year 1 FY'25	Year 2 FY'26	Year 3 FY'27	Year 4 FY'28	Year 5 FY'29	Year 6 FY'30	Beyond 6 Years
Planning, Design & Supervision											
Land											
Construction	384,051		23,564	245,878	18,264	29,887	40,351	43,260	55,680	58,436	114,609
Other	3,842		236	2,460	183	299	404	433	557	584	1,146
Total	**387,893**		**23,800**	**248,338**	**18,447**	**30,186**	**40,755**	**43,693**	**56,237**	**59,020**	**115,755**

C. Funding Schedule (000's)

WSSC Bonds	366,797		22,494	234,839	17,444	28,545	38,540	41,318	53,180	55,812	109,464
City of Rockville	21,096		1,306	13,499	1,003	1,641	2,215	2,375	3,057	3,208	6,291

D. Description & Justification

DESCRIPTION

This project provides funding for WSSC Water's share of Blue Plains liquid train projects for which construction began after June 30, 1993. This project is comprised of 25 projects that have been identified and prioritized by DC Water in their capital program. Projects with significant spending in FY'25 include: upgrades to the grit, screening, and primary treatment systems (BQ); upgrading effluent filters (IY); replacing/upgrading the primary clarifier mechanical components (J2); improvements to the headworks influent structures (BC); nitrification reactors/sedimentation upgrades (PE); liquid process rehabilitation (RN); and liquid processing PM (A2).

BENEFIT

Regulatory & Other Agreements: This project is required to meet regulatory requirements, multi-jurisdictional agreements, and/or consent decrees;
Infrastructure Reinvestment: This project replaces existing infrastructure that has exceeded its useful life

JUSTIFICATION

This is a continuation of the DC Water's upgrading of the Blue Plains Wastewater Treatment Plant.
Blue Plains Inter-Municipal Agreement of 2012; DCWASA Master Plan (1998); Blue Plains Facilities Master Plan (2016); DC Water's preliminary FY'24 - FY'33 Capital Improvements Program.

COST CHANGE

The schedule and expenditure projections were updated to reflect the latest estimates available from DC Water for the constituent Blue Plains joint-use projects as of May 2023.

OTHER

The project scope has remained the same. Project costs are derived from the DC Water Capital Budget 10-year forecast of spending and DC Water's latest project management data, and fully reflect DC Water's cost estimates and expenditure schedules available at the time this document was prepared. Given the open-ended nature of the Blue Plains projects, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. The funding schedule also indicates the calculated Rockville share of the cost.

COORDINATION

Coordinating Agencies: City of Rockville;(responsible for a share of funding); DC Water;(responsible for design and construction)
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	$16,547	
Total Cost	$16,547	
Impact on Water and Sewer Rate	$0.04	

F. Approval and Expenditure Data (000's)

Date First in Program	FY'95
Date First Approved	FY'95
Initial Cost Estimate	
Cost Estimate Last FY	326,696
Present Cost Estimate	387,893
Approved Request Last FY	23,800
Total Expense & Encumbrances	
Approval Request Year 1	18,447

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	0 %
Estimated Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	169.6 / 370 MGD

H. Map

MAP NOT AVAILABLE

Blue Plains WWTP: Biosolids Management, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S - 000022.07	954812	Change

PDF Date	October 1, 2023
Date Revised	February 1, 2024

Pressure Zones	
Drainage Basins	Bi-County 30
Planning Areas	Bi-County

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	$5,320	
Total Cost	$5,320	
Impact on Water and Sewer Rate	$0.01	

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'23	Estimate FY'24	Total 6 Years	Year 1 FY'25	Year 2 FY'26	Year 3 FY'27	Year 4 FY'28	Year 5 FY'29	Year 6 FY'30	Beyond 6 Years
Planning, Design & Supervision											
Land											
Construction	126,124		15,367	76,252	13,528	12,768	5,095	13,759	14,919	16,183	34,505
Other	1,262		154	763	135	128	51	138	149	162	345
Total	**127,386**		**15,521**	**77,015**	**13,663**	**12,896**	**5,146**	**13,897**	**15,068**	**16,345**	**34,850**

C. Funding Schedule (000's)

WSSC Bonds	120,454		14,669	72,829	12,920	12,195	4,866	13,142	14,249	15,457	32,956
City of Rockville	6,932		852	4,186	743	701	280	755	819	888	1,894

