



Committee: T&E
Committee Review: Completed
Staff: Keith Levchenko, Senior Legislative Analyst
Purpose: preliminary decisions – straw vote expected
Keywords: #WSSCCIP, Water and Sewer

AGENDA ITEM #8
 April 13, 2021
Worksession

SUBJECT

FY22-27 Capital Improvements Program – Washington Suburban Sanitary Commission (WSSCWATER)

EXPECTED ATTENDEES (WSSCWATER)

- Carla Reid, General Manager/CEO
- Joe Beach, Deputy General Manager for Administration
- Jay Price, Deputy General Manager for Operations
- Karyn Riley, Director, Intergovernmental Relations
- Patti Colihan, Chief Financial Officer
- Mark Brackett, Senior Strategic Financial Advisor
- Brian Halloran, Acting Capital Budget Section Manager
- Steve Shofar, Division Chief, Intergovernmental Affairs, Department of Environmental Protection
- Rafael Murphy, Fiscal & Policy Analyst, Office of Management and Budget

FISCAL SUMMARY

FY22-27 versus Approved FY21-26 Expenditures (in 000's)*

	Six-Year Total		FY21	FY22	FY23	FY24	FY25	FY26	FY27
FY20-25 Approved	3,703,130		615,005	712,767	689,658	595,657	527,055	562,988	
FY21-26 Agency Request**	3,806,072			711,863	718,439	634,963	575,744	577,352	587,711
change from amended	102,942	2.8%		(904)	28,781	39,306	48,689		
FY21-26 CE Rec	3,806,072			711,863	718,439	634,963	575,744	577,352	587,711
change from amended (\$,%)	102,942	2.8%		(904)	28,781	39,306	48,689		
change from Agency Req (\$,%)	-	0.0%		-	-	-	-	-	-
Committee Rec	3,806,072			711,863	718,439	634,963	575,744	577,352	587,711
change from amended (\$,%)	102,942	2.8%		(904)	28,781	39,306	48,689		
change from Agency Req (\$,%)	-	0.0%		-	-	-	-	-	-
change from CE Rec (\$,%)	-	0.0%		-	-	-	-	-	-

*Includes both CIP Expenditures and all debt-financed non-cip ("Information Only" project) costs

**Includes WSSCWATER's midcycle update which zeroed out the Advanced Metering Infrastructure "Information Only" project.

- Six-Year Proposed Total (with mid-cycle update) = \$3.8 billion (an increase of \$102.9 million or 2.8 percent)
- 11 new projects (Six-Year Total = \$82.8 million in six-year spending)
- Largest Six-Year Increases in Projects:
 - Water Reconstruction Program (+\$75.3 million, +11.6 percent)
 - Trunk Sewer Reconstruction Program (+\$34.4 million, +12.4 percent)

- Sewer Reconstruction Program (+\$33.2 million, +8.9 percent)
- Large Diameter Water Pipe Rehabilitation Program (+\$26.7 million, +6.0 percent)
- Largest Six-Year Decreases in Projects
 - Advanced Metering Infrastructure (-\$98.4 million) (project suspended per mid-cycle update)
 - Blue Plains Projects (-\$54.1 million, -11.6 percent)
 - Other Capital Programs (-\$18.8 million, -4.5 percent)

OTHER ISSUES

- Other Projects of Interest
 - Potomac Water Filtration Plant Consent Decree (+\$14.7 million, +9.2 percent)
 - Piscataway Bio-Energy Project (+\$10.3 million, +4.9 percent)
- System Development Charge Bi-County Workgroup looking at possible changes to how developers are reimbursed for capital-sized improvements. Issue will come back to both Councils at a future date.
- Extension Cost-financing Bi-County Workgroup is looking at new more affordable approaches for properties within the planned service envelopes to connect to WSSC service.

COMMITTEE RECOMMENDATION

- Preliminarily approve the WSSCWATER CIP and “Information Only” Projects as proposed by WSSC (including WSSCWATER’s mid-cycle update).

This report contains:

- T&E Committee March 8, 2021 Council Staff Report
 - Council Staff Memorandum Pages 1-16
 - County Executive's Recommended FY22-27 Capital Improvements Program (WSSCWATER) ©1-4
 - WSSCWATER's Spending Affordability Assumptions and Long-Range Financial Plan ©5-7
 - February 17, 2021 Mid-Cycle Update Transmittal ©8-9
 - Excerpts from WSSCWATER's Proposed FY22-27 CIP ©10-44
 - Addendum Slides ©45-63

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Worksession

MEMORANDUM

March 3, 2021

TO: Transportation and Environment Committee

FROM: Keith Levchenko, Senior Legislative Analyst

SUBJECT: **Worksession: FY22-27 Capital Improvements Program: Washington Suburban Sanitary Commission (WSSCWATER)¹**

PURPOSE: To review the WSSCWATER FY22-27 CIP

Summary

- **Six-Year Proposed CIP Total* plus “Information Only” projects = \$3.8 billion**
 - Increase of \$102.9 million (+2.8 percent) from the Approved CIP+Information Only
 - 11 new projects: (Six-Year Total = \$111.0 million in new spending)
 - 4 new projects in the Montgomery County/Bi-County portion of the CIP
- **Largest Six-Year Increases in Projects:**
 - Water Reconstruction Program (+\$75.3 million, +11.6 percent)
 - Trunk Sewer Reconstruction Program (+\$34.4 million, +12.4 percent)
 - Sewer Reconstruction Program (+\$33.2 million, +8.9 percent)
 - Large Diameter Water Pipe Rehabilitation Program (+\$26.7 million, +6.0 percent)
- **Largest Six-Year Decreases in Projects**
 - Advanced Metering Infrastructure (Mid-Cycle Update) (-\$98.4 million)
 - Blue Plains Projects (-\$54.1 million, -11.6 percent)
 - Other Capital Programs (-\$18.8 million, -4.5 percent)
- **Other Projects of Interest**
 - Potomac Water Filtration Plant Consent Decree (+\$14.7 million, +9.2 percent)
 - Piscataway Bio-Energy Project (+\$10.3 million, +4.9 percent)

Council Staff Recommendation: Approve WSSCWATER’s Proposed FY22-27 CIP with WSSCWATER’s Mid-Cycle Update.

***NOTE:** Above totals assume WSSCWATER’s “mid-cycle” update which zeroed out the Advanced Metering Infrastructure project.

¹ Key words: #WSSCWATERCapitalBudget, Capital projects, Water and Sewer, WSSCWATER.

Attachments to this memorandum include:

- County Executive's Recommended FY22-27 Capital Improvements Program (WSSCWATER) (©1-4)
- WSSCWATER's Spending Affordability Assumptions and Long-Range Financial Plan as presented in its Proposed FY22 Budget (©5-7)
- February 17, 2021 Mid-Cycle Update Transmittal (©8-9)
- Excerpts from WSSCWATER's Proposed FY22-27 CIP² (©10-44)

The following officials and staff from WSSCWATER and the Executive Branch are expected to attend this meeting:

- Howie Denis, Commission Chair
 - Fausto Bayonet, Commissioner
 - Eloise Foster, Commission Vice-Chair
 - Carla Reid, General Manager/CEO
 - Joe Beach, Deputy General Manager for Administration
 - James Price, Deputy General Manager for Operations
 - Karyn Riley, Director, Intergovernmental Relations
 - Patti Colihan, Chief Financial Officer
 - Letitia Carolina-Powell, Budget Division Manager
 - Mark Brackett, Capital Budget Section Manager
-
- Steve Shofar, Division Chief, Intergovernmental Affairs, Department of Environmental Protection
 - Rafael Murphy, Fiscal & Policy Analyst, Office of Management and Budget

WSSCWATER will provide an overview of the WSSC CIP and how it fits within WSSCWATER's financial plan. Council Staff has provided additional background information below as well as some discussion about specific projects.

BACKGROUND/TIMELINE

Under Md. Public Utilities Code Ann. §23-304, WSSCWATER must prepare and submit a six-year CIP proposal to the County Executives and County Councils of Montgomery and Prince George's Counties by October 1 of each year.

Unlike other County agency CIP proposals that are reviewed biennially, Montgomery County reviews the WSSCWATER CIP every year. Also, unlike other agencies, WSSCWATER's CIP and Operating budgets are not included within the County's Spending Affordability processes. Instead, WSSCWATER is subject to a separate affordability process, with both Montgomery and Prince George's County Council review and approval in the fall of each year.

The FY22-27 WSSCWATER CIP and Operating Budget Review Timeline

- October 1, 2020: WSSCWATER transmitted its Proposed FY22-27 CIP
- October 27, 2020: Council approval of WSSCWATER's FY22 Spending Control Limits

² Complete copies of WSSCWATER's FY22-27 Proposed CIP, Approved FY21-26 CIP, Approved FY21 Budget and Proposed FY22 Budget publications are available for download at: <https://www.WSSCWATER.com/financial#currentbudget>

- January 15, 2020: County Executive’s recommendations transmitted
- February 9, 2021: Council public hearing on the FY22 Capital Budget and FY22-27 CIP
- February 17, 2021: WSSCWATER transmitted a “mid-cycle” update to its CIP which zeroed out spending in the Advanced Metering Infrastructure (AMR) project based on Commission action on November 18, 2021.
- March 1, 2021: WSSCWATER transmitted its Proposed FY22 Budget
- **March 8, 2021: T&E Committee review of the WSSCWATER CIP**
- TBD: Council review of the WSSCWATER CIP
- April, 2021: T&E Committee review of the WSSCWATER Proposed FY22 Budget
- Early May 2021: Council review of the WSSCWATER Proposed FY22 Budget
- May, 13, 2021: Bi-County meeting between Montgomery County and Prince George’s County Councils on the WSSCWATER CIP and Operating Budget, as well as any other Bi-County budget issues

COUNTY EXECUTIVE RECOMMENDATIONS

(See ©1-4)

The County Executive’s recommendations for the FY22-27 WSSCWATER CIP were transmitted on January 15. He does not recommend any changes to WSSCWATER’s Proposed CIP. The transmittal provides some discussion of priority areas for funding and also notes that given the Commission’s suspension of WSSC’s Advanced Metering Infrastructure (AMI) project, revisions to the originally proposed CIP are expected from WSSC.

FISCAL OVERVIEW

Spending Control Limits/Affordability

WSSCWATER’s latest fiscal plan from the recently proposed FY22 Budget is attached on ©5-7. WSSC continues to face fiscal pressures due to several factors including:

- high levels of debt service (approximately 38 percent of total expenses; the target level is <40 percent) primarily due to increased spending on infrastructure work over the past decade as well as environmental mandates. The Financial Plan also assumes to ramp up annual PAYGO levels substantially during the CIP period.
- continuing flat water consumption (rate revenue makes up about 86 percent of WSSC’s revenues),
- Reduced reconstruction debt service offset (REDO) available to cover operating expenses (balance is down to zero in FY25)
- Meeting fiscal policy targets such as
 - building up “days of operating reserve on hand” (target of 75 to 105 days based on industry standards)
 - Improving debt service coverage over the six-year period (target is 1.10 to 1.25).
- The current pandemic is also impacting revenues through a large increase in delinquent accounts.

The above trends result in the Fiscal Plan assuming significant rate increases in FY23 and beyond.

Last fall, the two Councils came to agreement on FY22 spending control limits. Both Councils supported a rate increase limit of 5.9 percent, along with agreed-upon ceilings for New Water and Sewer

Debt, Total Water and Sewer Debt Service, and Total Water/Sewer Operating Expenses. For additional information, please see the [Council Staff Report](#) from the Council’s worksession/action on FY22 Spending Control Limits.

Both the FY19-24 CIP and FY20-25 CIP’s included bond-funded cuts totaling over \$183 million. These cuts were made to reduce debt service impacts on the WSSCWATER Operating Budget and keep debt service as a percentage of total expenditures under the 40 percent spending affordability target.

The FY21-26 CIP included a relatively small 1.0 percent increase in bond-funding.

The Original Proposed FY22-27 CIP assumes 0,4 percent increase in bond funding. However, when taking into account substantial increases in PAYGO assumed in the six-year period, the overall increase across both Bond funding and PAYGO is 4.6 percent. However, when taking into account the mid-cycle update which zeroed out the Advanced Metering Infrastructure (AMR) project, the overall six-year increase in bond funding and PAYGO is 1.8 percent.

CIP Summary

The following chart presents WSSCWATER’s original proposed versus approved expenditures for its CIP, as well as for its “Information Only” projects.

Total WSSC Capital Expenditures (CIP+Information Only)
Proposed FY22-27 CIP versus Approved FY21-26 CIP
 (\$s in 000s)

Grand Total	Approved FY21	Six-Year Total	FY22	FY23	FY24	FY25	FY26	FY27
CIP Total								
Approved FY21-26	375,073	1,985,172	432,950	393,425	304,396	229,627	249,701	
Proposed FY22-27		2,084,564	466,879	458,043	365,984	282,965	260,418	250,275
Difference		99,392	33,929	64,618	61,588	53,338	10,717	
% Change		5.0%	7.8%	16.4%	20.2%	23.2%	4.3%	
Information Only*								
Approved FY21-26	239,932	1,717,958	279,817	296,233	291,261	297,428	313,287	
Proposed FY22-27		1,819,870	266,272	292,201	300,784	306,243	316,934	337,436
Difference		101,912	(13,545)	(4,032)	9,523	8,815	3,647	
% Change		5.9%	-4.8%	-1.4%	3.3%	3.0%	1.2%	
CIP + Information Only								
Approved FY21-26	615,005	3,703,130	712,767	689,658	595,657	527,055	562,988	
Proposed FY22-27		3,904,434	733,151	750,244	666,768	589,208	577,352	587,711
Difference		201,304	20,384	60,586	71,111	62,153	14,364	
% Change		5.4%	2.9%	8.8%	11.9%	11.8%	2.6%	
Midcycle Update								
FY22-27 Change		(98,362)	(21,288)	(31,805)	(31,805)	(13,464)	-	-
FY22-27 Latest Proposed		3,806,072	711,863	718,439	634,963	575,744	577,352	587,711
Difference		102,942	(904)	28,781	39,306	48,689	14,364	
% Change		2.8%	-0.1%	4.2%	6.6%	9.2%	2.6%	

*Information Only projects are multi-year projects which do not meet the State definition for inclusion in the CIP.

- Counting both WSSCWATER’s Original Proposed CIP and “Information Only” projects,⁵ results in overall capital expenditures of \$3.9 billion (up \$201.3 million or 5.4 percent).
- However, taking into account WSSC’s “mid-cycle update”⁸ results in a reduction of \$98.4 million in WSSC Bond-funded expenditures from the Original Proposed FY22-27 CIP. The revised WSSC Proposal is \$3.8 billion (an increase of \$102.9 million or 2.8 percent).
- Blue Plains projects total \$392.1 million for FY22-27 (a decrease of \$51.4 million or 11.6 percent from the FY21-26 CIP).
- The Blue Plains projects plus eight other Bi-County and “Information Only” projects account for over 85 percent of WSSC’s Original Proposed FY22-27 expenditures. These other projects include:
 - Large Diameter Water Pipe Rehabilitation
 - Trunk Sewer Reconstruction
 - Piscataway Bioenergy Project
 - Potomac Consent Decree Program
 - Water Reconstruction Program
 - Sewer Reconstruction Program
 - Engineering Support Program
 - Advanced Metering Infrastructure (AMI) (zeroed out as part of the mid-cycle update)

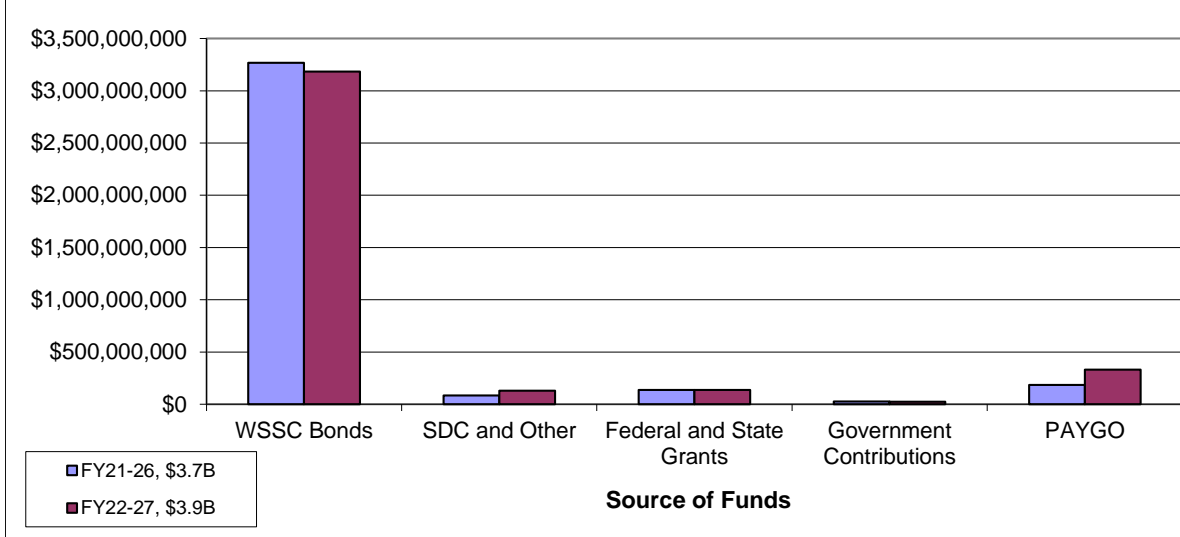
Funding Sources

The following chart compares funding sources for the Approved FY21-26 CIP and the Latest Proposed FY22-27 CIP (including “Information Only” projects).

⁵ “Information Only” projects (which are presented in the CIP but are not formally part of the CIP) continue to represent a large portion of WSSCWATER’s infrastructure-related work. FY22-27 expenditures for these projects were originally proposed to be \$1.82 billion (\$1.7 billion when factoring in the midcycle update).

⁸ WSSC’s mid-cycle update zeroes out WSSC’s Advanced Metering Infrastructure Information Only project per the Commission’s action last November.

WSSC CIP + Information Only Projects Funding by Source



Each of these funding sources, and how they relate to WSSCWATER projects, is described on ©10. Bond funding has long been the dominant funding source (over 84 percent of funding in the Proposed CIP).⁹ The Original FY22-27 Proposed CIP + Information Only projects assumed bond funding would increase by \$14.3 million. PAYGO is assumed to increase substantially in the six-year period. The System Development Charge (SDC), and federal/state grants make up the other major sources of funding. The mid-cycle update resulted in a \$98.4 million reduction in the FY22-27 Proposed CIP (all in WSSC Bonds). As a result, bond-funding drops by \$98 million over the six-year period.

GROWTH FUNDING

WSSCWATER’s capital expenditures can be divided into three categories: growth, environmental regulations, and system improvements. While most of the capital expenditures are for system improvement (91 percent in FY22), about \$130 million (or 3.3 percent) of six-year proposed expenditures in the six-year period are needed to accommodate growth.

The major sources used to fund growth are:

- System Development Charge (SDC);
- Direct Developer Contributions; and
- Payments by Applicants.

Many of the projects in the WSSCWATER CIP are funded with the above-mentioned sources. For instance, water and sewer projects needed to accommodate growth in Clarksburg are funded with these sources.

⁹ The resulting debt service from WSSCWATER’s bond funding in the CIP makes up more than one-third of WSSCWATER’s annual Water and Sewer Operating Expenses.

The SDC is a major source of funding for much of the new water/sewer infrastructure built in the County. WSSCWATER estimates approximately \$159.4 million in revenue over the six-year period. Developer credits and SDC exemptions¹¹ reduce the net revenue to about \$133.4 million. For more background on the SDC, please see ©10-11.

The SDC Fund has a balance of approximately \$15.9 million (as of December 31, 2020). Overall, WSSCWATER estimates a surplus in growth funding versus expenditures over the six-year period of \$3.7 million, as shown on ©12. This is a substantially lower surplus than reflected in the Approved CIP, because of several newly proposed wastewater pumping station rehabilitation projects which are partly or mostly supported with SDC funding.

WSSCWATER's Preliminary Proposed Operating Budget (i.e., public hearing draft) for FY22 assumes no change in SDC rates.¹²

WSSCWATER is leading an SDC Bi-County workgroup consisting of staff from the County Council and Executive Branches of both Montgomery and Prince George's Counties. The group is looking at potential changes to how developers are reimbursed for capital-sized improvements made to WSSC's infrastructure. Currently, developers are eligible to be paid back for these improvements over 20 years. However, the payback is not guaranteed. It is contingent upon sufficient SDC revenues being collected by WSSC from properties within the same sewer basin being received during that time. WSSCWATER is looking at eliminating the geographic requirement for the revenue reimbursement and guaranteeing the payback over a set period. However, these changes would require increases in the SDC rates to cover this increased liability to WSSCWATER. This issue is still under development and will likely be discussed through a joint Council T&E/TIEE Committee briefing later this year.