F. Approval and Expenditure Data (000's)

Date First in Program	FY'95
Date First Approved	FY'95
Initial Cost Estimate	
Cost Estimate Last FY	97,319
Present Cost Estimate	127,386
Approved Request Last FY	15,521
Total Expense & Encumbrances	
Approval Request Year 1	13,663

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	0 %
Estimated Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	169.6 / 370 MGD

D. Description & Justification

DESCRIPTION

This project provides funding for WSSC Water's share of the Blue Plains biosolids processes for which construction began after June 30, 1993. There are 11 projects from the DC Water capital program that are covered by the WSSC Water capital project. The projects that make up the majority of the FY'25 anticipated spending include: biosolids blending development center (I3); additional centrifuges for pre-digestion dewatering (LD); biosolids process rehabilitation (RM); upgrades to the solids processing building/DSLF (XZ); and rehabilitation of the dewatered sludge loading facility (XD). Starting in FY'28 are planned upgrades to the DAF facility (XY).

BENEFIT

Regulatory & Other Agreements: This project is required to meet regulatory requirements, multi-jurisdictional agreements, and/or consent decrees; Infrastructure Reinvestment: This project replaces existing infrastructure that has exceeded its useful life

JUSTIFICATION

This project is needed to implement, upgrade, expand and rehabilitate various facilities that provide treatment and management of the Class A biosolids program for Blue Plains. Blue Plains Inter-Municipal Agreement of 2012; DCWASA Master Plan (1998); EPMC IV Facility Plan, CH2MHILL (2001); Biosolids Management at DCWASA Blue Plains Wastewater Treatment Plant Phase II - Design and Cost Considerations for Treatment Alternatives Report (December 2007); Blue Plains Facilities Master Plan (2016); and DC Water's preliminary FY'24 - FY'33 Capital Improvements Program.

COST CHANGE

The schedule and expenditure projections were updated to reflect the latest estimates available from DC Water for the constituent Blue Plains joint-use projects as of May 2023.

OTHER

The project scope has remained the same. Project costs are derived from the DC Water Capital Budget 10-year forecast of spending and DC Water's latest project management data, and fully reflect DC Water's cost estimates and expenditure schedules available at the time this document was prepared. Given the open-ended nature of the Blue Plains projects, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. Portions of the program have been financed by low interest loans through the Maryland Department of the Environment's Water Infrastructure Financing Administration's Water Quality Revolving Loan Fund Program. The funding schedule also indicates the calculated Rockville share of the cost.

COORDINATION

Coordinating Agencies: City of Rockville;(responsible for a share of funding); DC Water;(responsible for design and construction)
Coordinating Projects: Not Applicable

H. Map

MAP NOT AVAILABLE

Blue Plains WWTP: Plant-wide Projects

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S - 000022.09	023805	Change

PDF Date	October 1, 2023
Date Revised	February 1, 2024

Pressure Zones	
Drainage Basins	Bi-County 30
Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'23	Estimate FY'24	Total 6 Years	Year 1 FY'25	Year 2 FY'26	Year 3 FY'27	Year 4 FY'28	Year 5 FY'29	Year 6 FY'30	Beyond 6 Years
Planning, Design & Supervision											
Land											
Construction	140,180		15,063	113,198	15,775	19,271	23,316	20,698	21,299	12,839	11,919
Other	1,402		151	1,132	158	193	233	207	213	128	119
Total	**141,582**		**15,214**	**114,330**	**15,933**	**19,464**	**23,549**	**20,905**	**21,512**	**12,967**	**12,038**

C. Funding Schedule (000's)

WSSC Bonds	133,879		14,379	108,116	15,067	18,406	22,269	19,769	20,343	12,262	11,384
City of Rockville	7,703		835	6,214	866	1,058	1,280	1,136	1,169	705	654

D. Description & Justification

DESCRIPTION

This project provides funding for WSSC Water's share of Blue Plains plant-wide projects for which construction began after June 30, 1993. There are 28 DC Water capital program projects covered by the WSSC Water capital project. Current projects with significant spending in FY'25 include: electrical system upgrades (TZ); floodwall construction (JF); plant-site drainage improvements (OE); plant-wide program management (AL); plant-wide steel pipe painting (EI); chemical system/building upgrades (PF); and other miscellaneous projects. Starting in FY'26 will be electrical monitoring (IC). Starting in FY'28 are implementation of solar power at Blue Plains phase 2 (XP) and control system replacement (GW).

BENEFIT

Regulatory & Other Agreements: This project is required to meet regulatory requirements, multi-jurisdictional agreements, and/or consent decrees;
Infrastructure Reinvestment: This project replaces existing infrastructure that has exceeded its useful life

JUSTIFICATION

This is a continuation of DC Water's upgrading of the Blue Plains Wastewater Treatment Plant.
Blue Plains Inter-Municipal Agreement of 2012; DCWASA Master Plan (1998); Blue Plains Facilities Master Plan (2016); and DC Water's preliminary FY'24-FY'33 Capital Improvements Program.

COST CHANGE

The schedule and expenditure projections were updated to reflect the latest estimates available from DC Water for the constituent Blue Plains joint-use projects as of May 2023.

OTHER

The project scope has remained the same. Project costs are derived from the DC Water Capital Budget 10-year forecast of spending and DC Water's latest project management data, and reflect DC Water's cost estimates and expenditure schedules available at the time this document was prepared. Given the open-ended nature of the Blue Plains projects, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. The funding schedule also indicates the calculated Rockville share of the cost.

COORDINATION

Coordinating Agencies: City of Rockville;(responsible for a share of funding); DC Water;(responsible for design and construction)
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	$7,786	
Total Cost	$7,786	
Impact on Water and Sewer Rate	$0.02	

F. Approval and Expenditure Data (000's)

Date First in Program	FY'95
Date First Approved	FY'02
Initial Cost Estimate	
Cost Estimate Last FY	128,926
Present Cost Estimate	141,582
Approved Request Last FY	15,214
Total Expense & Encumbrances	
Approval Request Year 1	15,933

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	0 %
Estimated Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	169.6 / 370 MGD

H. Map

MAP NOT AVAILABLE

Blue Plains: Pipelines & Appurtenances

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S - 000022.11	113804	Change

PDF Date	October 1, 2023
Date Revised	February 1, 2024

Pressure Zones	
Drainage Basins	Bi-County 30
Planning Areas	Bi-County

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	$14,549	
Total Cost	$14,549	
Impact on Water and Sewer Rate	$0.03	

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'23	Estimate FY'24	Total 6 Years	Year 1 FY'25	Year 2 FY'26	Year 3 FY'27	Year 4 FY'28	Year 5 FY'29	Year 6 FY'30	Beyond 6 Years
Planning, Design & Supervision											
Land											
Construction	286,497		16,289	194,564	15,785	18,550	29,097	46,056	44,313	40,763	75,644
Other	2,866		163	1,947	158	186	291	461	443	408	756
Total	**289,363**		**16,452**	**196,511**	**15,943**	**18,736**	**29,388**	**46,517**	**44,756**	**41,171**	**76,400**

C. Funding Schedule (000's)

WSSC Bonds	268,924		14,840	182,655	14,822	17,191	27,486	42,774	40,809	39,573	71,429
City of Rockville	20,439		1,612	13,856	1,121	1,545	1,902	3,743	3,947	1,598	4,971

F. Approval and Expenditure Data (000's)

Date First in Program	FY'11
Date First Approved	FY'02
Initial Cost Estimate	
Cost Estimate Last FY	225,898
Present Cost Estimate	289,363
Approved Request Last FY	16,452
Total Expense & Encumbrances	
Approval Request Year 1	15,943

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	0 %
Estimated Completion Date	On-Going

Growth	
System Improvement	45%
Environmental Regulation	55%
Population Served	
Capacity	

D. Description & Justification

DESCRIPTION

This project provides funding for WSSC Water's share of Blue Plains-associated projects which are generally situated “outside the fence” of the treatment plant. There are 30 projects from the DC Water capital program under this project. Major projects in FY'25 include: rehabilitation of various portions of the Potomac Interceptor (LZ); reactivation of the Anacostia FM/GS (PJ); on-going construction of the Potomac River Tunnel (CZ); renovations to the central office facility (COF) and central maintenance facility (CMF) at Blue Plains (HJ and HK); and various on-going rehabilitation projects on major sewers including the AFM, RCMI, Oxon Run and influent sewers to Blue Plains (RC and RD).