WSSCWATER FY22-27 PROJECT HIGHLIGHTS

For a full list of WSSCWATER's projects included in the FY22-27 Proposed CIP, please see:

- Montgomery County Water Projects (©16)
- Montgomery County Sewer Projects (©19)
- Bi-County Water Projects (©21)
- Bi-County Sewer Projects (©26)
- Prince George's County Water and Sewer Projects (©36-37)
- Information Only Projects (©38)

New Projects

There are 11 new projects proposed (see ©14), including two new water projects and one new sewer project in Montgomery County and a Bi-County sewer project as described below:

¹¹ For purposes of projecting future SDC balances, WSSCWATER assumes Montgomery and Prince George's counties utilize the full \$1.0 million in exemptions each fiscal year. Any amounts within each county's \$500,000 share not used in each year carry over to the next fiscal year. As of December 31, 2020, Montgomery County had \$7.8 million and Prince George's County had \$2.4 million in exemption capacity.

¹² NOTE: For many years (and as proposed for FY22), WSSCWATER has increased the maximum allowable charge (as permitted under State law) but has left the actual rate charged unchanged.

- Pleasant's Property Water Main Extension (PDF on ©17) (developer-funded): Six-year total = \$2.0 million. This project provides for the construction of 2,320 feet of 16-inch water main to serve the Pleasant's Property.
- Viva White Oak Water Main (PDF on ©18) (developer-funded): Six-year total = \$1.78 million. This project provides for the construction of 8,900 feet of water main to serve the Viva White Oak development and vicinity.
- Viva White Oak Sewer Main (PDF on ©20) (developer-funded): Six-year total = \$1.5 million. This project provides for the construction of 4,175 feet of 15-inch to 24-inch sewer main to serve the Viva White Oak development and vicinity.
- Anacostia #2 WWPS Upgrades (PDF on ©32) (WSSC Bonds and SDC): Six-year total = \$23.4 million. This project provides for the replacement of electrical equipment, bar screens, and other major upgrades to WSSC's largest volume wastewater pump station (50 to 60 million gallons per day of flow).

There are several other newly requested wastewater pump station rehab projects in the Prince George's County portion of the CIP.

Council Staff does not have any issues with these projects. WSSCWATER staff will be available to discuss these projects with the Committee.

Montgomery County and Bi-County Projects

Each Council generally focuses on the projects within its county and the Bi-County projects. The following chart summarizes six-year program information for Montgomery County and Bi-County projects only. Prince George's County projects are listed on ©36-37.

Table 2:
Total WSSC Expenditures (Montgomery County and Bi-County Only)
(CIP+Information Only)
Proposed FY21-26 CIP versus Approved FY22-27 CIP
(\$s in 000s)

Grand Total	Approved FY21	Six-Year Total	FY22	FY23	FY24	FY25	FY26	FY27
CIP Total								
Approved FY19-24	299,833	1,669,764	330,802	318,345	262,828	217,943	240,013	
Proposed FY20-25		1,745,286	334,295	357,976	297,477	257,785	250,558	247,195
Difference		75,522	3,493	39,631	34,649	39,842	10,545	
% Change		4.5%	1.1%	12.4%	13.2%	18.3%	4.4%	
Information Only*								
Approved FY19-24*	239,932	1,717,958	279,817	296,233	291,261	297,428	313,287	
Proposed FY20-25		1,819,870	266,272	292,201	300,784	306,243	316,934	337,436
Difference		101,912	(13,545)	(4,032)	9,523	8,815	3,647	
% Change		5.9%	-4.8%	-1.4%	3.3%	3.0%	1.2%	
CIP + Information Only								
Approved FY19-24	539,765	3,387,722	610,619	614,578	554,089	515,371	553,300	
Proposed FY20-25		3,565,156	600,567	650,177	598,261	564,028	567,492	584,631
Difference		177,434	(10,052)	35,599	44,172	48,657	14,192	
% Change		5.2%	-1.6%	5.8%	8.0%	9.4%	2.6%	
Midcycle Update								
FY22-27 Change		(98,362)	(21,288)	(31,805)	(31,805)	(13,464)	-	-
FY22-27 Latest Proposed		3,466,794	579,279	618,372	566,456	550,564	567,492	584,631
Difference		79,072	(31,340)	3,794	12,367	35,193	14,192	
% Change		2.3%	-5.1%	0.6%	2.2%	6.8%	2.6%	

*Information Only projects are multi-year projects which do not meet the State definition for inclusion in the CIP.

Montgomery County and Bi-County expenditures are up 2.3 percent for similar reasons noted for the Total WSSC CIP/Information Only numbers.

Montgomery County and Bi-County Projects (Major Changes Summary)

The following table presents the major six-year cost changes (both increases and decreases) for the Montgomery County and Bi-County projects.

**Table 3:
FY22-27 Major Changes in 6 Year Costs (MC and Bi-County Only + Information Only)**

Six-Year Cost Change (in 000s)	Project	Comment
75,304	Water Reconstruction Program	increases after deferrals in work the past 2 years
34,408	Trunk Sewer Reconstruction Program	Based on recommendations from the Buried Wastewater Assets System Asset Management Plan. SSO Consent Decree Schedule completion deadline of 2022.
33,178	Sewer Reconstruction Program	increases after deferrals in work the past 2 years
26,747	Large Diameter Water Pipe Rehabilitation Program	Six-year cost increase reflects latest expenditure and schedule estimates based on WSSC's Buried Water Asset Systems Asset Management Plan
23,361	Anacostia #2 WWPS Upgrades	New project
14,700	Potomac WFP Consent Decree Program	Six-year cost up because of previously beyond six-year construction costs now in FY27.
13,850	Water Storage Facility Rehabilitation Program	Acceleration of work on remaining tanks
12,461	Septage Discharge Facility Planning & Implementation	Costs reflect current project scope and timing
10,292	Piscataway Bioenergy	Based on bid prices at 60% design documents
4,963	Land and Rights of Way Acquisition - Bi-County Water	Costs increased to reflect the annual \$1.0 million allocation for acquisition of land and easements for watershed protection, previously budgeted elsewhere.
2,000	Engineering Support Program	Adding FY27 at a higher level of effort than FY21.
1,984	Pleasant's Property Water Main Extension	New Developer-Funded Project
1,780	Viva White Oak Water Main	New Developer-Funded Project
1,500	Viva White Oak Sewer Main	New Developer-Funded Project
1,278	Potomac WFP Main Zone Pipeline	inflationary increase
(1,095)	Regional Water Supply Resiliency	Federally-Funded, Six-year cost down as project proceeds.
(1,430)	Patuxent Raw Water Pipeline	Minor cost change
(1,468)	Shady Grove Neighborhood Center	Developer-Funded Project
(2,848)	Potomac WFP Pre-Filter Chlorination & Air Scour Improvements	Six-year cost down as project moves through construction with completion in FY22.
(5,065)	Energy Performance Program	Based on current project schedule
(18,836)	Other Capital Programs	Costs reduced based on revised allocations of work to other capital projects
(51,368)	Blue Plains Projects	Based on DCWater's latest budget assumptions
(95,584)	Advanced Metering Infrastructure	Project zeroed out per Commission action in November 2020.

Several projects are seeing cost drops as they move through construction, and others are receiving inflationary increases. However, there are some other large fluctuations (up and down) in several major projects. The largest increases involve: the Water Reconstruction and Sewer Reconstruction programs (+\$98.5 million in total) which are seeing increases after having had expenditures deferred the past couple of years. The Trunk Sewer Reconstruction Program is also seeing an increase as is the Large Diameter Water Pipe Rehabilitation Program, and the Potomac WFP Consent Decree (\$42.0 million). The largest decreases are in the AMR project (per the mid-cycle update), the Blue Plains projects, and Other Capital Projects. The four new projects are also reflected in this chart which increase the six-year total by \$28.6 million.

REVIEW OF SELECTED PROJECTS

Blue Plains Project Costs (PDFs on ©27-31)

Table 4: Blue Plains Projects: Expenditures (in \$000s)

	Approved FY21	Six-Year Total	FY22	FY23	FY24	FY25	FY26	FY27
Total Blue Plains Project Costs								
Approved FY21-26	59,506	443,486	72,534	81,362	69,207	66,905	93,972	
Proposed FY22-27		392,118	54,635	60,308	63,153	64,774	74,616	74,632
Difference		(51,368)	(17,899)	(21,054)	(6,054)	(2,131)	(19,356)	
% Change		-11.6%	-24.7%	-25.9%	-8.7%	-3.2%	-20.6%	
CE Recommended FY22-27								
		392,118	54,635	60,308	63,153	64,774	74,616	74,632
\$ Change from Proposed		-	-	-	-	-	-	-
% Change from Proposed		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

The Blue Plains projects make up a sizable portion (32.7 percent) of WSSCWATER’s Sewer CIP (18.8 percent of WSSCWATER’s Proposed CIP and 10.0 percent of the Proposed CIP when including WSSCWATER’s Information Only projects). WSSCWATER’s Proposed CIP assumes \$392.1 million over the FY22-27 period. This is a decrease of \$51.4 million (or -11.6 percent) from the FY21-26 CIP. WSSCWATER Staff provided the following reasons for the cost decrease:

“The decrease in FY’22-27 CIP is due to project cost estimates and schedule revisions for numerous projects including primary sedimentation tank covers and odor scrubbers, grit removal facilities, effluent filter upgrades and secondary treatment projects that moved the majority of the costs out of six-year program and into beyond six years and a technical correction in how project staff and management costs were calculated and applied to projects that had overstated those costs in the FY’21-26 CIP. Due to the Covid-19 pandemic and anticipated impacts on revenues, DC Water indicated that they expected to make adjustments to their capital plan to defer and reprioritize projects.”

DC Water’s latest capital expenditure totals were approved by the DC Water Board of Directors after WSSCWATER transmitted its CIP last fall. WSSCWATER is still reviewing the DCWater budget cost share and expenditure projections but does not expect significant changes in the numbers based on its initial review.

Potomac WFP Consent Decree Program (PDF on ©22)

This project was created five years ago to provide for the short- and long-term work required as a result of the Potomac Water Filtration Plant Consent Decree entered by the U.S. District Court on April 15, 2016. The Consent Decree requires WSSCWATER to pursue both short-term operational and capital improvements to significantly reduce the pounds per day of solids discharged to the Potomac River and long-term improvements to meet future MDE permit requirements.

The Consent Decree required WSSCWATER to submit a final audit report and draft long-term upgrade plan to MDE by January 1, 2017. The audit report identified current conditions and recommended short-term operational and capital improvements (capped at \$8.5 million in the Consent Decree) to significantly reduce solids discharged by April 1, 2020. The required short-term upgrades are scheduled for completion by the April 2020 deadline. This work will result in a treatment capacity of approximately 144,000 dry pounds per day. As noted last year, this would still leave an estimated 15 days per year when this capacity is exceeded (based on 2003 to 2015 data). The short-term improvements were developed in

the context of the future long-term strategies (with the short-term measures being either necessary or complementary to the long-term efforts).

The Long-Term Upgrade Plan identified capital costs ranging from \$165 million to \$461 million to meet the Consent Decree requirements by the deadline of January 1, 2026. The consultant did a detailed analysis of three options (after screening out numerous others), all of which involve various improvements and new facilities at the current plant. Each of the three options was costed out at treatment capacities of 301,000 dry pounds per day (addressing the 99th percentile of solids) and 688,000 dry pounds per day (which would address the peak solids volumes experienced in all storms in the historical record since 2003). At the 99th percentile, one could expect one or two basin-wide storms per year that may exceed this capacity. Ultimately, WSSCWATER chose the option with the lowest net present cost (looking at total estimated operating and maintenance costs and capital costs) at both treatment levels.

In late 2017, the Maryland Department of the Environment (MDE) approved WSSCWATER's short-term plan but rejected the long-term plan, noting that treating to the 99th percentile would still result in an estimated three days per year of unauthorized discharges. MDE noted that it would approve a plan that addressed solids to the 99.9th percentile, since that would result in no expected unauthorized discharges during the year. However, the additional capital cost to get from the 99th to the 99.9th percentile would cost an additional \$35 to \$40 million. In September 2018, WSSCWATER transmitted its revised Long-Term Upgrade Plan that expanded the work to get to the 99.9th percentile. The additional costs for this expanded effort were approved as part of the FY21-26 project expenditures. The long-term plan improvements are currently in design with completion scheduled to meet the deadline of January 2026.

The FY22-27 CIP assumes an increase of \$14.7 million (+9.2 percent) based on construction costs previously beyond six-years moving into FY27. The total project cost is only up about 0.5 percent.

Large Diameter Water Pipe & Large Valve Rehabilitation Program (\$446.2 million over six years, PDF on ©23-24)

This project funds the rehabilitation of transmission mains (pipes greater than 16 inches in diameter) in lengths of 100 feet or greater. WSSCWATER's transmission system (like the smaller water distribution lines) is aging, and WSSCWATER moved to a more systematic inspection, repair, and replacement approach as a result. The inspections, fiber optic monitoring, and repairs on shorter sections of pipe remain in the Operating Budget.

WSSCWATER has approximately 1,061 miles of large diameter water main (mains ranging in size from 16 inches to 96 inches in diameter), of which 350 miles are pre-cast concrete cylinder pipe (PCCP), 350 miles are cast iron, 326 miles are ductile iron, and 35 miles are steel. PCCP pipe is the highest priority for inspection, monitoring, repair, and replacement because PCCP pipe can fail in a more catastrophic manner than pipes made out of other materials, such as iron or steel. Both counties have experienced large PCCP pipe failures. Montgomery County experienced large pipe failures in June 2008 (Derwood), December 2008 (River Road), and March 2013 (Chevy Chase Lake).

This project also includes WSSCWATER's large valve inspection and repair program.. WSSCWATER estimates that it has nearly 1,500 large diameter (greater than 16-inch diameter) valves.

The proposed six-year cost for this project is \$473 million (an increase of \$26.7 million or 6.0 percent). WSSCWATER has noted the increase in the project primarily being due to several changes including:

- The reallocation of about \$11 million in costs from the Other Capital Programs projects. That project is down \$18.8 million in the six-year period).
- The remainder of the increase is mostly due to cost increases for ferrous pipe replacement (\$7.6 million) and large valve replacements (\$8.0 million). The ferrous pipe replacement increase results from changes to the estimated cost per mile for paving based on recent experience. The increase for large valve replacements is due to changes to the unit cost estimates for construction and paving based on the design documents for the first replacements under this program.

WSSCWATER’s Large Diameter Water Pipe Rehabilitation Program continues to be high priority for Montgomery County (and for Prince George’s County), given the substantial impacts when these large pipes fail (especially PCCP).

Trunk Sewer Reconstruction Program (PDF on ©35)

This project was added over a decade ago to address Consent Decree requirements to eliminate sanitary sewer overflows (SSOs). Under the terms of the Consent Decree (signed in December 2005 with the United States Environmental Protection Agency (EPA), the State of Maryland, and four conservation groups), WSSCWATER expects to spend an estimated \$2.1 billion across 24 sewer-shed basins with over 7,000 assets over a 1,000 square mile area. Rehabilitation work was supposed to be completed within 10 years (2015). Because of delays in acquiring environmental permits, WSSCWATER received a deadline extension to 2022 for program completion. All basins had work either completed or underway by the 2015 deadline. For more information on this project please see WSSCWATER Staff’s January [SSO Consent Decree Briefing](#) to the Commissioners.

Proposed FY22-27 expenditures for this project are \$312.4 million (an increase of \$34.4 million and 12.4 percent) from the Approved total of \$277.9 million).

The six-year increase in this project is due to the inclusion of the holistic rehabilitation work in the Piscataway Basin in the FY22-27 CIP. The six-year total cost for the Piscataway Basin capital work is about \$39.0 million. This increase was partially offset by minor decreases in other work activities.

Piscataway WRRF Bio-Energy Project (PDF on ©33-34)

This project represents WSSCWATER’s long-term solution to address its biosolids disposal. This project provides for a comprehensive design, construction, maintenance, monitoring, and verification effort to generate approximately 2.0 MW of electricity and reduce biosolids by 50 to 55 percent of current output through an anaerobic digestion/Combined Heat & Power process. This project is expected to provide energy savings, reduced biosolids disposal costs, and reduced chemical costs totaling about \$3.7 million in savings per year. The project will also avoid the need for capital work at other facilities estimated at \$67.4 million. The project is sized for WSSCWATER biosolids with future accommodation of fats, oils, and grease (FOG). The project is scheduled for completion in late 2024.

Proposed FY22-27 expenditures for this project are \$222.6 million, an increase of \$10.3 million (or 4.9 percent). Costs have increased in this project over the past several years based on construction industry escalations for labor and materials.

The site demolition and underground utility work is complete and the concrete foundations for the new anaerobic digester tanks and new solids handling building have been poured. WSSCWATER expects to close on the second MDE Low-Interest Loan for \$85M before the end of March.

“Information Only” Projects (see ©38-44)

Table 5: Information-Only Projects

Project	Six-Year Total	FY22	FY23	FY24	FY25	FY26	FY27
Information Only Projects							
Water Reconstruction	726,526	83,563	98,645	112,801	128,392	143,484	159,641
Sewer Reconstruction	405,402	71,083	69,344	63,335	65,236	67,195	69,209
Laboratory Division Building Expansion	19,884	9,482	9,680	722	-	-	-
Engineering Support Program	116,000	18,000	18,000	20,000	20,000	20,000	20,000
Energy Performance	12,077	3,576	4,376	2,750	1,375	-	-
Water Storage Facility Rehab Program	32,000	3,000	4,000	5,000	6,000	7,000	7,000
Speciality Valve Vault Rehab Program	5,994	2,252	1,248	1,302	457	335	400
Advanced Metering Infrastructure*	-	-	-	-	-	-	-
Other Capital Programs	403,050	53,738	54,818	63,069	71,319	78,920	81,186
D'Arcy Park North Relief Sewer	575	290	285	-	-	-	-
Information Only Projects Total	1,721,508	244,984	260,396	268,979	292,779	316,934	337,436

*reflects mid-cycle update zeroing out project

Water Reconstruction Program (PDF on ©39)

This “Information Only” project funds small water main replacement throughout the WSSCWATER service area. The project does not include any funding for “major capital projects” as defined in state law. The estimated six-year cost is \$726.5 million, which reflects an increase of \$75.3 million or -11.6 percent from the FY21-26 six-year total of \$651.2 million.

Over the past decade, WSSCWATER had ramped up the annual number of miles of pipe to be replaced. Beginning with the Approved FY10-15 CIP, budgeted and actual replacement miles began to increase steadily. The budget level for FY10 was 27 miles per year. The following years saw increases, with 55 miles of replacement budgeted in FY18 (although 48 miles were completed). For FY19, WSSCWATER had 45 miles budgeted. Cuts in this program were approved for FY19 (and projected in FY20 through FY24) to help reduce debt service impacts on the WSSCWATER Operating Budget.

After two straight years of budgeting for 25 miles to be replaced. WSSCWATER is assuming to bump this up to 31 miles per year in FY22. While an increase, this is still far below WSSC’s previous goal of a 100-year replacement cycle (or about 50 miles per year).

WSSCWATER has noted that it continues to make investments in new technologies (such as pressure monitoring systems, and satellite and other leak detection tools). WSSCWATER had also done a substantial amount of catch-up in this project over the past decade. Combined with these new technologies, a longer replacement cycle (at least in the short-term) appears reasonable.

Sewer Reconstruction Program (PDF on ©40)

This “Information Only” project funds comprehensive sewer system evaluations and rehabilitation programs. WSSCWATER has approximately 5,500 miles of sewer pipe. The project continues to assume the rehabilitation of about 20 miles of sewer main per year.

The six-year cost is \$405.4 million , which is up \$33.2 million (8.9 percent) from the FY21-26 level of \$372.2 million. The proposed costs reflect the current plan for the completion of Phase 2 Consent Decree work. As with the Water Reconstruction Program above, the sewer reconstruction project does not include funding for “major capital projects” as defined in state law. Capital-size projects that are identified in this project become stand-alone projects or are dealt with in the Trunk Sewer Rehabilitation project.

As with the Trunk Sewer Reconstruction Program, the six-year increase is due to the inclusion of the holistic rehabilitation work in the Piscataway Basin in the FYs 2022-2027 CIP. The six-year total cost for the Piscataway Basin capital work in this project is about \$38.1 million. This increase was partially offset by decreases in other work activities.

Advanced Metering Infrastructure (Original Proposed PDF on ©43, Mid-Cycle Update PDF on ©9)

This project provides for the implementation of a system-wide automated meter reading infrastructure system to maximize customer service and operational efficiency.

The customer benefits of such a system include monthly billings based on actual water usage, more rapid identification of leaks, and the ability of the customer to better monitor water usage. For WSSCWATER, the elimination of the need for manual reading of all customer meters presents significant cost savings. WSSCWATER would also gain the capability to do more and better analysis of actual water usage and potential future billing structures.

The Original Proposed FY22-27 cost was \$98.4 million, up \$2.8 million (or 2.9 percent) from the approved six-year total of \$95.6 million.

On November 18, 2020, the WSSCWATER Commissioners voted to suspend implementation of AMI indefinitely, given current financial uncertainties and the ongoing pandemic. The project was funded with WSSC Bonds and the cancelling of the project results in a reduction in the Proposed FY22-27 CIP of \$98.4 million.