BENEFIT

Regulatory & Other Agreements: This project is required to meet regulatory requirements, multi-jurisdictional agreements, and/or consent decrees; Infrastructure Reinvestment: This project replaces existing infrastructure that has exceeded its useful life; Environmental Sustainability: This project supports WSSC Water's commitment to protect the natural environment of Prince George's and Montgomery Counties

JUSTIFICATION

This is a continuation of DC Water's upgrading of the Blue Plains-associated projects outside the fence.
Blue Plains Inter-Municipal Agreement of 2012; DCWASA Master Plan (1998); Technical Memorandum No. 1, Multi-Jurisdictional Use Facilities Capital Cost Allocation (June 2013); and DC Water's preliminary FY'24-FY33 Capital Improvements Program.

COST CHANGE

The schedule and expenditure projections were updated to reflect the latest estimates available from DC Water for the constituent Blue Plains joint-use projects as of May 2023.

OTHER

The project scope has remained the same. Project costs are derived from the DC Water Capital Budget 10-year forecast of spending and DC Water's latest project management data, and reflect DC Water's cost estimates and expenditure schedules available at the time this document was prepared. Given the open-ended nature of the Blue Plains projects, this PDF does not fully reflect the total project costs. These projects are, in fact, expected to continue indefinitely. As new sub-projects are added to the Blue Plains facility plans, the associated costs will be added to this project. The funding schedule also indicates the calculated Rockville share of the cost, which varies by project based on the City's relative share of WSSC Water's flow as derived in the Multi-Jurisdiction Use Facilities Study.

COORDINATION

Coordinating Agencies: City of Rockville;(responsible for a share of funding); DC Water;(responsible for design and construction)
Coordinating Projects: Not Applicable

H. Map

MAP NOT AVAILABLE

Anacostia #2 WWPS Upgrades

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S - 000089.24	382204	Change

PDF Date	October 1, 2023
Date Revised	

Pressure Zones	
Drainage Basins	Lower Anacostia 9
Planning Areas	Landover & Vicinity PA 72

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'23	Estimate FY'24	Total 6 Years	Year 1 FY'25	Year 2 FY'26	Year 3 FY'27	Year 4 FY'28	Year 5 FY'29	Year 6 FY'30	Beyond 6 Years
Planning, Design & Supervision	6,423	3,211	1,100	2,112	1,074	838	200				
Land											
Construction	75,355		6,000	69,355	33,000	29,735	6,620				
Other	3,929		355	3,574	1,704	1,529	341				
Total	**85,707**	**3,211**	**7,455**	**75,041**	**35,778**	**32,102**	**7,161**				

C. Funding Schedule (000's)

WSSC Bonds	70,308	2,296	4,431	63,581	29,907	27,017	6,657				
SDC	9,427	690	2,499	6,238	3,358	2,880					
DC Water Contribution	5,972	225	525	5,222	2,513	2,205	504				

D. Description & Justification

DESCRIPTION

This project provides for the replacement of transformers, switch gear, and MCC-A with redesign of 13.8kv switch gear in two IPA enclosures and 4.16KV switch gear in one IPA enclosure at the Anacostia #2 Wastewater Pump Station (WWPS). The Anacostia #2 WWPS is WSSC Water's largest and most critical WWPS with an average flow of 50 to 60 MGD, and storm peaks up to 260 MGD instantaneous flow. This WWPS receives wastewater from a large portion of WSSC Water's service area and delivers it to the Blue Plains Advanced Wastewater Treatment Plant in Washington, DC. Secondly, this project involves replacement of five existing bar screens and associated electrical upgrades and implementing NFPA 820 requirements for the pump station. Thirdly, the coarse screening of Beaver Dam S.A. flows will be evaluated and rehabilitated. Fourthly, this project includes replacement of the pump station's roof.

BENEFIT

Infrastructure Reinvestment: This project replaces existing infrastructure that has exceeded its useful life; System Capacity: This project will enhance existing infrastructure by building additional capacity in order to meet existing and/or future demand; Employee Safety: This project includes components that help protect the health and safety of employees

JUSTIFICATION

The majority of the electrical equipment, excluding all 4.16kV MCCs and the unit substation, were installed with the original construction in the late 1970s and is beyond its useful life. In addition, several equipment parts are becoming increasingly difficult to find since the equipment is obsolete. Failure of any of the above critical components could cause serious issues in providing reliable power to the pump station. This replacement, rehabilitation, and upgrade work was recommended by various business case evaluations undertaken as part of WSSC Water's Asset Management Program.

COST CHANGE

The schedule and expenditure projections were revised based upon updated engineer's estimates.

OTHER

The project scope has remained the same. The schedule and expenditure projections shown in Block B above are a mix of preliminary design and planning level estimates and are expected to change based upon site conditions and design constraints. DC Water will contribute a share of the electrical upgrades and bar screens project costs, which is indicated on the funding schedule shown in Block C above.

COORDINATION

Coordinating Agencies: DC Water;(responsible for a share of funding); Maryland Department of the Environment; Potomac Electric Power Company
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	$4,316	28
Total Cost	$4,316	28
Impact on Water and Sewer Rate	$0.01	28

F. Approval and Expenditure Data (000's)

Date First in Program	FY'22
Date First Approved	FY'22
Initial Cost Estimate	31,298
Cost Estimate Last FY	64,087
Present Cost Estimate	85,707
Approved Request Last FY	24,555
Total Expense & Encumbrances	3,211
Approval Request Year 1	35,778

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	70 %
Estimated Completion Date	September 2026

Growth	12%
System Improvement	88%
Environmental Regulation	
Population Served	
Capacity	199 MGD

H. Map

MAP NOT APPLICABLE

Piscataway Bioenergy

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S - 000103.02	063808	Change

PDF Date	October 1, 2023
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'23	Estimate FY'24	Total 6 Years	Year 1 FY'25	Year 2 FY'26	Year 3 FY'27	Year 4 FY'28	Year 5 FY'29	Year 6 FY'30	Beyond 6 Years
Planning, Design & Supervision	61,146	56,306	3,450	1,390	1,300	90					
Land	61	61									
Construction	269,591	234,941	25,100	9,550	8,650	900					
Other	1,976		1,428	548	498	50					
Total	**332,774**	**291,308**	**29,978**	**11,488**	**10,448**	**1,040**					

C. Funding Schedule (000's)

WSSC Bonds	326,353	288,238	29,978	8,137	7,097	1,040					
State Aid	6,421	3,070		3,351	3,351						

D. Description & Justification

DESCRIPTION

This project will develop a comprehensive program for the engineering, design, construction, maintenance, monitoring, and verification necessary to add sustainable energy equipment and systems to produce biogas and electricity at Piscataway WRRF. It will provide a reduction in operations, maintenance, chemicals, biosolids transportation, and biosolids disposal costs. It will also enhance existing operating conditions and reliability while continuing to meet all permit requirements, and ensure a continued commitment to environmental stewardship at WSSC Water sites. The scope of work includes, but is not limited to, the addition of anaerobic digestion equipment; thermal hydrolysis pretreatment equipment; gas cleaning, storage, and upgrade systems; tanks; piping; valves; pumps; biosolids pre- and post-dewatering; cake receiving and blending; cake storage; effluent disinfection systems; instrumentation; flow metering; power measurement; and combined heat and power generation systems.

BENEFIT

Environmental Sustainability: This project supports WSSC Water's commitment to protect the natural environment of Prince George's and Montgomery Counties; Financial Efficiency: This project is expected to increase revenues, decrease expenses, or both; Innovation: This project utilizes new ideas, methods, and/or research to streamline processes, enhance services, and reduce costs

JUSTIFICATION

In March 2009, WSSC Water received approval for a federal Department of Energy grant of $570,900 for the feasibility study/conceptual design phase. On June 16, 2010, WSSC Water awarded the study contract to AECOM Technical Services, Inc., of Laurel, Maryland. The study was completed in December 2011, and the Thermal Hydrolysis/Mesophilic Anaerobic Digestion/Combined Heat & Power facility was recommended to be constructed and was presented to WSSC Water in April 2012.