A cost-benefit analysis from last fall for the project showed a doubling of costs from what is reflected in the Approved CIP (primarily as a result of accelerating the purchase of new AMI compatible meters). This meter replacement acceleration was included in the cost-benefit analysis because WSSC’s meter inventory has aged substantially since the last study was done in 2011, it would provide a more uniform meter inventory, and because broader meter replacement would capture substantially more project payback. This payback would come in the form of additional rate revenue since older meters tend to underread water usage. For more information on the cost-benefit analysis ,please see the [WSSCWATER Staff Presentation to the Commissioners from November 2020](#).

WSSCWATER and the Council had also received some correspondence from WSSCWATER customers concerned about the potential health effects of the smart meter technology (specifically radio

frequency or RF exposure) as well as privacy issues. WSSC did a substantial amount of review of the research on RF exposure and also hired an expert to review the issue in the context of WSSC's AMI scope. This information is available at: <https://www.wsscwater.com/AMI>.

With the project now suspended, the question is where does WSSC go from here? The AMI project includes some substantial operational benefits as well as an 11-year payback. WSSC could capture much of the project payback by pursuing an accelerated meter replacement program (irrespective of whether AMI moves forward). However, this meter acceleration without AMI would not provide the other operational benefits noted earlier.

WSSC has noted that it is looking at various initiatives to address the aging, unreliability, and inaccuracy of meters and improve operational efficiencies of meter reading including:

- *Map the aging meter population across the distribution system to establish a formal robust replacement plan. Current replacements are done when there is a billing dispute or known meter problem.*
- *Prioritize and increase large commercial meter testing, repair, and replacement*
- *Gage the impacts of standardizing inventory and equipment. WSSC currently has over 8 different meter manufacturers which means maintaining meter reading equipment for all 8 manufacturers.*
- *Review WSSC's existing AMR infrastructure and determine the potential for upgrades.*
- *Research opportunities to partner with a smart city and piggyback on their network for meter reading*
- *Research the feasibility of using in-home internet services to read transmissions*

Council Staff is supportive of WSSCWATER's efforts to improve its automated meter reading capabilities and secure the potential savings and operational efficiencies identified in its AMI research. Council Staff recommends that WSSCWATER compare these potential alternatives to AMI in terms of costs, savings, revenue generation, and operational benefits over time. This analysis can then be brought back to the Commission and the two Councils for further discussion and action.

Council Staff Recommendation

Council Staff recommends preliminary approval of WSSCWATER's Proposed FY22-27 Capital Improvements Program (CIP). Final action on the WSSCWATER CIP and Operating Budget will occur at the Bi-County meeting in Mid-May.

Attachments

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OFFICE OF THE COUNTY EXECUTIVE
ROCKVILLE, MARYLAND 20850

Marc Elrich
County Executive

M E M O R A N D U M

January 15, 2021

TO: Tom Hucker, President, County Council

FROM: Marc Elrich, County Executive *Marc Elrich*

SUBJECT: Washington Suburban Sanitary Commission (WSSC)
FY22-27 Capital Improvements Program (CIP) and FY22 CIP Expenditures

I am pleased to transmit to you, in accordance with State law, my recommended FY22-27 CIP and FY22 CIP expenditures for the Washington Suburban Sanitary Commission (WSSC Water).

WSSC Water's Proposed FY22-27 CIP totals \$2.085 billion, of which \$1.745 billion is for Montgomery County and bi-county projects. The latter figure represents a \$75.5 million (4.5%) increase from the six-year total for Montgomery County and bi-county projects in the Commission's approved FY21-26 CIP. The majority of this net increase (\$75.5 million) is due to the deferral of projects from FY20 and FY21 into the six-year period due to COVID impacts and a new \$31 million project replacing a critical pump station's electrical infrastructure and increases to the Piscataway Bioenergy Project.

Spending Control Limits

I concurred with the unanimous recommendation of the Montgomery County Council Transportation and Environment Committee, which the Council adopted, on FY22 Spending Control Limits that included a Maximum Average Rate Increase of 5.9 percent for the FY22 operating and capital budgets. This rate increase is 0.1 percentage points lower than the 6.0 percent average rate increase approved for FY21.

Under the 5.9 percent rate increase allowed by the Council adopted Spending Control Limits, WSSC Water will have to make \$3.9 million of unspecified reductions to its operating budget. According to WSSC Water staff, reductions are unlikely to impact capital spending. If CIP reductions are required, I strongly urge the Commission to ensure that the following essential programs are preserved:

Tom Hucker, President, County Council
January 15, 2021
Page 2

- The reconstruction and rehabilitation of WSSC Water's aging small diameter water and sewer mains;
- The continuation of the large valve replacement program; and
- Other critical infrastructure repairs associated with our aging water and sewer system.

These initiatives, which are critical to the rehabilitation and renewal of WSSC Water's aging infrastructure, must proceed as planned.

New Projects

I support the four new projects entering the Montgomery and bi-county CIP program this year:

- Two Montgomery County water projects, Pleasant's Property Water Main Extension and Viva White Oak Water Main, which will provide water access to serve these communities. These projects are funded through the System Development Charge.
- One Montgomery County sewer project, Viva White Oak Sewer Main, which will provide sewer access to serve this community. This project is funded through the System Development Charge.
- One Bi-county sewer project, Anacostia #2 Waste Water Pump Station Upgrades, which will replace, rehabilitate, or update the electrical equipment and infrastructure from the station's original construction in the late 1970s.

Customer Resource Building

The Customer Resource Building project in the Information Only portion of the CIP has been moved to the Close-Out list. WSSC Water declined to purchase this facility due to the continuing economic impacts and uncertainty caused by the COVID pandemic.

Advanced Metering Infrastructure

WSSC Water has also suspended the Advanced Metering Infrastructure project, in the Information Only Portion of the CIP, due to the continuation economic impacts and uncertainty caused by the COVID pandemic. I expect WSSC Water will propose a different use for the \$98.4 million allocated for this project when we receive an updated FY22-27 Proposed CIP in the Spring of 2021.

Tom Hucker, President, County Council
January 15, 2021
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Piscataway Bioenergy

The total cost of the Piscataway Bioenergy project has increased by \$46 million, or 16.4 percent, from the FY21-26 Adopted CIP (\$281.2 million) to the FY22-27 Proposed CIP (\$327.2 million). Given the significant increases to this project, I strongly encourage WSSC Water to seek out support for this project from any future federal infrastructure or climate change mitigation program, as proposed by the incoming Biden Administration.

I understand that WSSC Water may continue to examine adjustments to the CIP program. I encourage the Commission to continue to prioritize critical infrastructure projects and to strike a balance between making the investments to ensure the long-term stability of our utility infrastructure and the impact on ratepayers.

As always, Executive Branch staff are available to assist you in your deliberations. I look forward to discussing with you any policy matters or major resource allocation issues that arise this spring.

ME:rpm

c: Richard S. Madaleno, Chief Administrative Officer
Carla A. Reid, General Manager/CEO, Washington Suburban Sanitary Commission
Patricia Colihan, Chief Financial Officer, Washington Suburban Sanitary Commission
Marlene Michaelson, Executive Director, Montgomery County Council
County Council Members
Adam Ortiz, Director, Department of Environmental Protection
Jennifer Bryant, Acting Director, Office of Management and Budget
Mary Beck, Capital Budget Manager, Office of Management and Budget
Stan Edwards, Department of Environmental Protection

Attachments: Agency Request Compared to Executive Recommended

**FY 22-27 EXECUTIVE RECOMMENDED CIP
Agency Request Compared to Executive Recommended
WSSC**

Project Name (Project Number)	Agency Request	Executive Recommended
Sewerage Bi-County		
Anacostia #2 WWPS Upgrades (P382204)	10,927	10,927
Blue Plains WWTP: Biosolids Mgmt PT2 (P954812)	15,321	15,321
Blue Plains WWTP: Enhanced Nutrient Removal (P083800)	116	116
Blue Plains WWTP: Liquid Train PT 2 (P954811)	18,847	18,847
Blue Plains WWTP: Plant Wide Projects (P023805)	9,891	9,891
Blue Plains: Pipelines and Appurtenances (P113804)	10,460	10,460
Land & Rights-of-Way Acquisition - Bi-County (S) (P163800)	495	495
Piscataway WRRF Bio-Energy Project (P063808)	97,864	97,864
Septage Discharge Facility Planning & Implement. (P103802)	12,461	12,461
Trunk Sewer Reconstruction Program (P113805)	58,565	58,565
Sewerage Montgomery County		
Damascus Town Center WWPS Replacement (P382002)	672	672
Milestone Center Sewer Main (P173804)	538	538
Shady Grove Neighborhood Center (P382102)	633	633
Shady Grove Station Sewer Augmentation (P063806)	5,960	5,960
Spring Gardens WWPS Replacement (P382003)	110	110
Viva White Oak Sewer Main (P382203)	599	599
Water Bi-County		
Land & Rights-of-Way Acquisition - Bi-County (P983857)	1,100	1,100
Large Diameter Water Pipe Rehabilitation Program (P113803)	61,681	61,681
Patuxent Raw Water Pipeline (P063804)	9,515	9,515
Potomac WFP Consent Decree Program (P173801)	10,500	10,500
Potomac WFP Main Zone Pipeline (P133800)	913	913
Potomac WFP Pre-Filter Chlorination & Air Scour Improvements (P143803)	143	143
Potomac WFP Submerged Channel Intake (P033812)	-	-
Regional Water Supply Resiliency (P382101)	4,120	4,120
Water Montgomery County		
Pleasant's Property Water Main Extension (P382201)	1,786	1,786
Viva White Oak Water Main (P382202)	712	712
White Oak Water Mains Augmentation (P382001)	366	366

SPENDING AFFORDABILITY AND LONG-RANGE FINANCIAL PLAN

In May 1993, the Montgomery and Prince George's County Councils created the Bi-County Working Group on WSSC Spending Controls (Working Group) to review WSSC Water's finances and recommend spending control limits. The Working Group's January 1994 report recommended "the creation of a spending affordability process that requires the Counties to set annual ceilings on the WSSC's rates and debt (debt in this context means both bonded indebtedness and debt service), and then place corresponding limits on the size of the capital and operating budgets of the Commission."

Each year, the spending affordability process focuses debate, analysis and evaluation on balancing affordability considerations against the provision of resources necessary to serve existing customers (including infrastructure replacement/rehabilitation), meet environmental mandates and maintain operating and capital budgets and debt service at prudent and sustainable levels.

The agency has submitted an annual budget which generally conforms to the Spending Affordability Guidelines (SAG) established by both County governments every year since 1994.

A long-range financial plan complements the spending affordability process by utilizing approved SAG limits to forecast outer year implications and strategize potential problems and opportunities which may impact WSSC Water's work program. The plan is the agency's roadmap and reflects financial strategic intent, as well as imposing discipline by highlighting the cumulative effects of decisions. Addressing issues earlier not only protects WSSC Water's long-term financial condition but also ensures that necessary actions and/or changes are properly communicated to our customers, County Councils and other stakeholders.

MAJOR ASSUMPTIONS, WORKLOAD INDICES AND DEMAND PROJECTIONS

Below is a summary of the budget outcomes from the FY 2022 SAG process.

- Fund Balance – It was assumed for the purpose of preparing the FY 2022 Proposed Budget that, at the end of FY 2021, accumulated net revenues for the water and sewer operating funds would total \$162.3 million. For FY 2022, the total water and sewer operating revenues are \$828.5 million; therefore, at least \$124.3 million will be held in accumulated net revenues in adherence to WSSC Water's 15% reserve policy (see Fiscal Guidelines page 6-1).
- Revenues – The estimated FY 2022 revenues from water consumption and sewer use charges are \$318.9 million and \$398.9 million, respectively. Water production is assumed to be 163.0 million gallons per day (MGD) in FY 2022 and water consumption is projected to increase from 122.1 MGD in FY 2021 to 126.4 MGD in FY 2022.
- Capital Budget – The capital budget includes expenditure estimates for all projects for which work is reasonably expected to be accomplished. This provides management with maximum flexibility to proceed on the many and diverse projects approved each year in the budget. The FY 2022 Capital Budget is \$703.8 million.
- Debt Service – The debt service estimates for FY 2022 assume that \$208.5 million in Water Supply bonds and \$201.2 million in Sewage Disposal bonds will be issued in FY 2022, in addition to repayment of existing debt. The water and sewer issues will be 30-year bonds with an estimated 4.0% average interest rate.
- Reconstruction Debt Service Offset (REDO) – For FY 2022, \$6.0 million will be transferred from the General Bond Debt Service Fund to the Water and Sewer Operating Funds. The transfer is made to help defray the debt service on funds borrowed to finance water and sewer systems reconstruction activities.
- Workforce and Compensation – Four additional authorized workyears are included. Funding for compensation enhancements is limited due to the very challenging fiscal environment.

MAJOR ASSUMPTIONS, WORKLOAD INDICES AND DEMAND PROJECTIONS (Continued)

The following table presents data used during the SAG process to develop the FY 2022 Proposed Budget.

Workload Data	Actual					Projected	
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Water and Sewer Combined Rate Increase (%)	1.0	3.0	3.5	4.5	5.0	6.0	5.9
Population to be Served (000s)	1,774	1,785	1,777	1,801	1,810	1,819	1,828
Customer Accounts (000s): *	N/A	460	460	461	464	475	475
Residential (%)	N/A	95.6	95.7	95.5	95.4	95.4	95.4
Commercial and Industrial (%)	N/A	3.7	3.7	3.7	3.8	3.8	3.8
Government and Other (%)	N/A	0.7	0.6	0.8	0.8	0.8	0.8
Water Program:							
Water Production (Average MGD)	164.2	163.1	163.9	161.7	162.6	164.0	163.0
Water Consumption (Average MGD)	123.3	130.5	126.6	123.2	128.6	122.1	126.4
Water Mains Maintained (Miles)	5,586	5,647	5,768	5,816	5,844	5,939	6,000
Water House Connections Maintained (000s)	457	461	465	469	471	474	476
Sewer Program:							
Sewage Treated (Average MGD)	184.8	179.0	172.8	218.7	188.3	197.2	192.1
Sewer Use (Average MGD)	113.3	118.6	116.3	113.3	116.0	116.7	117.5
Sewer Mains Maintained (Miles)	5,451	5,549	5,578	5,604	5,624	5,687	5,728
Sewer House Connections Maintained (000s)	432	435	438	441	443	445	447
House Connections added:							
Water	4,389	3,498	2,931	3,480	2,410	2,600	2,800
Sewer	3,310	2,997	2,500	3,152	1,868	2,200	2,400
New Water & Sewer Bond & Notes Debt Issues (\$ in millions)	535	455	459	390	234	410	410
Average Annual Interest Rate for New Bond Issuance (%)	3.3	4.3	4.0	4.2	3.2	5.0	4.0

* Beginning with the FY 2022 budget, the data source was changed to WSSC Water's new Customer-to-Meter (C2M) customer billing system and prior fiscal years have been restated.

LONG-RANGE FINANCIAL PLAN FOR WATER AND SEWER OPERATING FUNDS

(\$ in thousands)	FY 2021 Approved	FY 2022 Proposed	FY 2023 Projected	FY 2024 Projected	FY 2025 Projected	FY 2026 Projected	FY 2027 Projected
New Water and Sewer Debt Issues	\$ 409,922	\$ 409,704	\$ 415,548	\$ 356,388	\$ 350,000	\$ 350,000	\$ 350,000
Water and Sewer Combined Rate Increase (Average)	6.0 %	5.9 %	8.0 %	8.0 %	7.0 %	6.5 %	6.0 %
Operating Revenues							
Consumption Charges	\$ 689,210	\$ 717,803	\$ 765,097	\$ 827,329	\$ 886,354	\$ 945,173	\$ 1,003,177
Account Maintenance Fees	32,360	31,866	31,930	31,994	32,058	32,122	32,186
Infrastructure Investment Fees	39,410	38,808	38,886	38,963	39,041	39,119	39,198
Plumbing and Inspection Fees	14,470	14,350	14,781	15,224	15,681	16,151	16,636
Rockville Sewer Use	3,000	3,100	3,100	3,100	3,100	3,100	3,100
Miscellaneous	20,801	21,600	21,816	22,034	22,255	22,477	22,702
Interest Income	10,000	1,000	1,000	1,500	2,000	2,500	3,000
Total Operating Revenues	\$ 809,251	\$ 828,527	\$ 876,610	\$ 940,144	\$ 1,000,489	\$ 1,060,642	\$ 1,119,999
Other Credits and Transfers							
Use of Fund Balance	8,000	-	-	-	-	-	-
Reconstruction Debt Service Offset	9,500	6,000	4,000	2,000	-	-	-
SDC Debt Service Offset	5,772	5,772	5,772	5,772	5,772	5,772	5,748
Premium Transfer	1,500	-	-	-	-	-	-
Underwriters Discount Transfer	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Total Funds Available	\$ 836,023	\$ 842,299	\$ 888,382	\$ 949,916	\$ 1,008,261	\$ 1,068,414	\$ 1,127,747
Operating Expenses							
Salaries & Wages	127,726	133,039	138,813	145,059	151,587	158,408	165,537
Heat, Light & Power	20,423	18,493	19,233	20,002	19,191	18,413	19,278
Regional Sewage Disposal	58,000	59,160	60,343	61,550	62,781	64,037	65,317
All Other	284,993	294,977	301,084	307,105	313,247	319,512	325,903
Total Operating Expenses	\$ 491,142	\$ 505,669	\$ 519,473	\$ 533,716	\$ 546,806	\$ 560,370	\$ 576,035
Debt Service							
Bonds and Notes Principal and Interest	313,865	309,045	328,519	352,154	377,451	398,406	418,476
Other Transfers and Adjustments							
Additional and Reinstated	-	-	-	-	5,000	5,000	20,000
PAYGO	31,016	27,585	31,016	44,000	65,000	80,000	80,000
Total Expenses	\$ 836,023	\$ 842,299	\$ 879,008	\$ 929,870	\$ 994,257	\$ 1,043,776	\$ 1,094,511
Net Revenue (Loss)	\$ -	\$ -	\$ 9,374	\$ 20,046	\$ 14,004	\$ 24,638	\$ 33,236
Beginning Fund Balance - July 1							
Net Increase (Decrease) in Fund Balance	\$ 147,605	\$ 162,291	\$ 162,291	\$ 171,665	\$ 191,711	\$ 205,715	\$ 230,353
Adjustments	-	-	9,374	20,046	14,004	24,638	33,236
Ending Fund Balance - June 30	\$ 14,686	-	-	-	-	-	-
Ending Fund Balance - June 30	\$ 162,291	\$ 162,291	\$ 171,665	\$ 191,711	\$ 205,715	\$ 230,353	\$ 263,589
Debt Service Coverage (1.10 - 1.25 is Target)	1.01	1.04	1.09	1.15	1.19	1.24	1.25
Debt Service as a % of Total Expenses (< 40% is Target)	37.5 %	36.7 %	37.4 %	37.9 %	38.0 %	38.2 %	38.2 %
End Fund Balance as a % of Operating Revenue (min. 15%)	20.1 %	19.6 %	19.6 %	20.4 %	20.6 %	21.7 %	23.5 %
Days Operating Reserve-on-Hand (75-105 Days is Target)	70.9	70.3	71.3	75.3	75.5	80.6	87.9
Total Workyears (All Funds)	1,776	1,786	1,786	1,786	1,786	1,786	1,786

Assumptions:

- The FYs 2023-2027 projections reflect WSSC Water's multi-year forecast and assumptions. The projected expenditures, revenues and fund balances for these years may be based on changes to rates, fees, usage, inflation, future labor agreements and other factors not assumed in the FY 2022 Proposed Budget. Data excludes General Construction Debt Service and General Construction Bonds.
- Debt service for bonds and notes includes Maryland Water Quality Bonds and interfund debt service transfers.
- Adjustments to Consumption Charges for Water and Sewer Combined Rate Increase assumes rate increase is in effect for 12 months.
- Debt Service Coverage is Operating Revenues less Operating Expenses (excluding Debt Service and PAYGO) divided by the debt service on bonds and notes.
- Adjustments shown for FY 2021 reflect prior period adjustment and the COVID-19 savings plan.

COMMISSIONERS
Howard A. Denis, Chair
Keith E. Bell, Vice Chair
Fausto R. Bayonet
T. Eloise Foster
Chris Lawson
Sandra L. Thompson

GENERAL MANAGER
Carla A. Reid



February 17, 2021

The Honorable Tom Hucker
President
Montgomery County Council
Stella Werner Office Building
100 Maryland Avenue
Rockville, MD 20850

Dear Council President Hucker:

The purpose of this letter is to transmit a mid-cycle update to WSSC Water's Proposed Fiscal Years 2022-2027 Capital Improvements Program transmitted on September 16, 2020. We hereby request you incorporate this change into your annual comments, recommendations and amendments to the program. The mid-cycle update provides for revised expenditure schedules for certain projects in the Proposed CIP to align them with the revised capital program incorporated into the Fiscal Year 2022 Proposed Budget.