The EPA is urging wastewater utilities to utilize this commercially available technology (anaerobic digestion) to produce power at a cost below retail electricity, displace purchased fuels for thermal needs, produce renewable fuel for green power programs, enhance power reliability for the wastewater treatment plant to prevent sanitary sewer overflows, reduce biosolids production and improve the health of the Chesapeake Bay, and reduce greenhouse gas (GHG) and other air pollutants. In April 2009, the EPA announced that greenhouse gases contributed to air pollution that may endanger public health or welfare, and began proceedings to regulate CO2 under the Clean Air Act. In June 2014, the EPA announced a proposed rule to reduce carbon emissions from power plants by 30% by 2030, compared to the levels in 2005. Based on AECOM's feasibility study work as of May 2011, a regional/centralized plant design based on a Thermal Hydrolysis/Mesophillic Anaerobic Digestion/Combined Heat & Power (TH/MAD/CHP) process supplemented by restaurant grease fuel was recommended.

The environmental benefits are estimated as follows: recover approximately 2 MW of renewable energy from wastewater biomass; reduce geenhouse gas production; reduce biosolids output; reduce lime demand; maintain permitted nutrient load limits to the Chesapeake Bay; reduce 5 million gallons/year of grease discharge to sewers; and produce pathogen-free Class A Biosolids.

The economic benefits include recovery of more than $1.5 million of renewable energy costs/year; reduction of biosolids disposal costs; reduction of chemical costs; hedge against rising costs of power fuel and chemicals.

Plans & Studies: Appel Consultants, Urban Waste Grease Resource Assessment-NREL (November 1998); Environmental Protection Agency (EPA), Opportunities For and Benefits Of Combined Heat and Power at Wastewater Treatment Facilities (December 2006); Brown & Caldwell, Anaerobic Digestion and Electric Generation Options for WSSC (November 2007); Metcalf & Eddy, WSSC Sludge Digestion Study for Piscataway and Seneca (December 2007); Black & Veatch, WSSC Digester Scope and Analysis (December 2007); JMT, Prince George's County Septage (FOG) Discharge Facility Study (February

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other	$1,865	26
Maintenance		
Debt Service	$20,035	26
Total Cost	$21,900	26
Impact on Water and Sewer Rate	$0.05	26

F. Approval and Expenditure Data (000's)

Date First in Program	FY'15
Date First Approved	FY'10
Initial Cost Estimate	345
Cost Estimate Last FY	334,835
Present Cost Estimate	332,774
Approved Request Last FY	29,253
Total Expense & Encumbrances	291,308
Approval Request Year 1	10,448

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	80 %
Estimated Completion Date	December 2024

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT AVAILABLE

2008); JMT, Western Research Institute (WRI) Biogas Feasibility Study Scope of Work - WSSC (April 2008); JMT, Montgomery County Septage (FOG) Discharge Facility Study (January 2010); Facility Plan for the Rock Creek Wastewater Treatment Plant (January 2010); AECOM Technical Services, Inc., Anaerobic Digestion/Combined Heat & Power Study (December 2011, Executive Summary Revised May 2013); HDR Inc. Design Development Report (March 2017).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. WSSC Water has a defined scope and estimated capital cost, and is able to proceed with the detailed design and construction of the anerobic digestion, biomass, and combined heat and power generation system facilities for treating all biosolids from WSSC Water's Damascus, Seneca, Parkway, Western Branch, and Piscataway WRRFs. The Montgomery and Prince George's County Councils were briefed and approved the project by resolution on November 25, 2014 and September 9, 2014, respectively. In June 2017 WSSC Water was approved for a $3 million grant through the Maryland Department of the Environment's (MDE) Energy Water Infrastructure Program (EWIP). WSSC Water will continue to apply for other available funding sources. WSSC Water retained the following consulting services: in 2015 - Hawkins, Delafield and Wood - procurement; Raftelis Financial Consultants - financial; in 2016 - HDR Engineering, Inc. for program management and construction management for the Bioenergy project. In September 2017 WSSC Water issued a Request for Proposals (RFP) to two design-build entities for a progressive design-build delivery of the Bioenergy project. Transporting biosolids from Western Branch WRRF to Piscataway was included in the FY'19 program update. A portion of this project will be financed by low interest loans and grant funding through MDE's Water Infrastructure Financing Administration's Water Quality Revolving Loan Fund Program. In June 2018 WSSC Water awarded a Progressive Design-Build Contract to PC Construction for the Bioenergy project. In FY'19 the Solids Screenings at Four Remote WRRFs, Contract No. CD6630A19, was incorporated. The construction phase of biosolids screens at three remote facilities, Western Branch, Parkway and Damascus was substantially completed in mid FY'23. In January 2020, the Maryland Energy Administration notified WSSC Water of approval of grant funding up to $351,750 for Combined Heat & Power. WSSC Water has also applied for grants from SMECO, a local power utility. In December 2020 Phase 1 of the Bioenergy project was completed. A Gas Supply and Delivery Contract with Washington Gas Light for natural gas delivery to and from the Piscataway WRRF in the amount of $8,510,000 was negotiated and executed on May 10, 2021. The construction phase of the Gas Supply and Delivery Contract was substantially completed in April 2023. In April 2023, the project received approval for $2,500,000 in additional grant funding through MDE.

COORDINATION

Coordinating Agencies: Chesapeake Bay Critical Areas; Maryland Department of the Environment; Maryland Energy Administration; Maryland-National Capital Park & Planning Commission;(Mandatory Referral Process); Montgomery County Department of Environmental Protection; Montgomery County Government; Prince George's County Government; SMECO; Washington Gas Light Company
Coordinating Projects: S - 000096.14 - Piscataway WRRF Facility Upgrades

Trunk Sewer Reconstruction Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S - 000170.09	113805	Change

PDF Date	October 1, 2023
Date Revised	

Pressure Zones	
Drainage Basins	Bi-County 30
Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'23	Estimate FY'24	Total 6 Years	Year 1 FY'25	Year 2 FY'26	Year 3 FY'27	Year 4 FY'28	Year 5 FY'29	Year 6 FY'30	Beyond 6 Years
Planning, Design & Supervision	92,471		12,520	79,951	12,847	12,481	13,232	13,707	13,571	14,113	
Land											
Construction	228,022		37,497	190,525	32,089	33,919	29,230	30,865	31,579	32,843	
Other	32,046		5,002	27,044	4,494	4,639	4,245	4,456	4,515	4,695	
Total	**352,539**		**55,019**	**297,520**	**49,430**	**51,039**	**46,707**	**49,028**	**49,665**	**51,651**	

C. Funding Schedule (000's)

WSSC Bonds	352,539		55,019	297,520	49,430	51,039	46,707	49,028	49,665	51,651	

D. Description & Justification

DESCRIPTION

The Trunk Sewer Reconstruction Program provides for the inspection, evaluation, planning, design, and construction required for the rehabilitation of sewer mains and their associated manholes in environmentally sensitive areas (ESAs). This includes both trunk sewers 15-inches in diameter and greater, along with associated smaller diameter pipe less than 15-inches in diameter. The smaller diameter pipe is included due to its location within the ESA. The program also includes planning, design, and construction for the prioritized replacement of force mains.

BENEFIT

Regulatory & Other Agreements: This project is required to meet regulatory requirements, multi-jurisdictional agreements, and/or consent decrees; Infrastructure Reinvestment: This project replaces existing infrastructure that has exceeded its useful life; Environmental Sustainability: This project supports WSSC Water's commitment to protect the natural environment of Prince George's and Montgomery Counties

JUSTIFICATION

Under the terms of the Consent Decree the WSSC Trunk Sewer Inspection Program inspected all required sewers in 21 basins by December 2010 and completed Sewer System Evaluation Surveys (SSES) for 9 basins. WSSC Water shall conduct rainfall, groundwater, and flow monitoring to determine Inflow/Infiltration (I/I) rates and identify areas of limited capacity through collection system modeling. Where appropriate, WSSC Water shall use additional means to identify sources of I/I, including CCTV, smoke, and/or dye testing. All the Trunk Sewer Inspections, SSES work, and other related collection system evaluations are complete. Due to the delay in receiving permits, as well as Right-of-Entry permissions and subcontractor availability, trunk sewer reconstruction work has been delayed. All USACE and MDE permits have been received. WSSC Sanitary Sewer Overflow Consent Decree (December 7, 2005). Second Amendment to WSSC Sanitary Sewer Overflow Consent Decree (December 4, 2015).

COST CHANGE

Program costs reflect the latest schedule and expenditure estimates based upon the recommendations from the Buried Wastewater Assets System Asset Management Plan.