Due to the decision to suspend project A-109.00, Advanced Metering Infrastructure, the six-year CIP will be reduced by \$98.4 million and the FY 22 capital budget will be reduced by \$21.3 million.

Enclosed for your information is a revised project description form for the project.

Sincerely,

DocuSigned by:
Howard Denis
7F6E947631D5413...
Howard A. Denis
Chairman

Enclosure

cc: Marlene Michaelson, Council Administrator
Montgomery County Council

Keith Levchenko, Legislative Analyst
Montgomery County Council

Advanced Metering Infrastructure

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A - 000109.00		Closed

PDF Date	October 1, 2020
Date Revised	February 17, 2021

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	1,557	1,157	400								
Land											
Construction											
Other											
Total	1,557	1,157	400								

C. Funding Schedule (000's)

WSSC Bonds	1,557	1,157	400								
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D. Description & Justification

DESCRIPTION

This project provides for the implementation of a system-wide automated meter reading infrastructure system (System), new comprehensive customer billing system, new data analysis software, and software integration with WSSC Water's data management system. All meters will be replaced and include new Meter Interface Units with internal antenna capable of obtaining and transmitting the meter register reading. All readings will be collected remotely by either a fixed or cellular communication network.

JUSTIFICATION

The System will be required to obtain accurate register readings from a variety of water meters located in indoor, pit-set, and underground vault settings, and be universally compatible with the existing meters in the distribution system.
 Dial Outbound AMR Trial Final Report, Metering Services, Inc. (1990); An Economic Evaluation of AMR for WSSC, Marilyn Harrington (1992); Cost of Meter Reading Study, Marilyn Harrington (2000); The WSSC Experience with Radio-Frequency AMR on Commercial & Industrial Meters (2002); Radio Frequency Solution for Meter Reading (2003); AMR Phase I (July 2005); Customer Care Team Departmental Action Item#20 - AMR Installation (2007); Advanced Metering Infrastructure Study, R.W. Beck (March 2011); 2020 AMI Cost-Benefit Analysis, Arcadis (October 2020).

COST CHANGE

At their November 18, 2020 meeting the Commissioners voted to suspend the project indefinitely.

OTHER

The project scope has changed to reflect the replacement of all meters. AMI will improve both customer service and operational efficiency. The expected results include: Monthly billing based on actual meter readings. This would reduce bill size to help customers stay current with their payments, help customers develop a greater awareness of their water consumption, and ensure that problems such as excessive consumption due to leaks are addressed more quickly; Active notification of customers with abnormal consumption that might signify leaks before they get high consumption bills; Reduced customer calls; Reduced field investigation visits; Provide opportunities to employ more sophisticated rate structures; Analysis of individual consumption patterns to detect meters suspected of wearing out, or perform meter sizing analysis to ensure that large meters are optimally sized; Monitoring of individual consumption to perform precise, targeted conservation enforcement during droughts; Opportunities to improve the monitoring and operation of the distribution system, in order to detect and reduce non-revenue water. The expenditure estimate is based upon the October 2020 analysis. These estimates could change based upon the latest technology available at the time the project is bid. The AMI project schedule was delayed until the implementation of the new customer billing software, Customer2Meter (C2M) was complete. Due to the COVID-19 pandemic, planned public meetings were suspended and the project was postponed. At their November 18, 2020 meeting the Commissioners voted to suspend the project indefinitely.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government
 Coordinating Projects: Not Applicable

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

F. Approval and Expenditure Data (000's)

Date First in Program		FY 13
Date First Approved		FY 13
Initial Cost Estimate		86,000
Cost Estimate Last FY		99,603
Present Cost Estimate		1,557
Approved Request Last FY		20,687
Total Expense & Encumbrances		1,157
Approval Request Year 1		

G. Status Information

Land Status		Not Applicable
Project Phase		Planning
Percent Complete		80 %
Estimated Completion Date		TBD

Growth		
System Improvement		100%
Environmental Regulation		
Population Served		1,800,000
Capacity		

H. Map

MAP NOT AVAILABLE

Funding Sources

The projects included in this Combined Program are funded primarily by issuance of water and sewer rate-supported debt (WSSC Bonds). To a lesser degree, projects may also be funded by the following:

- State Grants – a share of the support provided on a local level. The State of Maryland provides funding under a separate grants program for enhanced nutrient removal at existing wastewater treatment plants (water resource recovery facilities) and for the rehabilitation of sewer mains as part of the Chesapeake Bay Program;
- Federal Grants - Department of Energy grants related to the Energy Performance Program and Piscataway Bioenergy projects to promote and develop green energy sources;
- Local Government Contributions – payments to WSSC Water for co-use of regional facilities, or funding provided by County governments for projects they are sponsoring;
- PAYGO – when budgeted, the practice of using current revenues to the extent practical to help fund the capital program, thereby reducing the need for debt financing;
- SDC – anticipated revenue from the System Development Charge; and
- Contribution/Other – projects funded by Applicants for growth projects where the County Councils have directed that no WSSC Water rate-supported debt be used to pay for the project.

(Please refer to Figure 3 near the end of this section, which displays the funding allocations for the major funding sources.)

Funding Growth

The portion of the Combined Program needed to accommodate growth is approximately \$129.9 million, which equals 3% of the six-year total expenditures, and \$48.5 million or 7% of the FY'22 budget. The funding sources for this part of the program are SDC revenues and payments by Applicants. In the event that growth costs are greater than the income generated by growth funding sources, either SDC supported or rate-supported water/sewer bonds may be used to close any gap.

The Maryland General Assembly, in 1993, first approved legislation authorizing the Montgomery and Prince George's County Councils to establish, and WSSC Water to impose, a System Development Charge. This is a charge on new development to pay for that part of the CIP needed to accommodate growth in WSSC Water's customer base. In accordance with the enabling legislation,

the Councils approved, and WSSC Water began to phase in, this charge beginning in FY'94. The SDC was approved at the maximum rate of \$160 per fixture unit by Commission Resolution No. 95-1457, adopted May 24, 1995, and became effective July 1, 1995. In the 1998 legislative session, the General Assembly modified the charge by passage of House Bill 832 setting the fee at \$200 per fixture unit with a provision for annual inflation adjustments. Subsequent resolutions have established a process for approving partial and full exemptions for elderly housing and biotechnology properties, as well as exemptions for properties in designated economic revitalization areas and properties used primarily for recreational and educational programs and services to youth. For FY'21, the Montgomery County and Prince George's Councils increased the maximum allowable charge by the 1.2% increase in the CPI-U but maintained the current rate of \$203 per fixture unit. The Commissioners adopted the Councils' actions by Resolution Number 2020-2253 dated June 17, 2020. Policies and other information associated with the SDC are included in this document in Appendices A through D.

It is estimated that there will be an overall growth funding surplus of \$3.7 million over the six-year program period. The gap or surplus between growth funding sources (SDC, developer contributions, and Applicant payments under System Extension Permits) and the estimated growth-related expenditures vary over the six-year period. If growth-related expenditures were to exceed the available SDC account balance in any given fiscal year, it is anticipated that new SDC-supported debt would be issued to cover this temporary gap. The debt will be repaid through future SDC collections, as allowed by State Law. Further, it is currently anticipated that no significant additional growth projects will evolve in the later years of the six-year period. (A listing of SDC-eligible projects is included in Appendix D.)

An estimate of the gap or surplus for each fiscal year is presented in the table on the following page. To estimate the gap/surplus for an individual fiscal year, it is assumed that approximately 70% of the eligible expenditures will actually be incurred in a given year due to scheduling and other delays. The projected gap/surplus is the difference between the eligible expenditures adjusted for completion and the sum of the various funding sources.

GROWTH FUNDING GAP

(In Millions)

	FY'22	FY'23	FY'24	FY'25	FY'26	FY'27	Total 6 Years
CIP GROWTH EXPENDITURES	\$ 48.5	\$ 42.6	\$ 25.5	\$ 9.8	\$ 2.3	\$ 1.2	\$ 129.9
Expenditures Adjusted for Completion	34.0	44.4	30.7	14.6	4.5	1.5	129.7
FUNDING SOURCES							
Privately Funded Projects	12.0	10.5	4.2	1.5	0.8	0.7	29.7
Estimated SDC Revenue	20.7	20.7	20.7	21.7	21.7	22.2	127.7
Less SDC Developer Credits	(4.0)	(4.0)	(3.0)	(3.0)	(2.0)	(2.0)	(18.0)
Less SDC Exemptions ¹	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(6.0)
Total Funding Sources	\$ 27.7	\$ 26.2	\$ 20.9	\$ 19.2	\$ 19.5	\$ 19.9	\$ 133.4
FUNDING GAP/(SURPLUS) ADJUSTED FOR COMPLETION	\$ 6.3	\$ 18.2	\$ 9.8	\$ (4.6)	\$ (15.0)	\$ (18.4)	\$ (3.7)

Expenditures

The Proposed FYs 2022-2027 Combined Program includes 56 CIP and 10 Information Only projects for a grand total of \$5.7 billion. The grand total is \$137.6 million greater than the Adopted FYs 2021-2026 Combined Program primarily due to the increases in the Water Reconstruction Program as the replacement mileage ramps back up and increases in the Sewer Reconstruction Program for the rehabilitation work in the Piscataway Basin. Expenditures for the six-year program period are estimated at \$3.9 billion. FY'22 expenditures are estimated at \$733.2 million, of which \$153.3 million is for the Water Program, \$313.6 million is for the Sewerage Program, and \$266.3 million is for the Information Only projects. System Extension Process (SEP) growth projects are estimated at \$29.9 million in the six-year program with approximately \$17.1 million programmed in FY'22. There are 11 new projects this cycle. New projects are shown on the New Projects Listing near the end of this section.

A table comparing the Adopted FYs 2021-2026 CIP to the Proposed FYs 2022-2027 CIP follows:

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

EXPENDITURE PROJECTIONS

	EST. TOTAL COST	EXPEND THRU 20	EST. EXPEND 21	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
					YR 1 22	YR 2 23	YR 3 24	YR 4 25	YR 5 26	YR 6 27		
Montgomery County Water Projects	31,879	21,738	1,623	8,518	2,864	2,624	2,674	178	89	89	0	1-1
Prince George's County Water Projects	227,832	49,426	15,767	154,341	62,481	49,628	35,048	5,214	1,030	940	8,298	5-1
Bi-County Water Projects	1,000,474	118,946	73,558	721,026	87,972	106,854	137,539	136,188	126,858	125,615	86,944	3-1
TOTAL WATER PROJECTS	1,260,185	190,110	90,948	883,885	153,317	159,106	175,261	141,580	127,977	126,644	95,242	
Montgomery County Sewer Projects	37,742	4,047	4,832	28,863	8,512	4,972	7,441	5,387	2,476	75	0	2-1
Prince George's County Sewer Projects	537,300	260,871	89,917	184,937	70,103	50,439	33,459	19,966	8,830	2,140	1,575	6-1
Bi-County Sewer Projects	1,794,199	484,052	149,841	986,879	234,947	243,526	149,823	116,032	121,135	121,416	173,427	4-1
TOTAL SEWER PROJECTS	2,369,241	748,970	244,590	1,200,679	313,562	298,937	190,723	141,385	132,441	123,631	175,002	
TOTAL CIP PROGRAM	3,629,426	939,080	335,538	2,084,564	466,879	458,043	365,984	282,965	260,418	250,275	270,244	
Total Information Only Projects	2,055,996	1,916	234,210	1,819,870	266,272	292,201	300,784	306,243	316,934	337,436	0	7-1
COMBINED PROGRAM	5,685,422	940,996	569,748	3,904,434	733,151	750,244	666,768	589,208	577,352	587,711	270,244	

FUNDING SOURCES

WSSC Bonds	4,437,282	468,344	515,802	3,281,913	625,623	647,330	567,793	489,018	470,379	481,770	171,223
PAYGO	432,048	11,016	10,000	331,032	31,016	31,016	44,000	65,000	80,000	80,000	80,000
State Grants	385,831	242,480	20,000	123,351	20,351	21,500	21,500	20,000	20,000	20,000	0
System Development Charges	314,497	194,092	12,479	99,628	31,329	34,621	22,813	8,797	1,608	460	8,298
Contributions/Other	53,465	16,758	6,247	30,458	17,369	8,011	2,656	951	736	735	2
Government Contributions	46,279	7,736	3,675	24,147	3,343	3,646	3,886	3,897	4,629	4,746	10,721
Federal Grants	16,020	570	1,545	13,905	4,120	4,120	4,120	1,545	0	0	0
COMBINED PROGRAM	5,685,422	940,996	569,748	3,904,434	733,151	750,244	666,768	589,208	577,352	587,711	270,244

WSSC WATER FYS 2022 - 2027 COMBINED PROGRAM
NEW PROJECT LISTING
 (ALL FIGURES IN THOUSANDS)

Agency Number	Project Name	Total Project Cost	6 Year Program Cost	Budget Year Cost	% of Growth
<u>Montgomery County Water Projects</u>					
W- 46.26	Pleasant's Property Water Main Extension	\$1,984	\$1,984	\$1,786	100%
W-113.21	Viva White Oak Water Main	1,780	1,780	712	100%
<u>Montgomery County Sewer Projects</u>					
S-118.09	Viva White Oak Sewer Main	1,500	1,500	599	100%
<u>Bi-County Sewer Projects</u>					
S- 89.24	Anacostia #2 WWPS Upgrades	31,298	23,361	10,927	22%
<u>Prince George's County Sewer Projects</u>					
S- 28.20	Pumpkin Hill WWPS & FM	4,496	3,669	1,725	0%
S- 77.21	Parkway WRRF Electrical Upgrades	11,066	10,626	1,760	0%
S- 87.19	Horsepen WWPS & FM	35,349	33,262	4,146	90%
S- 89.25	Little Anacostia WWPS & FM	9,239	1,370	1,370	0%
S-118.10	Viva White Oak Sewer Augmentation	1,080	1,080	432	100%
S-131.11	Calm Retreat Sewer Main	981	981	883	100%
S-131.12	Swan Creek WWPS & FM	12,186	3,168	1,793	0%
TOTALS		<u>\$110,959</u>	<u>\$82,781</u>	<u>\$26,133</u>	
11 New Projects					

WSSC WATER FYS 2022 - 2027 COMBINED PROGRAM
PENDING CLOSE-OUT PROJECT LISTING
 (ALL FIGURES IN THOUSANDS)

Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'20	Estimated Expenditures FY'21	Remarks
<u>Montgomery County Water Projects</u>					
W- 46.24	Clarksburg Area Stage 3 Water Main, Part 4	\$4,617	\$4,288	\$329	Project completion expected in FY'21.
W- 46.25	Clarksburg Area Stage 3 Water Main, Part 5	2,902	2,436	466	Project completion expected in FY'21.
W- 90.04	Brink Zone Reliability Improvements	15,432	14,970	462	Project completion expected in FY'21.
<u>Montgomery County Sewer Projects</u>					
S- 84.68	Clarksburg Wastewater Pumping Station & Sewer Improvements	5,776	2,745	3,031	Project completion expected in FY'21.
<u>Bi-County Water Projects</u>					
W-139.02	Duckett & Brighton Dam Upgrades	41,380	41,380	-	Project Completed.
W-172.08	Rocky Gorge Pump Station Upgrade	25,722	25,132	590	Project completion expected in FY'21.
<u>Prince George's County Water Projects</u>					
W- 84.02	Ritchie Marlboro Road Transmission Main & PRV	9,952	9,889	63	Project completion expected in FY'21.
W-111.05	Hillmeade Road Water Main	5,661	5,598	63	Project completion expected in FY'21.
<u>Prince George's County Sewer Projects</u>					
S- 43.02	Broad Creek WWPS Augmentation	183,190	181,825	1,365	Project completion expected in FY'21.
S-131.10	Fort Washington Forest No. 1 WWPS Augmentation	4,558	4,558	-	Project completed.
TOTALS		<u>\$299,190</u>	<u>\$292,821</u>	<u>\$6,369</u>	

10 Projects Pending Close-Out

FINANCIAL SUMMARY

DATE: October 1, 2020

(ALL FIGURES IN THOUSANDS)

MONTGOMERY COUNTY WATER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 20	EST. EXPEND 21	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM	
						YR 1 22	YR 2 23	YR 3 24	YR 4 25	YR 5 26	YR 6 27			
W-46.26	Pleasant's Property Water Main Extension	1,984	0	0	1,984	1,786	198	0	0	0	0	0	0	1-3
W-113.20	White Oak Water Mains Augmentation	5,164	44	366	4,754	366	1,981	2,407	0	0	0	0	0	1-4
W-113.21	Viva White Oak Water Main	1,780	0	0	1,780	712	445	267	178	89	89	0	0	1-5
	Projects Pending Close-Out	22,951	21,694	1,257	0	0	0	0	0	0	0	0	0	1-6
	TOTALS	31,879	21,738	1,623	8,518	2,864	2,624	2,674	178	89	89	0		

Pleasant's Property Water Main Extension

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	Brink HG760A
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	
W - 000046.26		Add			Planning Areas	Clarksburg & Vicinity PA 13

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	474			474	427	47					
Land											
Construction	1,251			1,251	1,126	125					
Other	259			259	233	26					
Total	1,984			1,984	1,786	198					

C. Funding Schedule (000's)

Contributions/Other	1,984			1,984	1,786	198					
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D. Description & Justification

DESCRIPTION This project provides for the planning, design, and construction of 2,320 feet of 16-inch diameter water main to serve Pleasant's Property.
JUSTIFICATION Pleasant's Property Hydraulic Planning Analysis (June 2020).
COST CHANGE Not applicable.
OTHER The present project scope was developed for the FY 2022 CIP and has an estimated cost of \$1,984,000. The expenditures and schedule projections shown in Block B above are based upon information provided by the developer. The estimated completion date is developer dependent. No WSSC Water rate supported debt will be used for this project.
COORDINATION Coordinating Agencies: Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; Montgomery County Government Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance	\$68	
Debt Service		
Total Cost	\$68	
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)	
Date First in Program	FY 22
Date First Approved	FY 22
Initial Cost Estimate	1,984
Cost Estimate Last FY	
Present Cost Estimate	1,984
Approved Request Last FY	
Total Expense & Encumbrances	
Approval Request Year 1	1,786

G. Status Information	
Land Status	Not Applicable
Project Phase	Planning
Percent Complete	0 %
Estimated Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	



Viva White Oak Water Main

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	Montgomery Main 495A
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	
W - 000113.21		Add			Planning Areas	Colesville-White Oak & Vicinity PA 33; Fairland (MC) PA 34

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	308			308	124	77	46	31	15	15	
Land											
Construction	1,239			1,239	495	310	186	124	62	62	
Other	233			233	93	58	35	23	12	12	
Total	1,780			1,780	712	445	267	178	89	89	

C. Funding Schedule (000's)

Contributions/Other	1,780			1,780	712	445	267	178	89	89	
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D. Description & Justification

DESCRIPTION	This project provides for the planning, design, and construction of 8,900 feet of 16-inch diameter water main to serve Viva White Oak and vicinity.
JUSTIFICATION	Viva White Oak Hydraulic Planning Analysis (July 2019).
COST CHANGE	Not applicable.
OTHER	The present project scope was developed for the FY 2022 CIP and has an estimated cost of \$1,780,000. The expenditures and schedule projections shown in Block B above are based upon information provided by the developer. The estimated completion date is developer dependent. No WSSC Water rate supported debt will be used for this project.
COORDINATION	Coordinating Agencies: Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Montgomery County Department of Public Works and Transportation; Montgomery County Government Coordinating Projects: S - 000118.09 - Viva White Oak Sewer Main; S - 000118.10 - Viva White Oak Sewer Augmentation; W - 000113.20 - White Oak Water Mains Augmentation

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance	\$261	
Debt Service		
Total Cost	\$261	
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)	
Date First in Program	FY 22
Date First Approved	FY 22
Initial Cost Estimate	1,780
Cost Estimate Last FY	
Present Cost Estimate	1,780
Approved Request Last FY	
Total Expense & Encumbrances	
Approval Request Year 1	712

G. Status Information	
Land Status	Not Applicable
Project Phase	Planning
Percent Complete	0 %
Estimated Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	53,300
Capacity	



FINANCIAL SUMMARY

DATE: October 1, 2020

(ALL FIGURES IN THOUSANDS)

MONTGOMERY COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 20	EST. EXPEND 21	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM	
						YR 1 22	YR 2 23	YR 3 24	YR 4 25	YR 5 26	YR 6 27			
S-84.67	Milestone Center Sewer Main	856	293	0	563	538	25	0	0	0	0	0	0	2-3
S-85.21	Shady Grove Station Sewer Augmentation	7,192	521	363	6,308	5,960	251	97	0	0	0	0	0	2-4
S-85.22	Shady Grove Neighborhood Center	1,700	0	435	1,265	633	632	0	0	0	0	0	0	2-5
S-94.13	Damascus Town Center WWPS Replacement	10,053	312	550	9,191	672	2,988	5,285	246	0	0	0	0	2-6
S-94.14	Spring Gardens WWPS Replacement	10,665	176	453	10,036	110	701	1,834	4,991	2,400	0	0	0	2-7
S-118.09	Viva White Oak Sewer Main	1,500	0	0	1,500	599	375	225	150	76	75	0	0	2-8
	Projects Pending Close-Out	5,776	2,745	3,031	0	0	0	0	0	0	0	0	0	2-9
	TOTALS	37,742	4,047	4,832	28,863	8,512	4,972	7,441	5,387	2,476	75	0		

Viva White Oak Sewer Main

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	Paint Branch 2
S - 000118.09		Add			Planning Areas	Colesville-White Oak & Vicinity PA 33; Fairland (MC) PA 34

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	260			260	104	65	39	26	13	13	
Land											
Construction	1,044			1,044	417	261	157	104	53	52	
Other	196			196	78	49	29	20	10	10	
Total	1,500			1,500	599	375	225	150	76	75	

C. Funding Schedule (000's)

Contributions/Other	1,500			1,500	599	375	225	150	76	75
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D. Description & Justification

DESCRIPTION
This project provides for the planning, design, and construction of 4,175 feet of 15-inch to 24-inch diameter sewer main to serve Viva White Oak and vicinity.

JUSTIFICATION
Viva White Oak Hydraulic Planning Analysis (July 2019).

COST CHANGE
Not applicable.

OTHER
The present project scope was developed for the FY2022 CIP and has an estimated cost of \$1,500,000. The expenditures and schedule projections shown in Block B above are based upon information provided by the developer. The estimated completion date is developer dependent. No WSSC Water rate supported debt will be used for this project.

COORDINATION
Coordinating Agencies: Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; Montgomery County Government
Coordinating Projects: S - 000118.10 - Viva White Oak Sewer Augmentation; W - 000113.21 - Viva White Oak Water Main

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance	\$85	
Debt Service		
Total Cost	\$85	
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)	
Date First in Program	FY 22
Date First Approved	FY 22
Initial Cost Estimate	1,500
Cost Estimate Last FY	
Present Cost Estimate	1,500
Approved Request Last FY	
Total Expense & Encumbrances	
Approval Request Year 1	599

G. Status Information	
Land Status	Not Applicable
Project Phase	Planning
Percent Complete	0 %
Estimated Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	1.097 MGD



FINANCIAL SUMMARY
(ALL FIGURES IN THOUSANDS)

BI-COUNTY WATER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 20	EST. EXPEND 21	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM	
						YR 1 22	YR 2 23	YR 3 24	YR 4 25	YR 5 26	YR 6 27			
W-73.22	Potomac WFP Pre-Filter Chlorination & Air Scour Improvements	20,476	14,503	5,830	143	143	0	0	0	0	0	0	0	3-3
W-73.30	Potomac WFP Submerged Channel Intake	90,691	4,347	0	0	0	0	0	0	0	0	86,344	0	3-4
W-73.32	Potomac WFP Main Zone Pipeline	39,069	1,666	660	36,743	913	506	17,618	14,193	3,513	0	0	0	3-5
W-73.33	Potomac WFP Consent Decree Program	203,007	18,207	9,975	174,825	10,500	26,250	31,500	35,700	35,700	35,175	0	0	3-6
W-161.01	Large Diameter Water Pipe & Large Valve Rehabilitation Program	518,952	0	45,997	472,955	61,681	71,374	80,320	83,665	86,560	89,355	0	0	3-7
W-172.07	Patuxent Raw Water Pipeline	34,284	13,711	4,661	15,912	9,515	3,509	2,888	0	0	0	0	0	3-9
W-175.05	Regional Water Supply Resiliency	15,450	0	1,545	13,905	4,120	4,120	4,120	1,545	0	0	0	0	3-10
W-202.00	Land & Rights-of-Way Acquisition - Bi-County Water	11,443	0	4,300	6,543	1,100	1,095	1,093	1,085	1,085	1,085	600	0	3-11
	Projects Pending Close-Out	67,102	66,512	590	0	0	0	0	0	0	0	0	0	3-12
	TOTALS	1,000,474	118,946	73,558	721,026	87,972	106,854	137,539	136,188	126,858	125,615	86,944		

Potomac WFP Consent Decree Program

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	Potomac WFP HGPOWF
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	
W - 000073.33	173801	Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	41,072	8,072	4,500	28,500	4,000	5,000	5,000	5,000	5,000	4,500	
Land	1,000	1,000									
Construction	152,135	9,135	5,000	138,000	6,000	20,000	25,000	29,000	29,000	29,000	
Other	8,800		475	8,325	500	1,250	1,500	1,700	1,700	1,675	
Total	203,007	18,207	9,975	174,825	10,500	26,250	31,500	35,700	35,700	35,175	

C. Funding Schedule (000's)

WSSC Bonds	203,007	18,207	9,975	174,825	10,500	26,250	31,500	35,700	35,700	35,175
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D. Description & Justification

DESCRIPTION
 The Potomac WFP Consent Decree Program provides for the planning, design, and construction required for the implementation of Short-Term Operational and Long-Term Capital Improvements at the Potomac Water Filtration Plant (WFP) to allow WSSC Water to meet the new discharge limitations identified in the Consent Decree.

JUSTIFICATION
 The Consent Decree (CD) was Entered by the U.S. District Court of Maryland on April 15, 2016. Under the terms of the CD WSSC Water is required to "undertake short-term operational changes and capital improvements at the Potomac WFP that will enable WSSC Water to reduce significantly the pounds per day of solids discharged to the River" (CD Section II. Paragraph 6.i); and to plan, design, and implement long term "upgrades to the existing Plant or to design and construct a new plant to achieve the effluent limits, conditions, and waste load allocations established by the Maryland Department of the Environment (the Department) and/or in this Consent Decree, and incorporated in a new discharge permit to be issued by the Department" (CD Section II. Paragraph 6.ii). The CD required WSSC Water to submit a Draft Audit Report and Draft Long-Term Upgrade Plan to the Citizens and the Department by November 15, 2016, and final reports to the Citizens and the Department by January 1, 2017. The Final Audit and Long-Term Upgrade Plan Reports were submitted to the Citizens and the Department on December 29, 2016. The Department reviews the Audit Report and selects recommended improvements in operations, monitoring, and waste tracking, along with select capital projects that can be completed no later than April 1, 2020 and that are necessary to achieve the goals identified in CD Section IV. Paragraph 24. Additionally, the work required to implement the Long-Term Capital Improvements Project(s) shall be fully implemented in accordance with the schedule set forth in the Long-Term Upgrade Plan. WSSC Water shall be subject to a lump-sum stipulated penalty in accordance with the CD for failure to implement the Long-Term Capital Improvement Project(s) by January 1, 2026.

COST CHANGE

Costs are based on recommendations in the approved revised LTUP Report dated September 2018.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown above are preliminary design level estimates and include \$1,000,000 for Supplemental Environmental Projects included under CD Section IX. Paragraph 50. WSSC Water Green Bonds issued in December 2019 will be utilized to fund a portion of this project. The reduction in suspended solids discharged into the Potomac River will address the following International Capital Market Association (ICMA) Green Bond Principles 2016 categories: Pollution prevention/control; and, Terrestrial and aquatic biodiversity conservation.

COORDINATION

Coordinating Agencies: Maryland Department of the Environment; Montgomery County Government; National Park Service; Prince George's County Government; U.S. Environmental Protection Agency, Region III
 Coordinating Projects: W - 000073.30 - Potomac WFP Submerged Channel Intake; W - 000073.32 - Potomac WFP Main Zone Pipeline

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$13,206	28
Total Cost	\$13,206	28
Impact on Water and Sewer Rate	\$0.03	28

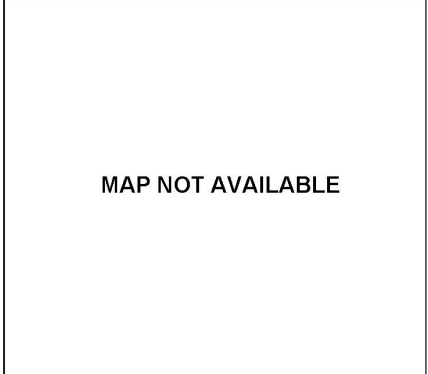
F. Approval and Expenditure Data (000's)

Date First in Program	FY 17
Date First Approved	FY 16
Initial Cost Estimate	27,250
Cost Estimate Last FY	202,032
Present Cost Estimate	203,007
Approved Request Last FY	10,500
Total Expense & Encumbrances	18,207
Approval Request Year 1	10,500

G. Status Information

Land Status	Land Acquired
Project Phase	Design
Percent Complete	30 %
Estimated Completion Date	January 2027
Growth	
System Improvement	
Environmental Regulation	100%
Population Served	
Capacity	

H. Map



Large Diameter Water Pipe & Large Valve Rehabilitation Program

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	
W - 000161.01	113803	Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	58,129		6,587	51,542	8,110	8,049	8,417	8,872	8,824	9,270	
Land											
Construction	413,644		35,228	378,416	47,962	56,836	64,600	67,186	69,868	71,964	
Other	47,179		4,182	42,997	5,609	6,489	7,303	7,607	7,868	8,121	
Total	518,952		45,997	472,955	61,681	71,374	80,320	83,665	86,560	89,355	

C. Funding Schedule (000's)

WSSC Bonds	518,952		45,997	472,955	61,681	71,374	80,320	83,665	86,560	89,355	
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D. Description & Justification

DESCRIPTION
 The purpose of this Program is to plan, inspect, design, and rehabilitate or replace large diameter water transmission mains and large system valves that have reached the end of their useful life. Condition assessment and/or corrosion monitoring is performed on metallic pipelines, including ductile iron, cast iron, and steel, to identify lengths of pipe requiring replacement or rehabilitation and cathodic protection. The PCCP Inspection and Condition Assessment and Monitoring Program identifies individual pipe segments that require repair or replacement to assure the continued safe and reliable operation of the pipeline. The Program also identifies extended lengths of pipe that require the replacement of an increased number of pipe segments in varying stages of deterioration that are most cost effectively accomplished by the replacement or rehabilitation of long segments of the pipeline or the entire pipeline. Rehabilitation or replacement of these mains provides value to the customer by minimizing the risk of failure and ensuring a safe and reliable water supply. The Program includes installation of Acoustic Fiber Optic Monitoring equipment in order to accomplish these goals in PCCP mains.
 *EXPENDITURES FOR LARGE DIAMETER WATER PIPE REHABILITATION ARE EXPECTED TO CONTINUE INDEFINITELY.

JUSTIFICATION
 WSSC Water has approximately 1,031 miles of large diameter water main ranging from 16-inch to 96-inch in diameter. This includes 335 miles of cast iron, 326 miles of ductile iron, 35 miles of steel, and 335 miles of PCCP. Internal inspection and condition assessment is performed on PCCP pipelines 36-inch and larger in diameter. Of the 335 miles of PCCP, 140 miles are 36-inch diameter and larger. The inspection program includes internal visual and sounding, sonic/ultrasonic testing, and electromagnetic testing to establish the condition of each pipe section and determine if maintenance repairs, rehabilitation, or replacement are needed.

The planning and design phase evaluates the alignment, hydraulic capacity, and project coordination amongst other factors in an effort to re-engineer these pipelines to meet today's design standards. The design effort includes the preparation of bid ready contract documents including all needed rights-of-way acquisitions and regulatory permits. The constructed system is inspected and an as-built plan is produced to serve as the renewed asset record.

In July 2013, WSSC Water's Acoustic Fiber Optic monitoring system identified breaking wires in a 54-inch diameter PCCP water transmission main in the Forestville area of Prince George's County. Upon attempting to close nearby valves to isolate the failing pipe for repair, WSSC Water crews encountered an inoperable valve with a broken gear, requiring the crew to drop back to the next available valve. This dropping-back to another valve would block one of the major water mains serving Prince George's County, significantly enlarging the shutdown area and reduce our capacity to supply water to over 100,000 residents. In order to minimize the risk associated with inoperable large valves and possible water outages, the large valve inspection and repair program was initiated to systematically inspect, exercise, repair, or replace any of the nearly 1,500 large diameter valves and vaults located throughout the system.

Utility Wide Master Plan (December 2007); 30 Year Infrastructure Plan (2007); FY 2022 Water Network Asset Management Plan (May 2020).

COST CHANGE

Program costs reflect the latest expenditure and schedule estimates based upon the recommendations from the Buried Water Asset Systems Asset Management Plan.

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E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$33,759	
Total Cost	\$33,759	
Impact on Water and Sewer Rate	\$0.07	

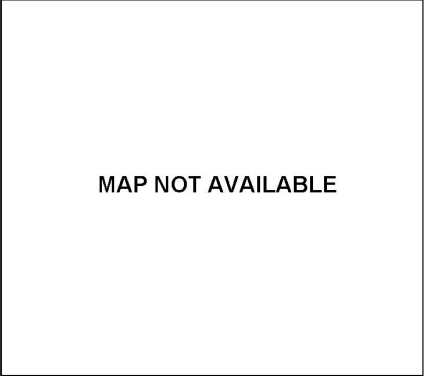
F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	
Cost Estimate Last FY	485,696
Present Cost Estimate	518,952
Approved Request Last FY	58,139
Total Expense & Encumbrances	
Approval Request Year 1	61,681

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	

H. Map



OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are Order of Magnitude estimates and are expected to change based upon the results of the ongoing inspections and condition assessments. Additional costs associated with PCCP inspection/condition assessment, large valve inspection/repairs, and emergency repairs are included in the Operating Budget. WSSC Water Green Bonds issued in December 2019 will be utilized to fund a portion of this project. The annual replacement of large diameter water mains will address the following International Capital Market Association (ICMA) Green Bond Principles 2016 category: Sustainable water management.

COORDINATION

Coordinating Agencies: Local Community Civic Associations; Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Montgomery County Department of Public Works and Transportation; Montgomery County Government;(including localities where work is to be performed); Prince George's County Government;(including localities where work is to be performed); Prince George's County Department of Permitting Inspection and Enforcement
Coordinating Projects: W - 000001.00 - Water Reconstruction Program; W - 000107.00 - Specialty Valve Vault Rehabilitation Program

Regional Water Supply Resiliency

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	
W - 000175.05	382101	Change			Planning Areas	Montgomery County PA

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	15,450		1,545	13,905	4,120	4,120	4,120	1,545			
Land											
Construction											
Other											
Total	15,450		1,545	13,905	4,120	4,120	4,120	1,545			

C. Funding Schedule (000's)

Federal Aid	15,450		1,545	13,905	4,120	4,120	4,120	1,545			
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D. Description & Justification

DESCRIPTION

This project includes planning, preliminary engineering, community outreach, and coordination with elected officials for a regional raw water supply reservoir and raw water conveyance system to serve the long-range water supply needs of the Washington metropolitan region. A new regional reservoir is needed to mitigate against drought and contamination events in the Potomac River which could curtail or halt withdrawal from the river for days to months. This project will include the performance of a business case to evaluate conveyance alternatives and provide a recommendation for subsequent preliminary design.

JUSTIFICATION

Justification for the project is based in part on two independent studies. A study conducted by the Metropolitan Washington Council of Governments (COG) in 2016 concluded that the Washington metropolitan region needed, among other capital projects and initiatives, an off-river raw water storage reservoir to provide the necessary resiliency for water quantity and quality in the region in the event of a contamination in the Potomac River. A separate study conducted by the Interstate Commission for the Potomac River Basin (ICPRB) in 2017 concluded that the region needed additional off-river raw water reservoir capacity as part of the regional water supply system to ensure adequate water supply to the region in the event of a drought. A value engineering planning evaluation for the proposed project was conducted by the USACE in 2020.

COST CHANGE

Not applicable.

OTHER

This project will be contingent upon receipt of federal grant funding and the execution of other relevant cost sharing agreements between WSSC Water and other ICPRB CO-OP Operations Committee members. Placement of the proposed work in the CIP will enable WSSC Water to solicit funding opportunities in a timely fashion.

COORDINATION

Coordinating Agencies: Federal and State Grant Agencies; Interstate Commission on the Potomac River Basin; Local Community Civic Associations; Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; Montgomery County Government; National Park Service; Prince George's County Government; Prince George's County Department of Permitting Inspection and Enforcement
Coordinating Projects: Not Applicable

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

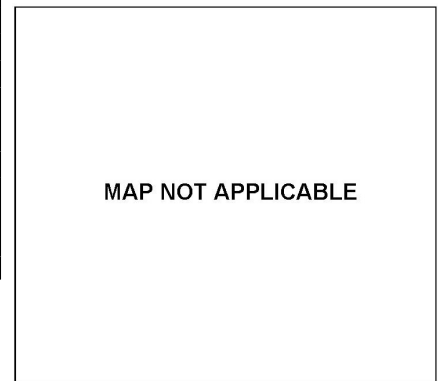
F. Approval and Expenditure Data (000's)

Date First in Program	FY 21
Date First Approved	FY 21
Initial Cost Estimate	15,000
Cost Estimate Last FY	15,000
Present Cost Estimate	15,450
Approved Request Last FY	1,500
Total Expense & Encumbrances	
Approval Request Year 1	4,120

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	0 %
Estimated Completion Date	TBD
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	1,800,000
Capacity	7.5 BG

H. Map



FINANCIAL SUMMARY

DATE: October 1, 2020

(ALL FIGURES IN THOUSANDS)

BI-COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 20	EST. EXPEND 21	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 22	YR 2 23	YR 3 24	YR 4 25	YR 5 26	YR 6 27		
S-22.06	Blue Plains WWTP: Liquid Train Projects, Part 2	261,738	0	23,432	149,033	18,847	23,194	21,994	16,222	31,506	37,270	89,273	4-4
S-22.07	Blue Plains WWTP: Biosolids Management, Part 2	76,311	0	11,347	54,161	15,321	12,407	10,486	7,297	5,860	2,790	10,803	4-5
S-22.09	Blue Plains WWTP: Plant-wide Projects	100,521	0	10,811	71,416	9,891	13,844	17,706	10,202	8,266	11,507	18,294	4-6
S-22.10	Blue Plains WWTP: Enhanced Nutrient Removal	429,852	420,224	294	3,072	116	929	1,006	0	0	1,021	6,262	4-7
S-22.11	Blue Plains: Pipelines & Appurtenances	176,853	0	13,622	114,436	10,460	9,934	11,961	31,053	28,984	22,044	48,795	4-8
S-89.24	Anacostia #2 WWPS Upgrades	31,298	79	7,858	23,361	10,927	8,703	3,731	0	0	0	0	4-9
S-103.02	Piscataway Bioenergy	327,208	58,898	45,708	222,602	97,864	89,948	28,808	5,982	0	0	0	4-10
S-170.08	Septage Discharge Facility Planning & Implementation	40,048	4,851	220	34,977	12,461	12,461	2,769	3,643	3,643	0	0	4-12
S-170.09	Trunk Sewer Reconstruction Program	348,442	0	36,091	312,351	58,565	71,911	51,167	41,438	42,681	46,589	0	4-13
S-203.00	Land & Rights-Of-Way Acquisition - Bi-County Sewer	1,928	0	458	1,470	495	195	195	195	195	195	0	4-14
TOTALS		1,794,199	484,052	149,841	986,879	234,947	243,526	149,823	116,032	121,135	121,416	173,427	

Blue Plains WWTP: Liquid Train Projects, Part 2

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	Bi-County 30
S - 000022.06	954811	Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision											
Land											
Construction	259,145		23,200	147,556	18,660	22,964	21,776	16,061	31,194	36,901	88,389
Other	2,593		232	1,477	187	230	218	161	312	369	884
Total	261,738		23,432	149,033	18,847	23,194	21,994	16,222	31,506	37,270	89,273

C. Funding Schedule (000's)

	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
WSSC Bonds	247,370		22,146	140,852	17,812	21,921	20,787	15,331	29,777	35,224	84,372
City of Rockville	14,368		1,286	8,181	1,035	1,273	1,207	891	1,729	2,046	4,901

D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides funding for WSSC Water's share of Blue Plains liquid train projects for which construction began after June 30, 1993. Current projects include: Filtration/Disinfection Facilities (UC); upgrading influent screening (IZ); upgrading effluent filters (IY); replacing/upgrading the primary clarifier mechanical components (UC); and, improvements to the headworks influent structures (J2).</p> <p>JUSTIFICATION</p> <p>This is a continuation of the DC Water's upgrading of the Blue Plains Wastewater Treatment Plant. The Blue Plains Inter-municipal Agreement of 2012; the DCWASA Master Plan (1998); Blue Plains Facilities Master Plan (2016), and the DC Water Approved FY2021 Capital Improvements Program.</p> <p>COST CHANGE</p> <p>Increased estimates beginning in FY'26 reflect programmed costs for renewal and replacement of major process components expected to have reached the end of their useful life, including mechanical treatment components and some structural rebuilds of tanks and filters.</p> <p>OTHER</p> <p>The project scope has remained the same. Project costs are derived from the DC Water Capital & Operating Budget 10-year forecast of spending and DC Water's latest project management data, and fully reflect DC Water's current cost estimates and expenditure schedules. 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.</p> <p>COORDINATION</p> <p>Coordinating Agencies: City of Rockville;(responsible for a share of funding); DC Water;(responsible for design and construction) Coordinating Projects: S - 000022.10 - Blue Plains WWTP: Enhanced Nutrient Removal</p>
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E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$16,092	
Total Cost	\$16,092	
Impact on Water and Sewer Rate	\$0.04	

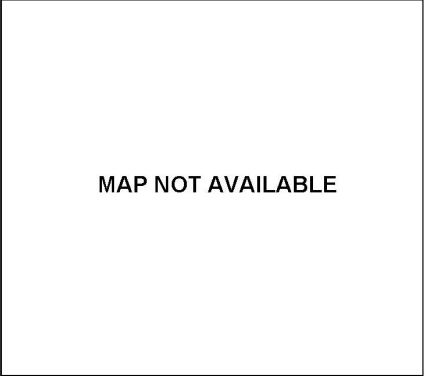
F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	
Cost Estimate Last FY	310,880
Present Cost Estimate	261,738
Approved Request Last FY	23,432
Total Expense & Encumbrances	
Approval Request Year 1	18,847

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



Blue Plains WWTP: Biosolids Management, Part 2

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	Bi-County 30
S - 000022.07	954812	Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision											
Land											
Construction	75,554		11,234	53,624	15,169	12,284	10,382	7,225	5,802	2,762	10,696
Other	757		113	537	152	123	104	72	58	28	107
Total	76,311		11,347	54,161	15,321	12,407	10,486	7,297	5,860	2,790	10,803

C. Funding Schedule (000's)

	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
WSSC Bonds	72,122		10,724	51,188	14,480	11,726	9,910	6,896	5,539	2,637	10,210
City of Rockville	4,189		623	2,973	841	681	576	401	321	153	593

D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides funding for WSSC Water's share of the Blue Plains bio-solids handling projects for which construction began after June 30, 1993. Current projects include: Gravity Thickener Facility upgrades (BX); Bio-solids Blending Development Center (I3); Solids Processing Building/De-watered Sludge Loading Facility (XZ); and, planned rehabilitation of solids processing equipment and facilities (RM).</p> <p>JUSTIFICATION</p> <p>This project is needed to implement a set of facilities which will provide a permanent bio-solids management program for Blue Plains. The Blue Plains Inter-municipal Agreement of 2012; the DCWASA Master Plan (1998); EPMC IV Facility Plan, CH2MHILL (2001); the Bio-solids 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 the DC Water Approved FY2021 Capital Improvement Program.</p> <p>COST CHANGE</p> <p>Not applicable.</p> <p>OTHER</p> <p>The project scope has remained the same. Project costs are derived from the DC Water Capital & Operating Budget 10-year forecast of spending and DC Water's latest project management data, and fully reflect DC Water's current cost estimates and expenditure schedules. 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 Quality Administration State Revolving Loan Program. The funding schedule also indicates the calculated Rockville share of the cost.</p> <p>COORDINATION</p> <p>Coordinating Agencies: City of Rockville;(responsible for a share of funding); DC Water;(responsible for design and construction) Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$4,692	
Total Cost	\$4,692	
Impact on Water and Sewer Rate	\$0.01	

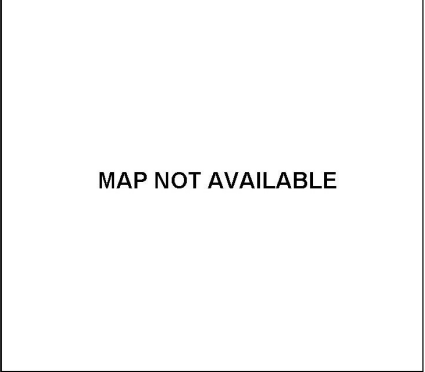
F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	
Cost Estimate Last FY	75,220
Present Cost Estimate	76,311
Approved Request Last FY	11,347
Total Expense & Encumbrances	
Approval Request Year 1	15,321

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



Blue Plains WWTP: Plant-wide Projects

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	Bi-County 30
S - 000022.09	023805	Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision											
Land											
Construction	99,526		10,704	70,709	9,793	13,707	17,531	10,101	8,184	11,393	18,113
Other	995		107	707	98	137	175	101	82	114	181
Total	100,521		10,811	71,416	9,891	13,844	17,706	10,202	8,266	11,507	18,294

C. Funding Schedule (000's)

WSSC Bonds	95,003		10,218	67,495	9,348	13,084	16,734	9,642	7,812	10,875	17,290
City of Rockville	5,518		593	3,921	543	760	972	560	454	632	1,004

D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides funding for WSSC Water's share of Blue Plains plant-wide projects for which construction began after June 30, 1993. Current projects include: Electrical system upgrades (TZ); Floodwall construction (JF); Plant-side Drainage Improvements (OE); Process Computer Control system (IV and LX); and, Miscellaneous projects.</p> <p>JUSTIFICATION</p> <p>This is a continuation of DC Water's upgrading of the Blue Plains Wastewater Treatment Plant. The Blue Plains Inter-municipal Agreement of 2012; the DCWASA Master Plan (1998); Blue Plains Facilities Master Plan (2016), and the DC Water Approved FY2021 Capital Improvement Program.</p> <p>COST CHANGE</p> <p>Not applicable.</p> <p>OTHER</p> <p>The project scope has remained the same. Project costs are derived from the DC Water Capital & Operating Budget 10-year forecast and latest project management data, and reflect DC Water's current expenditure estimates and schedules. Given the open-ended nature of the project, 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.</p> <p>COORDINATION</p> <p>Coordinating Agencies: City of Rockville;(responsible for a share of funding); DC Water;(responsible for design and construction) Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$6,180	
Total Cost	\$6,180	
Impact on Water and Sewer Rate	\$0.02	

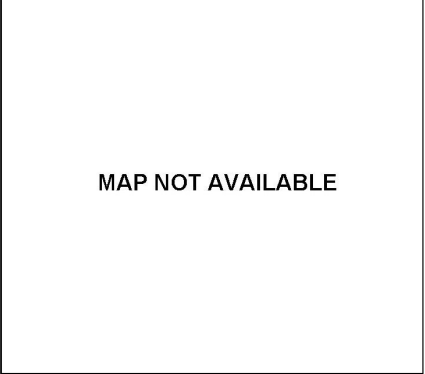
F. Approval and Expenditure Data (000's)

Date First in Program	FY 95
Date First Approved	FY 02
Initial Cost Estimate	
Cost Estimate Last FY	111,706
Present Cost Estimate	100,521
Approved Request Last FY	10,811
Total Expense & Encumbrances	
Approval Request Year 1	9,891

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



Blue Plains WWTP: Enhanced Nutrient Removal

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	Bi-County 30
S - 000022.10	083800	Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision											
Land											
Construction	429,757	420,224	291	3,042	115	920	996			1,011	6,200
Other	95		3	30	1	9	10			10	62
Total	429,852	420,224	294	3,072	116	929	1,006			1,021	6,262

C. Funding Schedule (000's)

	Total	FY'20	FY'21	FY'22	FY'23	FY'24	FY'25	FY'26	FY'27	Beyond 6 Years
WSSC Bonds	179,108	170,008	278	2,904	110	878	951		965	5,918
State Aid	242,480	242,480								
City of Rockville	8,264	7,736	16	168	6	51	55		56	344

D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides funding for WSSC Water's share of the Blue Plains Enhanced Nutrient Removal projects required to achieve nutrient removal to levels below BNR levels to meet the Chesapeake Bay water quality targets determined in the 2010 Bay TMDL and DC Water's 2010 NPDES permit. Major projects to achieve enhanced nutrient removal are substantially completed and operational. Additional projects are required to ensure NPDES permit compliance, as flows and influent load to the plant increase. The projects will include ongoing program management upgrades to the secondary treatment facilities.</p> <p>JUSTIFICATION</p> <p>The funding schedule reflects the final cost sharing agreement with the Maryland Department of the Environment. Chesapeake Bay Program Tributary Strategies Process (2005); Blue Plains Strategic Process Study, Metcalf & Eddy (2005); Selection of the Enhanced Nitrogen Removal Process Alternative for the Blue Plains Advanced Wastewater Treatment Facility, Metcalf & Eddy (2009); Blue Plains Facilities Master Plan (2016); DC Water Approved FY2021 Capital Improvement Program; and the Blue Plains Inter-municipal Agreement of 2012.</p> <p>COST CHANGE</p> <p>ENR upgrades are substantially complete. Future upgrades are planned for secondary treatment to provide full nitrification under future flow conditions.</p> <p>OTHER</p> <p>The project scope has remained the same. Project costs are derived from the DC Water Capital & Operating Budget 10-year forecast and latest project management data, and reflect DC Water's current expenditure estimates and schedules. Total Nitrogen Secondary Treatment Upgrades are scheduled to be initiated in FY'28 or later. At this time there are no additional BRF grant funds approved for this project. Projects extending beyond those supported by State Aid include rehabilitation and upgrades to older projects. Portions of the program have been financed by low interest loans through the Maryland Department of the Environment's Water Quality Administration State Revolving Loan Program. The funding schedule also indicates the calculated Rockville share of the cost.</p> <p>COORDINATION</p> <p>Coordinating Agencies: City of Rockville;(responsible for a share of funding); DC Water;(responsible for design and construction); Maryland Department of the Environment; U.S. Environmental Protection Agency, Region III Coordinating Projects: S - 000022.06 - Blue Plains WWTP: Liquid Train Projects, Part 2</p>

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$11,651	28
Total Cost	\$11,651	28
Impact on Water and Sewer Rate	\$0.03	28

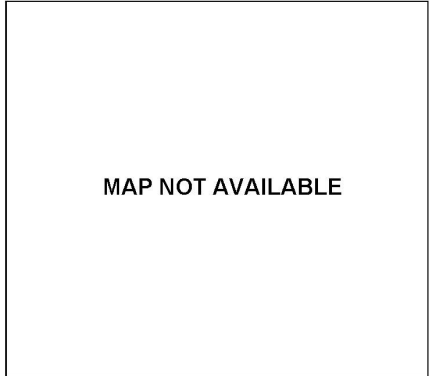
F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 07
Initial Cost Estimate	648
Cost Estimate Last FY	440,739
Present Cost Estimate	429,852
Approved Request Last FY	294
Total Expense & Encumbrances	420,224
Approval Request Year 1	116

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	96 %
Estimated Completion Date	July 2026
Growth	
System Improvement	
Environmental Regulation	100%
Population Served	
Capacity	169.2 / 370 MGD

H. Map



Blue Plains: Pipelines & Appurtenances

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	Bi-County 30
S - 000022.11	113804	Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision											
Land											
Construction	175,101		13,487	113,302	10,356	9,836	11,842	30,745	28,697	21,826	48,312
Other	1,752		135	1,134	104	98	119	308	287	218	483
Total	176,853		13,622	114,436	10,460	9,934	11,961	31,053	28,984	22,044	48,795

C. Funding Schedule (000's)

	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
WSSC Bonds	162,913		12,465	105,532	9,542	9,053	10,885	29,008	26,859	20,185	44,916
City of Rockville	13,940		1,157	8,904	918	881	1,076	2,045	2,125	1,859	3,879

D. Description & Justification

<p>DESCRIPTION</p> <p>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. Current projects include: Potomac Interceptor Rehabilitation (LZ); Potomac Sewage Pumping Station Rehabilitation (MJ14); Main Sewage Pumping Station intermediate repairs (MJ21); Renovations to the Central Maintenance Facility (HK); Influent Sewers Rehabilitation (HS); and, projects associated with the Combined Sewer Overflow (CSO) Long Term Control Plan under the DC Clean Rivers Program - Anacostia and Potomac Tunnels (CY and CZ).</p> <p>JUSTIFICATION</p> <p>This is a continuation of DC Water's upgrading of the Blue Plains-associated projects outside the fence. The Blue Plains Inter-municipal Agreement of 2012; the DCWASA Master Plan (1998); Technical Memorandum No. 1, Multi-Jurisdictional Use Facilities Capital Cost Allocation, (June 2013); and the DC Water Approved FY2021 Capital Improvement Program.</p> <p>COST CHANGE</p> <p>Increased estimates beginning in FY'25 are attributed to continued major construction to repair and rehabilitate portions of the Potomac Interceptor (LZ) and the Anacostia FM (PJ) as well as active construction of the LTCP Potomac Tunnel (CZ).</p> <p>OTHER</p> <p>The project scope has remained the same. Project costs are derived from the DC Water Capital & Operating Budget 10-year forecast and project management data, and reflect DC Water's expenditure estimates and schedules. Given the open-ended nature of the project, 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.</p> <p>COORDINATION</p> <p>Coordinating Agencies: City of Rockville;(responsible for a share of funding); DC Water;(responsible for design and construction) Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$9,175	
Total Cost	\$9,175	
Impact on Water and Sewer Rate	\$0.02	

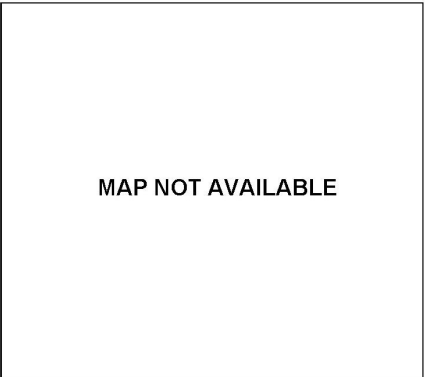
F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 02
Initial Cost Estimate	
Cost Estimate Last FY	172,974
Present Cost Estimate	176,853
Approved Request Last FY	13,622
Total Expense & Encumbrances	
Approval Request Year 1	10,460

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	

H. Map



Anacostia #2 WWPS Upgrades

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	Lower Anacostia 9
S - 000089.24		Add			Planning Areas	Landover & Vicinity PA 72

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	4,187	79	1,144	2,964	1,934	720	310				
Land											
Construction	24,274		6,000	18,274	8,000	7,192	3,082				
Other	2,837		714	2,123	993	791	339				
Total	31,298	79	7,858	23,361	10,927	8,703	3,731				

C. Funding Schedule (000's)

Funding Source	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
WSSC Bonds	24,412	62	6,129	18,221	8,523	6,788	2,910				
SDC	6,886	17	1,729	5,140	2,404	1,915	821				

D. Description & Justification

<p>DESCRIPTION</p> <p>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 II Wastewater Pump Station (WWPS). The Anacostia II 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.</p> <p>JUSTIFICATION</p> <p>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.</p> <p>COST CHANGE</p> <p>Not applicable.</p> <p>OTHER</p> <p>The present project scope was developed for the FY2022 CIP and has an estimated cost of \$31,298,000. The schedule and expenditure projections shown in Block B above are planning level estimates and may change based upon site conditions and design constraints. Preliminary planning work for the pump station began in FY'19 under ESP project S-637.37, Anacostia No. 2 WWPS Electrical Upgrades.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Maryland Department of the Environment; Potomac Electric Power Company Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$1,588	
Total Cost	\$1,588	
Impact on Water and Sewer Rate		

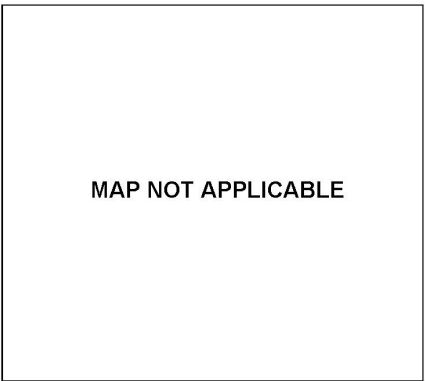
F. Approval and Expenditure Data (000's)

Date First in Program	FY 20
Date First Approved	FY 20
Initial Cost Estimate	31,298
Cost Estimate Last FY	
Present Cost Estimate	31,298
Approved Request Last FY	
Total Expense & Encumbrances	79
Approval Request Year 1	10,927

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	0 %
Estimated Completion Date	TBD
Growth	22%
System Improvement	78%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Piscataway Bioenergy

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	
S - 000103.02	153802	Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	62,281	38,869	4,950	18,462	7,100	7,000	3,700	662			
Land	61	61									
Construction	254,558	19,968	39,000	195,590	87,000	79,500	24,000	5,090			
Other	10,308		1,758	8,550	3,764	3,448	1,108	230			
Total	327,208	58,898	45,708	222,602	97,864	89,948	28,808	5,982			

C. Funding Schedule (000's)

Funding Source	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
WSSC Bonds	323,287	58,328	45,708	219,251	97,513	88,448	27,308	5,982			
Federal Aid	570	570									
State Aid	3,351			3,351	351	1,500	1,500				

D. Description & Justification

DESCRIPTION

This project will develop a comprehensive program for the engineering, design, construction, maintenance, and 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.

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 was 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 the 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 to 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 based on a Thermal Hydrolysis/Mesophilic Anaerobic Digestion/Combined Heat & Power (TH/MAD/CHP) process supplemented by restaurant grease fuel design was recommended.

The environmental benefits are estimated as follows: recover approximately 2 MW of renewable energy from wastewater biomass; reduce Greenhouse Gas production by 11,800 tons/year; reduce biosolids output by 50 - 55% of current output; reduce lime demand by 4,100 tons/year; 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 are estimated as follows: recover more than \$1.5 million of renewable energy costs/year; reduce biosolids disposal costs by ~ \$1.7 million/year; reduce chemical costs by ~ \$500,000/year; hedge against rising costs of power fuel and chemicals; and provide a net payback over time. 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 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

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$21,030	26
Total Cost	\$21,030	26
Impact on Water and Sewer Rate	\$0.04	26

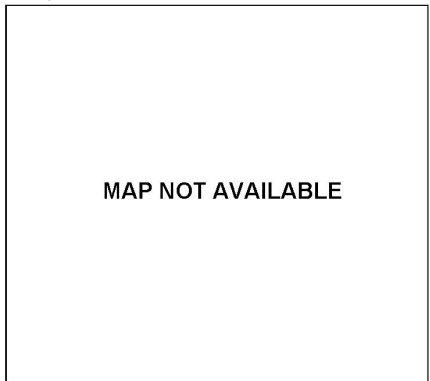
F. Approval and Expenditure Data (000's)

Date First in Program	FY 15
Date First Approved	FY 10
Initial Cost Estimate	345
Cost Estimate Last FY	281,208
Present Cost Estimate	327,208
Approved Request Last FY	61,320
Total Expense & Encumbrances	58,898
Approval Request Year 1	97,864

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	5 %
Estimated Completion Date	August 2024
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



(March 2017).

COST CHANGE

Cost increased based upon receipt of construction market competitive bid prices on 60% design documents which reflect continuing market trends in construction industry escalations for costs of labor, steel, diesel, miscellaneous metals, concrete, electrical and process equipment, and other materials.

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 anaerobic 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 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 Inc for program management and construction management for the Bio-Energy project. In Sept 2017 issued a Request for Proposals (RFP) to two design-build entities for a progressive design-build delivery of the Bio-Energy Project. Transporting of biosolids from Western Branch WRRF to Piscataway included in FY2019 program update. A portion of this project will be financed by low interest loans through the Maryland Department of the Environment's Water Quality Administration State Revolving Loan Program. In June 2018 WSSC Water awarded a Progressive Design-Build Contract to PC Construction for the Bioenergy Project. In FY 2019 incorporated project for Solids Screenings at Four Remote WRRFs, Contract No. CD6630A19. In January 2020, the Maryland Energy Administration notified WSSC Water of approval grant funding up to \$351,750 for Combined Heat & Power. WSSC Water has also applied for grants from SMECO, a local power utility.

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; S - 000170.08 - Septage Discharge Facility Planning & Implementation

Trunk Sewer Reconstruction Program

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	Bi-County 30
S - 000170.09	113805	Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	48,222		7,660	40,562	7,014	7,291	6,358	6,438	6,631	6,830	
Land											
Construction	268,544		25,150	243,394	46,227	58,084	40,157	31,233	32,170	35,523	
Other	31,676		3,281	28,395	5,324	6,536	4,652	3,767	3,880	4,236	
Total	348,442		36,091	312,351	58,565	71,911	51,167	41,438	42,681	46,589	

C. Funding Schedule (000's)

WSSC Bonds	348,442		36,091	312,351	58,565	71,911	51,167	41,438	42,681	46,589	
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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 (ESA). 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.

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

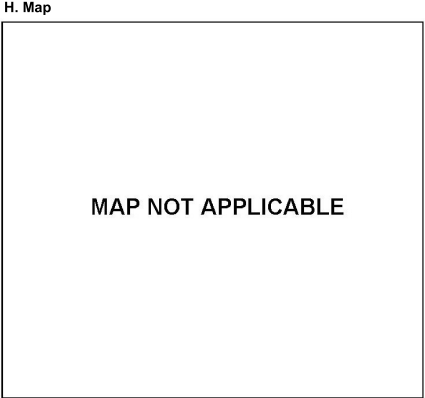
OTHER
 The project scope has remained the same. Reconstruction work will include: reduction of I/I; replacement of substandard sewer segments; in situ lining of sewer segments; pipeline and manhole protection; rebuilding of manholes; and correction of structural defects and poor alignment. The reconstruction 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 2022 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 five miles per year beginning in FY 2024. Land costs are included in WSSC 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; 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

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$22,667	
Total Cost	\$22,667	
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	343,507
Present Cost Estimate	348,442
Approved Request Last FY	69,491
Total Expense & Encumbrances	
Approval Request Year 1	58,565

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	



FINANCIAL SUMMARY

DATE: October 1, 2020

(ALL FIGURES IN THOUSANDS)

PRINCE GEORGE'S COUNTY WATER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 20	EST. EXPEND 21	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM	
						YR 1 22	YR 2 23	YR 3 24	YR 4 25	YR 5 26	YR 6 27			
W-12.02	Prince George's County HG415 Zone Water Main	3,989	574	1,139	2,276	2,267	9	0	0	0	0	0	0	5-2
W-34.02	Old Branch Avenue Water Main	21,830	2,940	5,556	13,334	5,556	5,556	2,222	0	0	0	0	0	5-3
W-34.04	Branch Avenue Water Transmission Improvements	43,910	21,784	1,256	20,870	14,201	5,775	564	330	0	0	0	0	5-4
W-34.05	Marlboro Zone Reinforcement Main	4,269	540	604	3,125	1,946	1,179	0	0	0	0	0	0	5-5
W-62.06	Rosaryville Water Storage Facility	8,758	0	0	460	0	0	0	0	0	460	8,298	5-6	
W-84.03	Smith Home Farms Water Main	3,660	1,694	624	1,342	452	448	442	0	0	0	0	5-7	
W-84.04	Westphalia Town Center Water Main	1,759	642	46	1,071	358	422	291	0	0	0	0	5-8	
W-84.05	Prince George's County 450A Zone Water Main	47,778	3,265	3,685	40,828	13,805	13,217	8,817	4,417	561	11	0	5-9	
W-93.01	Konterra Town Center East Water Main	2,428	248	0	2,180	758	865	557	0	0	0	0	5-10	
W-105.01	Marlton Section 18 Water Main, Lake Marlton Avenue	2,822	31	2	2,789	442	472	470	467	469	469	0	5-11	
W-120.14	Timothy Branch Water Main	3,141	294	1,836	1,011	1,011	0	0	0	0	0	0	5-12	
W-137.03	South Potomac Supply Improvement, Phase 2	67,875	1,927	893	65,055	21,685	21,685	21,685	0	0	0	0	5-13	
	Projects Pending Close-Out	15,613	15,487	126	0	0	0	0	0	0	0	0	5-14	
	TOTALS	227,832	49,426	15,767	154,341	62,481	49,628	35,048	5,214	1,030	940	8,298		

FINANCIAL SUMMARY

DATE: October 1, 2020

(ALL FIGURES IN THOUSANDS)

PRINCE GEORGE'S COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 20	EST. EXPEND 21	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 22	YR 2 23	YR 3 24	YR 4 25	YR 5 26	YR 6 27		
S-27.08	Westphalia Town Center Sewer Main	1,570	832	501	237	161	62	14	0	0	0	0	6-3
S-28.18	Konterra Town Center East Sewer	7,102	4,988	0	2,114	0	2,114	0	0	0	0	0	6-4
S-28.20	Pumpkin Hill WWPS & FM	4,496	183	644	3,669	1,725	1,656	288	0	0	0	0	6-5
S-68.01	Landover Mall Redevelopment	1,422	25	109	1,286	668	426	48	48	48	48	2	6-6
S-75.21	Mattawoman WWTP Upgrades	19,625	0	3,333	14,719	3,983	3,470	2,879	2,597	1,380	410	1,573	6-7
S-77.20	Parkway North Substation Replacement	9,335	3,711	5,497	127	127	0	0	0	0	0	0	6-8
S-77.21	Parkway WRRF Electrical Upgrades	11,066	0	440	10,626	1,760	803	2,453	2,453	2,453	704	0	6-9
S-86.19	Southlake Subdivision Sewer	884	253	232	399	194	205	0	0	0	0	0	6-10
S-87.19	Horsepen WWPS & FM	35,349	849	1,238	33,262	4,146	14,926	8,580	5,610	0	0	0	6-11
S-89.25	Little Anacostia WWPS & FM	9,239	3,716	4,153	1,370	1,370	0	0	0	0	0	0	6-12
S-96.14	Piscataway WRRF Facility Upgrades	169,830	55,106	62,979	51,745	44,153	6,405	1,187	0	0	0	0	6-13
S-118.10	Viva White Oak Sewer Augmentation	1,080	0	0	1,080	432	270	162	108	54	54	0	6-14
S-131.05	Pleasant Valley Sewer Main, Part 2	962	49	219	694	432	179	83	0	0	0	0	6-15
S-131.07	Pleasant Valley Sewer Main, Part 1	1,882	73	510	1,299	1,060	239	0	0	0	0	0	6-16
S-131.11	Calm Retreat Sewer Main	981	0	0	981	883	98	0	0	0	0	0	6-17
S-131.12	Swan Creek WWPS & FM	12,186	3,363	5,655	3,168	1,793	1,375	0	0	0	0	0	6-18
S-157.02	Western Branch WRRF Process Train Improvements	62,543	1,340	3,042	58,161	7,216	18,211	17,765	9,150	4,895	924	0	6-19
	Projects Pending Close-Out	187,748	186,383	1,365	0	0	0	0	0	0	0	0	6-20
	TOTALS	537,300	260,871	89,917	184,937	70,103	50,439	33,459	19,966	8,830	2,140	1,575	

FINANCIAL SUMMARY

DATE: October 1, 2020

(ALL FIGURES IN THOUSANDS)

INFORMATION ONLY PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 20	EST. EXPEND 21	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 22	YR 2 23	YR 3 24	YR 4 25	YR 5 26	YR 6 27		
W-1.00	Water Reconstruction Program	798,631	0	72,105	726,526	83,563	98,645	112,801	128,392	143,484	159,641	0	7-2
S-1.01	Sewer Reconstruction Program	482,660	0	77,258	405,402	71,083	69,344	63,335	65,236	67,195	69,209	0	7-3
A-101.04	Laboratory Division Building Expansion	22,478	724	1,870	19,884	9,482	9,680	722	0	0	0	0	7-4
A-102.00	Engineering Support Program	125,000	0	9,000	116,000	18,000	18,000	20,000	20,000	20,000	20,000	0	7-5
A-103.00	Energy Performance Program	16,015	0	3,938	12,077	3,576	4,376	2,750	1,375	0	0	0	7-6
W-105.00	Water Storage Facility Rehabilitation Program	34,000	0	2,000	32,000	3,000	4,000	5,000	6,000	7,000	7,000	0	7-7
W-107.00	Specialty Valve Vault Rehabilitation Program	7,179	0	1,185	5,994	2,252	1,248	1,302	457	335	400	0	7-8
A-109.00	Advanced Metering Infrastructure	102,591	1,101	3,128	98,362	21,288	31,805	31,805	13,464	0	0	0	7-9
A-110.00	Other Capital Programs	466,501	0	63,451	403,050	53,738	54,818	63,069	71,319	78,920	81,186	0	7-10
S-300.01	D'Arcy Park North Relief Sewer	941	91	275	575	290	285	0	0	0	0	0	7-11
TOTALS		2,055,996	1,916	234,210	1,819,870	266,272	292,201	300,784	306,243	316,934	337,436	0	

Water Reconstruction Program

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	Bi-County
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	
W - 000001.00		Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	110,227		10,928	99,299	10,935	13,144	14,839	17,945	20,008	22,428	
Land											
Construction	586,646		50,763	535,883	61,306	72,696	83,466	94,410	105,936	118,069	
Other	101,758		10,414	91,344	11,322	12,805	14,496	16,037	17,540	19,144	
Total	798,631		72,105	726,526	83,563	98,645	112,801	128,392	143,484	159,641	

C. Funding Schedule (000's)

WSSC Bonds	798,631		72,105	726,526	83,563	98,645	112,801	128,392	143,484	159,641	
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D. Description & Justification

DESCRIPTION
 The purpose of this program is to renew and extend the useful life of water mains, house connections, and large water services. Portions of the water system are more than 80 years old. Bare cast iron mains, installed generally before 1965, permit the build-up of tuberculation which can reduce flow and cause discoloration at the customer's tap. Selected replacement is necessary to supply water in sufficient quantity, quality, and pressure for domestic use and fire fighting. As the system ages, water main breaks are increasing. Selected mains are chronically breaking and other mains are undersized for the current flow standards. Replacement, rehabilitation via structural lining, and the addition of cathodic protection to these mains provides added value to the customer. Galvanized, copper, and cast iron water mains, as well as all other water main appurtenances including meter and PRV vaults are replaced on an as needed basis when they have exceeded their useful life.
 * EXPENDITURES FOR WATER RECONSTRUCTION ARE EXPECTED TO CONTINUE INDEFINITELY.

JUSTIFICATION
 The program's projected work units and expenditure levels for FY 2022 are as follows: design and construction of main replacement and associated water house connection renewals, 31.4 miles - \$66.4M; cathodic protection - \$1.2M; design and construction of large water service replacements - \$10.2M; emergency contracts at depots - \$5.2M; pipe armoring - \$0.6M. Note: The specific mix and type of water main reconstruction may vary in any given year depending on the nature and priority of the work to be addressed. Program level may be adjusted in future years based upon the results of the Asset Management Plan. Based upon the prioritization and recommendations in the FY 2022 Enterprise Asset Management Plan, the number of miles of water main replacement will begin to ramp back up approximately 5 miles per year. Flow studies, water system modeling, and field surveys are routinely conducted. The annual Buried Water Assets System Asset Management Plan identifies the business risk exposure of the water distribution system. FY 2022 Enterprise Asset Management Plan (May 2020).

COST CHANGE

Program costs reflect the latest expenditure and schedule estimates based on the recommendations from the FY 2022 Enterprise Asset Management Plan.

OTHER

The water reconstruction program has been ongoing since 1979. Funding in the six-year program period is subject to Spending Affordability Guideline limits. The following work accomplishments through FY'20 summarize the magnitude of the reconstruction effort: 1,922 miles rehabilitated or replaced; 287 large water service/meters replaced. It is anticipated water reconstruction activity will be a perpetual element of future work programs. WSSC Water Green Bonds issued in December 2019 will be utilized to fund a portion of this project. The annual replacement of small diameter water mains will address the following International Capital Market Association (ICMA) Green Bond Principles 2016 category: Sustainable water management.

COORDINATION

Coordinating Agencies: Local Community Civic Associations; Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Montgomery County Government; Prince George's County Government; Prince George's County Department of Permitting Inspection and Enforcement
 Coordinating Projects: W - 000161.01 - Large Diameter Water Pipe & Large Valve Rehabilitation Program

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$51,952	
Total Cost	\$51,952	
Impact on Water and Sewer Rate	\$0.10	

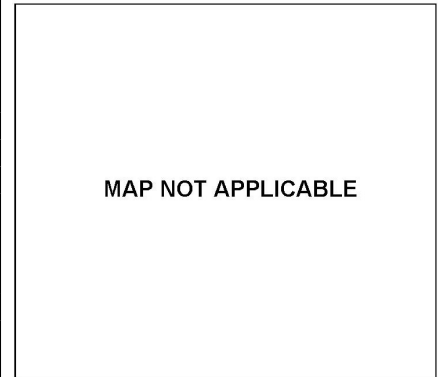
F. Approval and Expenditure Data (000's)

Date First in Program	
Date First Approved	
Initial Cost Estimate	
Cost Estimate Last FY	721,454
Present Cost Estimate	798,631
Approved Request Last FY	72,494
Total Expense & Encumbrances	
Approval Request Year 1	83,563

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	

H. Map



Sewer Reconstruction Program

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	Bi-County 30
S - 000001.01		Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	39,769		7,690	32,079	8,374	4,911	4,492	4,627	4,766	4,909	
Land											
Construction	399,010		62,545	336,465	56,244	58,130	53,084	54,679	56,321	58,007	
Other	43,881		7,023	36,858	6,465	6,303	5,759	5,930	6,108	6,293	
Total	482,660		77,258	405,402	71,083	69,344	63,335	65,236	67,195	69,209	

C. Funding Schedule (000's)

WSSC Bonds	342,660		57,258	285,402	51,083	49,344	43,335	45,236	47,195	49,209	
State Aid	140,000		20,000	120,000	20,000	20,000	20,000	20,000	20,000	20,000	

D. Description & Justification

DESCRIPTION
 This program provides for comprehensive sewer system rehabilitation in residential areas of sewer mains less than 15-inches in diameter and sewer house connections, addressing infiltration and inflow control and exposed pipe problems. This program does not include any major capital projects (e.g. CIP size relief or replacement sewers). These are funded separately in the CIP.
 * EXPENDITURES FOR SEWER RECONSTRUCTION ARE EXPECTED TO CONTINUE INDEFINITELY.

JUSTIFICATION
 The projected work units and expenditure levels for FY '22 are as follows: 20 miles of mainline design & construction - \$28.4M; 6 miles of lateral line construction and associated sewer house connection renewals - \$24.0M; emergency repairs - \$2.3M; Piscataway rehabilitation - \$16.4M. Note: The specific mix and type of sewer reconstruction may vary in any given year depending on identified system defects. Projections are based on historical experience with regards to timing of design and construction work and availability of authorized contractors.
 Comprehensive Basin Studies, Sewer System Evaluation Surveys, Line Blockage Assessments, field surveys, closed-circuit TV inspections, and/or other activities investigating specific portions of the collection system. Annual Buried Wastewater Assets System Asset Management Plan. FY 2022 Enterprise Asset Management Plan (May 2020).

COST CHANGE
 The overall program cost estimate reflects the current plan for the completion of Phase 2 (Priority 2 and Priority 3) Consent Decree work and the rehabilitation work in the Piscataway Basin.

OTHER
 The project scope has remained the same. The program schedule and expenditures shown above reflect the terms of the Sanitary Sewer Overflow Consent Decree between WSSC Water, Maryland Department of the Environment (MDE), and the EPA, entered into on December 7, 2005. WSSC Water has applied for low interest loans through the MDE's Water Quality Administration State Revolving Loan Program and grant funding from the MDE Bay Restoration Fund for portions of this program. The sewer reconstruction program was established in 1979. Expenditures for grouting repairs are included in the operating budget. The following work accomplishments through FY '20 summarize the magnitude of this reconstruction effort: sewer main reconstruction, 528 miles; and sewer house connection renewals, 22,924. It is anticipated that sewer reconstruction activity will be a perpetual element of future work programs.

COORDINATION
 Coordinating Agencies: Local Community Civic Associations; Maryland Department of the Environment; Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Montgomery County Government; Prince George's County Government; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Environmental Protection Agency, Region III
 Coordinating Projects: S - 000170.09 - Trunk Sewer Reconstruction Program

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$22,291	
Total Cost	\$22,291	
Impact on Water and Sewer Rate	\$0.04	

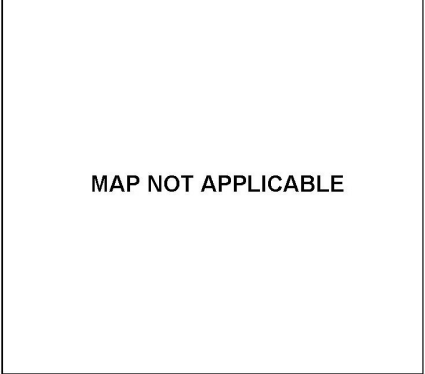
F. Approval and Expenditure Data (000's)

Date First in Program	
Date First Approved	
Initial Cost Estimate	
Cost Estimate Last FY	425,442
Present Cost Estimate	482,660
Approved Request Last FY	55,495
Total Expense & Encumbrances	
Approval Request Year 1	71,083

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	

H. Map



Engineering Support Program

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	Bi-County 30
A - 000102.00		Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision											
Land											
Construction	112,000		8,000	104,000	16,000	16,000	18,000	18,000	18,000	18,000	
Other	13,000		1,000	12,000	2,000	2,000	2,000	2,000	2,000	2,000	
Total	125,000		9,000	116,000	18,000	18,000	20,000	20,000	20,000	20,000	

C. Funding Schedule (000's)

WSSC Bonds	125,000		9,000	116,000	18,000	18,000	20,000	20,000	20,000	20,000	
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D. Description & Justification

DESCRIPTION

The Engineering Support Program (ESP) represents a consolidation of a diverse group of projects whose unified purpose is to support the extensive water and sewer infrastructure and numerous support facilities that are owned, operated, and maintained by WSSC Water.
 *EXPENDITURES FOR ENGINEERING SUPPORT ARE EXPECTED TO CONTINUE INDEFINITELY.

JUSTIFICATION

ESP projects are identified primarily through WSSC Water's Asset Management Planning process. Engineering services are provided for planning, design, and construction to meet a wide range of needs. As such, ESP projects are diverse in scope and typically include work needed to upgrade operating efficiency, modify existing processes, satisfy regulatory requirements, improve safety and security, or rehabilitate aging facilities. The ESP does not include proposed "major projects" which, by law, must be programmed in WSSC Water's Six-Year Capital Improvements Program or projects to serve new development.

Asset Management Implementation Plan, Stearns & Wheler (April 2008) FY 2022 Enterprise Asset Management Plan (May 2020).

COST CHANGE

Not applicable.

OTHER

The ESP process provides a stable funding level for projects that require engineering support. Each year, the requested projects will be prioritized and then initiated subject to the available funding for the fiscal year.

COORDINATION

Coordinating Agencies: Not Applicable
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$8,131	
Total Cost	\$8,131	
Impact on Water and Sewer Rate	\$0.02	

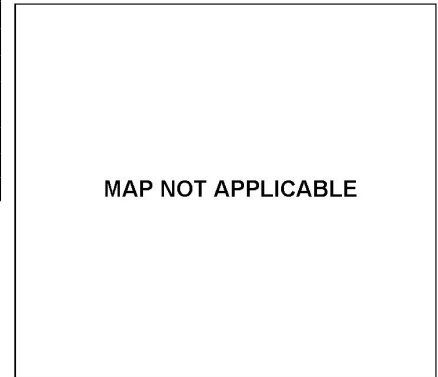
F. Approval and Expenditure Data (000's)

Date First in Program	FY 87
Date First Approved	FY 87
Initial Cost Estimate	
Cost Estimate Last FY	132,000
Present Cost Estimate	125,000
Approved Request Last FY	18,000
Total Expense & Encumbrances	
Approval Request Year 1	18,000

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	

H. Map



Water Storage Facility Rehabilitation Program

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	Bi-County
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	
W - 000105.00		Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	7,000		1,000	6,000	1,000	1,000	1,000	1,000	1,000	1,000	
Land											
Construction	23,909		818	23,091	1,727	2,636	3,545	4,455	5,364	5,364	
Other	3,091		182	2,909	273	364	455	545	636	636	
Total	34,000		2,000	32,000	3,000	4,000	5,000	6,000	7,000	7,000	

C. Funding Schedule (000's)

WSSC Bonds	34,000		2,000	32,000	3,000	4,000	5,000	6,000	7,000	7,000	
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D. Description & Justification

<p>DESCRIPTION</p> <p>The Water Storage Facility Rehabilitation Program provides for the comprehensive rehabilitation of WSSC Water's more than 60 water storage facilities located throughout WSSC Water service area holding over 200 million gallons of finished drinking water. The Program provides for structural metal and concrete foundation repairs, equipment upgrades to meet current OSHA standards, lead paint removal, security upgrades, advanced mixing systems to improve water quality, and altitude valve vault and supply pipe replacements.</p> <p>JUSTIFICATION</p> <p>Currently, there are more than 20 steel tanks whose last painting contract was finished 10 or more years ago. Many older tanks have accumulated significant layers of paint which have lost their bonding strength to the steel. Old coatings will be completely removed and costly lead abatement techniques will be required in many cases. The recommended practice is to do this extra work every third re-coating to extend the service life of the structure. Modern coating systems should extend the length of service between coatings from the current 10 years to somewhere between 15 to 20 years.</p> <p>COST CHANGE</p> <p>Program costs have been updated to reflect the accelerated schedule for the remaining tanks in the program.</p> <p>OTHER</p> <p>The project scope has remained the same. Tanks are prioritized based on the condition of the existing coating and structural integrity issues. The Program plan for FY '22 will include the following water storage facilities: North Woodside Standpipe, Pointer Ridge Elevated Tank, Greenbelt Standpipe, Andrews Elevated Tank, Wall Lane Standpipe, Brink Elevated Tank, and Cedar Heights Reservoir.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Montgomery County Government; Prince George's County Government Coordinating Projects: Not Applicable</p>
--

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$2,212	
Total Cost	\$2,212	
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)	
Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	
Cost Estimate Last FY	18,700
Present Cost Estimate	34,000
Approved Request Last FY	1,650
Total Expense & Encumbrances	
Approval Request Year 1	3,000

G. Status Information	
Land Status	Public/Agency owned land
Project Phase	On-Going
Percent Complete	0 %
Estimated Completion Date	On-Going
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map
<p>MAP NOT APPLICABLE</p>

Advanced Metering Infrastructure

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	
A - 000109.00		Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	8,764	1,101	2,979	4,684	1,013	1,515	1,515	641			
Land											
Construction	88,993			88,993	19,261	28,775	28,775	12,182			
Other	4,834		149	4,685	1,014	1,515	1,515	641			
Total	102,591	1,101	3,128	98,362	21,288	31,805	31,805	13,464			

C. Funding Schedule (000's)

WSSC Bonds	102,591	1,101	3,128	98,362	21,288	31,805	31,805	13,464			
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D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides for the implementation of a system-wide automated meter reading infrastructure system (System), new comprehensive customer billing system, new data analysis software, and software integration with WSSC Water's data management system. All meters will receive new Meter Interface Units with internal antenna capable of obtaining and transmitting the meter register reading. All readings will be collected remotely by either a fixed or cellular communication network.</p> <p>JUSTIFICATION</p> <p>The System will be required to obtain accurate register readings from a variety of water meters located in indoor, pit-set, and underground vault settings, and be universally compatible with the existing meters in the distribution system.</p> <p>Dial Outbound AMR Trial Final Report, Metering Services, Inc. (1990); An Economic Evaluation of AMR for WSSC, Marilyn Harrington (1992); Cost of Meter Reading Study, Marilyn Harrington (2000); The WSSC Experience with Radio-Frequency AMR on Commercial & Industrial Meters (2002); Radio Frequency Solution for Meter Reading (2003); AMR Phase I (July 2005); Customer Care Team Departmental Action Item #20 - AMR Installation (2007); Advanced Metering Infrastructure Study, R.W. Beck (March 2011).</p> <p>COST CHANGE</p> <p>Order of Magnitude cost estimates were increased for inflation.</p> <p>OTHER</p> <p>The project scope has remained the same. AMI will improve both customer service and operational efficiency. The expected results include: Monthly billing based on actual meter readings. This would reduce bill size to help customers stay current with their payments, help customers develop a greater awareness of their water consumption, and ensure that problems such as excessive consumption due to leaks are addressed more quickly; Active notification of customers with abnormal consumption that might signify leaks before they get high consumption bills; Reduced customer calls; Reduced field investigation visits; Provide opportunities to employ more sophisticated rate structures; Analysis of individual consumption patterns to detect meters suspected of wearing out, or perform meter sizing analysis to ensure that large meters are optimally sized; Monitoring of individual consumption to perform precise, targeted conservation enforcement during droughts; Opportunities to improve the monitoring and operation of the distribution system, in order to detect and reduce non-revenue water. Schedule and expenditure estimates are Order of Magnitude estimates originating from the March 2011 study. These estimates are expected to change based upon the latest technology available at the time the project is bid. The AMI project schedule was delayed until the implementation of the new customer billing software, Customer2Meter (C2M) was complete. Pilot testing of the latest meter technology is underway. Due to the public health emergency relating to the COVID-19 outbreak, planned public meetings were suspended and the project was postponed.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Montgomery County Government; Prince George's County Government Coordinating Projects: Not Applicable</p>
--

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$6,674	26
Total Cost	\$6,674	26
Impact on Water and Sewer Rate	\$0.01	26

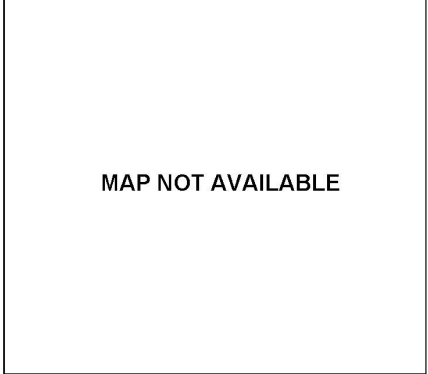
F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	86,000
Cost Estimate Last FY	99,603
Present Cost Estimate	102,591
Approved Request Last FY	20,687
Total Expense & Encumbrances	1,101
Approval Request Year 1	21,288

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	80 %
Estimated Completion Date	June 2025
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	1,800,000
Capacity	

H. Map



Other Capital Programs

A. Identification and Coding Information			PDF Date	October 1, 2020	Pressure Zones	
Agency Number	Project Number	Update Code	Date Revised		Drainage Basins	
A - 000110.00		Change			Planning Areas	Bi-County

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'20	Estimate FY'21	Total 6 Years	Year 1 FY'22	Year 2 FY'23	Year 3 FY'24	Year 4 FY'25	Year 5 FY'26	Year 6 FY'27	Beyond 6 Years
Planning, Design & Supervision	52,959		7,155	45,804	7,286	7,420	7,558	7,699	7,845	7,996	
Land											
Construction	266,060		37,246	228,814	37,533	37,764	38,003	38,248	38,502	38,762	
Other	147,483		19,050	128,433	8,919	9,634	17,508	25,372	32,573	34,428	
Total	466,502		63,451	403,051	53,738	54,818	63,069	71,319	78,920	81,186	

C. Funding Schedule (000's)

WSSC Bonds	466,502		63,451	403,051	53,738	54,818	63,069	71,319	78,920	81,186	
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D. Description & Justification

DESCRIPTION
 Other Capital Programs (OCP) includes miscellaneous capital projects, programs and expenditures for common, non-CIP, enterprise-wide activities such as Relocations, New Water & Sewer House Connections, Purchase of Water Meters, Paving and General Construction of Local Lines.
 *EXPENDITURES FOR OTHER CAPITAL PROGRAMS ARE EXPECTED TO CONTINUE INDEFINITELY.

JUSTIFICATION
 The OCP does not include proposed "major projects" which, by law, must be programmed in WSSC Water's Six-Year Capital Improvements Program (CIP) or projects to serve new development.

COST CHANGE
 Not applicable.

OTHER
 The OCP summarizes capital expenditures and allocated costs that are not already included in the CIP or in other Information Only projects. Expenditures for the budget year are estimated during the annual CIP update cycle each summer for the Proposed CIP document. The estimates will be revised and updated during the annual budget update cycle each fall for the Proposed Operating & Capital Budget document. Future years are Order of Magnitude estimates and are expected to change with each update cycle.

COORDINATION
 Coordinating Agencies: Not Applicable
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance		
Debt Service	\$30,347	
Total Cost	\$30,347	
Impact on Water and Sewer Rate	\$0.07	

F. Approval and Expenditure Data (000's)	
Date First in Program	FY 21
Date First Approved	FY 21
Initial Cost Estimate	
Cost Estimate Last FY	490,748
Present Cost Estimate	466,502
Approved Request Last FY	61,313
Total Expense & Encumbrances	
Approval Request Year 1	53,738

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	

H. Map

MAP NOT APPLICABLE

ADDENDUM
T&E COMMITTEE #1
March 8, 2021



FYs 2022-2027 CIP - T&E Committee Briefing

March 8, 2021


Agenda


- Strategic Priorities
- Long Range Financial Plan
- Capital Budget Affordability
- FY 2022 CIP Overview and Highlights
- FY 2022 CIP Projects





Strategic Priorities

The CIP supports the following WSSC Water strategic priorities:

-  **Optimize Infrastructure**
- Achieve industry-leading reliability and asset integrity
 - Expand resilience and balance risk

-  **Spend Customer Dollars Wisely**
- Improve operational efficiency
 - Improve fixed asset utilization
 - Improve financial process efficiency and fiscal sustainability

-  **Enhance Customer Experience**
- Deliver safe, reliable and consistent service
 - Provide timely response to customer queries
 - Be a good citizen within our communities

-  **Protect Our Resources**
- Resolve and learn from past incidents
 - Maintain best-in-class operating environment safety for employees
 - Plan proactively with community stakeholders
 - Secure the commission's critical infrastructure



Long Range Financial Plan

(\$ In thousands)	FY 2021 Approved	FY 2022 Proposed	FY 2023 Projected	FY 2024 Projected	FY 2025 Projected	FY 2026 Projected	FY 2027 Projected
New Water and Sewer Debt Issues	\$ 409,922	\$ 409,704	\$ 415,548	\$ 356,388	\$ 350,000	\$ 350,000	\$ 350,000
Water and Sewer Combined Rate Increase (Avg)	6.0%	5.9%	8.0%	8.0%	7.0%	6.5%	6.0%
Debt Service Coverage (1.10 - 1.25 is Target)	1.01	1.04	1.09	1.15	1.19	1.24	1.25
Debt Service as a % of Total Expenses (< 40% is Target)	37.5%	36.7%	37.4%	37.9%	38.0%	38.2%	38.2%
15%)	20.1%	19.6%	19.6%	20.4%	20.6%	21.7%	23.5%
Days Operating Reserve-on-Hand (75-105 Days is	70.9	70.3	71.3	75.3	75.5	80.6	87.9
Total Workyears (All Funds)	1,776	1,786	1,786	1,786	1,786	1,786	1,786



Capital Budget Affordability

A fiscally responsible CIP results in:

- Maintaining our AAA credit rating
 - Adhering to financial metrics and guidelines
- An affordable CIP
 - Fits within rate increases as proposed
 - Aligns anticipated bond issuance limits over the six-year program
 - Keeps project funding in line with what is affordable
- Increased importance on prioritization of projects for inclusion, elimination, scale-down, or deferral
- Increased use of PAYGO to lower debt service expense and improve metric results - especially with rate risk



FY 2022 CIP Overview & Highlights

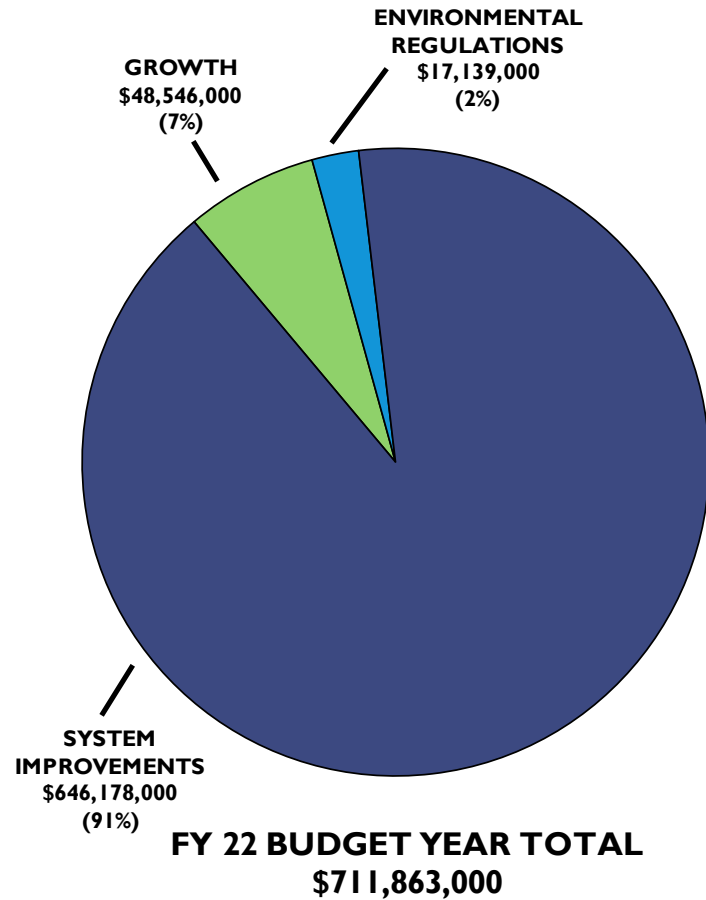
Mid-Cycle

FY 2022 – FY 2027 CIP

- Six-year program cost of \$3.8 billion
 - Bond funded \$3.2 billion (plus PAYGO of \$327.6 million)
 - Mandated projects \$1.3 billion (34%)
 - Blue Plains \$392.1 million
 - Consent Decree \$892.6 million
 - Other Regulatory & Agreement \$14.7 million
- FY 22 budget year cost of \$711.9 million
 - Bond funded \$607.8 million (plus PAYGO of \$27.6 million)
 - Mandated projects \$198.8 million (28%)



FY 2022 CIP Overview & Highlights



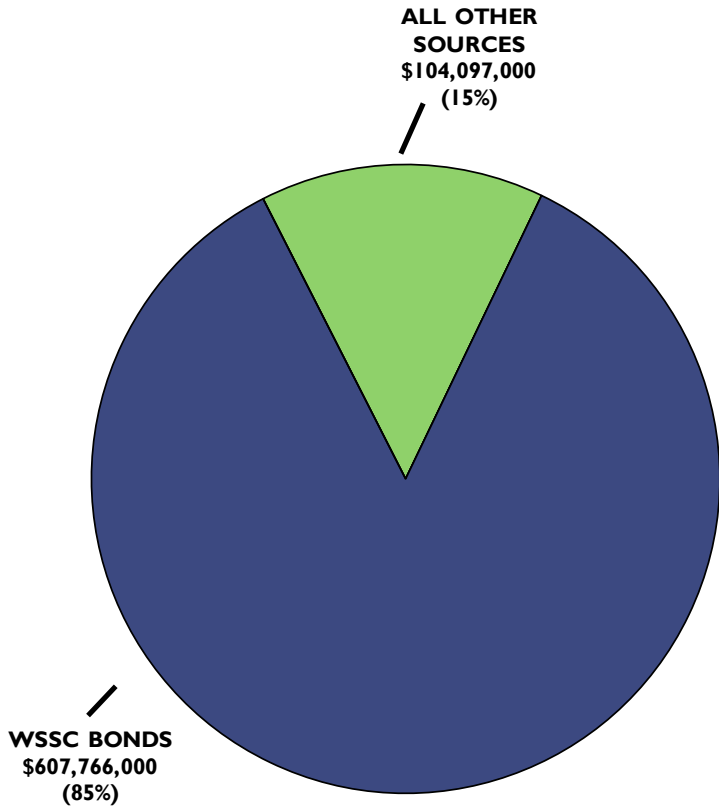
91%

of the FY 22 combined program is for reinvestment in our system infrastructure.

Major Category	FY 22 Amount
Growth	48,546,000
System Improvements	646,178,000
Environmental Regulations	17,139,000
Total	711,863,000



FY 2022 CIP Overview & Highlights



FY 22 BUDGET YEAR TOTAL
\$711,863,000

85%

of the FY 22 combined program is funded through long-term debt.

Funding Source	FY 22 Amount
Federal & State Grants	24,471,000
SDC & Others	48,698,000
Local Government Contributions	3,343,000
WSSC Bonds	607,766,000
PAYGO	27,585,000
Total	711,863,000



FY 2022 CIP Project Highlights



FY 2022 CIP Overview and Highlights

Water Reconstruction Program

(W-1.00; p. 7-2)

- Program scope: over 4,500 miles of water main and associated water house connections
- Rehabilitated on average more than 50 miles per year over the past 10 years
- Investing in new technology and tools to develop a more efficient and effective program
- FY 22 program: 31 miles
- FY 22 budget: \$83.6 million



FY 2022 CIP Overview and Highlights

Large Diameter Water Pipe & Large Valve Rehabilitation Program

(W-161.01; p. 3-7)

- Program scope: over 1,000 miles of water pipe and over 1,400 large water valves
- Over 100 miles of Pre-stressed Concrete Cylinder Pipe (PCCP) inspected and monitored 24/7; avoided 44 imminent pipe failures
- Over 7,900 pipe joints repaired
- Over 550 pipe segments repaired/replaced
- Over 1,300 valves inspected and repaired
- FY 22 budget: \$61.7 million



FY 2022 CIP Overview and Highlights

Sewer Reconstruction Program

(S-1.01; p. 7-3)

- Program scope: nearly 5,000 miles of sewer main and associated sewer house connections
- Rehabilitate 20 miles per year
- Consent Decree: all 131.4 miles awarded for construction; 131.3 miles completed as of October 2020
- Funding via Maryland Department of the Environment (MDE) low-interest loans and Bay grants
- FY 22 program: 25 miles sewer mains; 6 miles lateral lines and house connections
- FY 22 budget: \$71.1 million



FY 2022 CIP Overview and Highlights

Trunk Sewer Reconstruction Program

(S-170.09; p. 4-13)

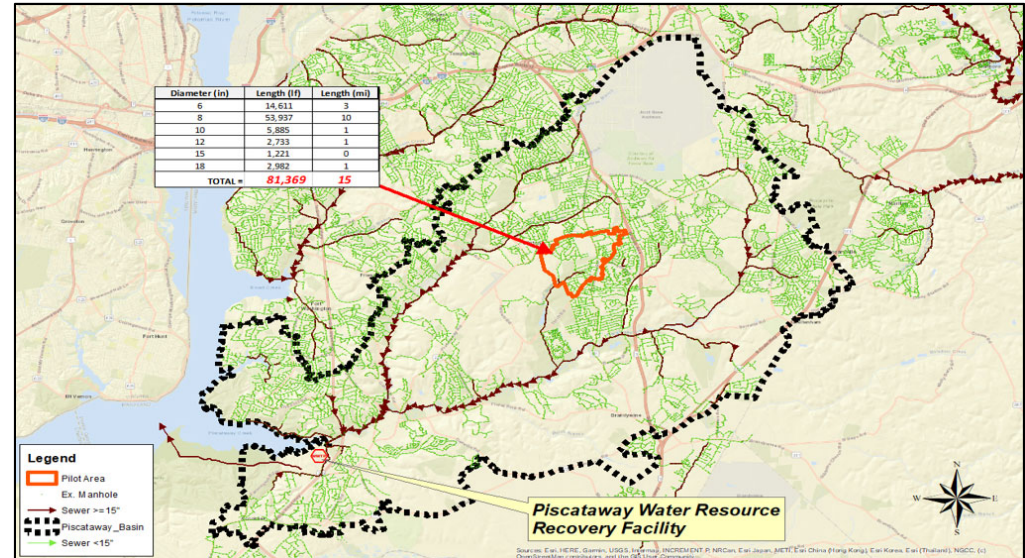
- Inspection and evaluation of all 24 sewer basins complete (over 1,300 miles inspected)
- Comprehensive rehabilitation of sewer pipes in Environmentally Sensitive Areas (ESAs) currently underway to reduce infiltration and inflow
- Replacement of pipe, relining of pipe, pipeline protection, and rehabilitation of manholes and force mains
- Consent Decree: 158.4 of 158.5 miles awarded for construction; 131.2 miles completed as of October 2020
- Sanitary Sewer Overflow (SSO) Consent Decree deadline extended to 2022
- FY 22 budget: \$58.6 million



FY 2022 CIP Overview and Highlights

Piscataway Rehabilitation Program

- Rehabilitation work for the Piscataway Basin was added to the Sewer and Trunk Sewer reconstruction programs in FY 22
- The work includes capital activities (pipe replacement and pipe lining) and operating activities (pipe grouting and manhole repairs)
- FY 22 budget:
 - \$28.3 million in capital
 - \$5.1 million in operating
- Total budget estimate:
 - \$80.0 million in capital
 - \$23.9 million in operating



FY 2022 CIP Overview and Highlights

Potomac Water Filtration Plant (WFP)

- The Potomac WFP produced an average of 112.9 million gallons of water per day (MGD) in FY 20

Potomac WFP Consent Decree Program

(W-73.33, p. 3-6)

- Long-term Upgrade Plan approved by MDE currently in design
- Total cost estimate: \$203.0 million
- FY 22 budget: \$10.5 million



FY 2022 CIP Overview and Highlights

Blue Plains Wastewater Treatment Plant (WWTP)

(S-22.series, p. 4-4 to 4-8)

- The Blue Plains WWTP is owned and operated by DC Water
- WSSC Water's share of the capital costs of the plant is approximately 46%
- Blue Plains treats approximately 65% of WSSC Water's wastewater
- The largest projects include the long-term control plan tunnels
- At \$392.1 million, Blue Plains projects represent 19% of the six-year CIP program
- The FY 22 budget, at \$54.6 million, represents 12% of the CIP budget year



FY 2022 CIP Overview and Highlights

Piscataway Bioenergy

(S-103.02; p. 4-10)

- Innovative project that will transform sewage into renewable energy
- Recover 2-3 megawatts of renewable energy
- Treat biosolids from 5 Water Resource Recovery Facilities (WRRFs)
- Reduce greenhouse gas emissions
- Protect the Chesapeake Bay
- Projected economic benefit of \$3.7 million per year
- Construction started May 2019
- FY 22 budget is \$97.9 million



FY 2022 CIP Overview and Highlights

Advanced Metering Infrastructure (AMI)

(A-109.00; p. 7-9 / p.29)

- Implementation of a system-wide fully automated meter reading infrastructure system and new comprehensive customer billing and data analysis integration software
- AMI will improve both customer service and operational efficiency including:
 - Allows for monthly billing
 - Provides customers near real-time water usage information to help them save money
 - Reduced customer calls and reduced field investigation visits
 - Opportunities to employ more sophisticated rate structures
 - Analysis of individual consumption patterns to detect meters wearing out and perform meter sizing analysis
 - Monitoring of individual consumption to perform precise, targeted conservation enforcement during droughts
 - Opportunities to improve the monitoring and operation of the distribution system and reduce non-revenue water
- Estimated total cost of \$102.6 million (order of magnitude estimate based on March 2011 study plus inflation; expected to change based upon actual bids)
- Mid-Cycle CIP – remove all funding



Questions?