OTHER

The project scope has remained the same. Reconstruction work will include: reduction of I/I; replacement of substandard sewer segments; in situ lining of sewer segments; pipeline and manhole protection; rebuilding of manholes; and correction of structural defects and poor alignment. The reconstruction work in each sewer basin will be prioritized to most effectively prevent SSOs and backups. A Second Amendment to the Consent Decree extending WSSC Water's deadline to FY'22 was agreed to by the U.S. Environmental Protection Agency, U.S. Department of Justice, and Maryland Department of the Environment and was entered by the U.S. District Court. All construction contracts for ESA work have been awarded and the approved amounts have been utilized in the current budget projections. As actual construction progresses the projections may be updated. Most of the upfront costs are associated with the construction of access roads and by-pass pumping. After completion of a majority of the Priority 1 construction activities associated with the Consent Decree, Phase 2 work (Priority 2 & 3 plus any newly identified Priority 1) is programmed at roughly eight miles per year beginning in FY'25. Future land costs are included in project S-203.00.

COORDINATION

Coordinating Agencies: Maryland Department of Natural Resources; Maryland Department of the Environment; Maryland Historical Trust; Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Montgomery County Department of Public Works and Transportation;

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	$21,643	
Total Cost	$21,643	
Impact on Water and Sewer Rate	$0.05	

F. Approval and Expenditure Data (000's)

Date First in Program	FY'11
Date First Approved	FY'11
Initial Cost Estimate	
Cost Estimate Last FY	386,144
Present Cost Estimate	352,539
Approved Request Last FY	55,176
Total Expense & Encumbrances	
Approval Request Year 1	49,430

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	On-Going
Percent Complete	0 %
Estimated Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

National Park Service; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; U.S. Environmental Protection Agency, Region III
Coordinating Projects: S - 000001.01 - Sewer Reconstruction Program

Land & Rights-of-Way Acquisition - Bi-County Sewer

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S - 000203.00	163800	Change

PDF Date	October 1, 2023
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'23	Estimate FY'24	Total 6 Years	Year 1 FY'25	Year 2 FY'26	Year 3 FY'27	Year 4 FY'28	Year 5 FY'29	Year 6 FY'30	Beyond 6 Years
Planning, Design & Supervision											
Land	2,165		195	1,970	595	595	195	195	195	195	
Construction											
Other											
Total	**2,165**		**195**	**1,970**	**595**	**595**	**195**	**195**	**195**	**195**	

C. Funding Schedule (000's)

WSSC Bonds	1,701		195	1,506	297	429	195	195	195	195	
SDC	464			464	298	166					

D. Description & Justification

DESCRIPTION

This project provides a consolidated estimate of funding for the acquisition of land and rights-of-way for sewer projects and programs. Expenditures are programmed based upon anticipated schedules and are required for the completion of those specific projects. These costs do not include purchases which have already been completed.

BENEFIT

Financial Efficiency: This project is expected to increase revenues, decrease expenses, or both

JUSTIFICATION

Consolidation of expenditures for land and rights-of-way acquisitions provides flexibility in expending funds in a specific fiscal year and permits WSSC Water to respond to the uncertainty of project-specific implementation schedules. Other considerations include the accommodation of unpredictable delays which impact the timing of a planned purchase, unanticipated rights-of-way requirements due to minor alignment changes identified late in the design phase, and the need to assure WSSC Water an equitable negotiation position by avoiding project-specific cost displays prior to contacting property owners.

Acquisition needs are determined by WSSC Water and are based upon facility planning efforts, alignment studies, field surveys, realignments required by other agencies, or requirements identified within the Development Services Process.

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The schedule and expenditure projections shown in Block B above are estimates only and may change based upon actual negotiations. When purchases are complete, the actual cost will be displayed in the expenditure schedule on the appropriate project.

COORDINATION

Coordinating Agencies: Not Applicable
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	$104	
Total Cost	$104	
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY'98
Date First Approved	FY'98
Initial Cost Estimate	
Cost Estimate Last FY	2,180
Present Cost Estimate	2,165
Approved Request Last FY	195
Total Expense & Encumbrances	
Approval Request Year 1	595

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	On-Going
Percent Complete	0 %
Estimated Completion Date	Not Applicable

Growth	21%
System Improvement	79%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE