

Potomac WFP Main Zone Pipeline

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W - 000073.32	133800	Change

PDF Date	October 1, 2021
Date Revised	

Pressure Zones	Montgomery Main 495A; Prince George's High HG450A;
Drainage Basins	
Planning Areas	Potomac-Cabin John & Vicinity PA 29

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'21	Estimate FY'22	Total 6 Years	Year 1 FY'23	Year 2 FY'24	Year 3 FY'25	Year 4 FY'26	Year 5 FY'27	Year 6 FY'28	Beyond 6 Years
Planning, Design & Supervision	22,981	1,931	1,150	19,900	1,100	4,400	4,400	3,600	3,600	2,800	
Land											
Construction	83,000			83,000				36,000	36,000	11,000	
Other	5,203		58	5,145	55	220	220	1,980	1,980	690	
Total	111,184	1,931	1,208	108,045	1,155	4,620	4,620	41,580	41,580	14,490	

C. Funding Schedule (000's)

WSSC Bonds	45,586	792	495	44,299	474	1,894	1,894	17,048	17,048	5,941	
SDC	65,598	1,139	713	63,746	681	2,726	2,726	24,532	24,532	8,549	

D. Description & Justification

DESCRIPTION

This project provides for the planning, design, and construction of redundant finished water discharge mains, water pumping station upgrades, and other process improvements at the Potomac Water Filtration Plant (WFP) to ensure a safe and reliable water supply. This work includes the following: two new 54-inch discharge pipes from the Main Zone and High Zone pumping stations that will feed into a new 84-inch discharge main that runs to the 96-inch and 66-inch main wye connections on River Road; the addition of two new pumps in the High Zone pumping station to serve the Main Zone; a new 66-inch suction pipe to serve the new pumps in the High Zone pumping station; other modifications to the High Zone pumping station, including surge protection modifications and electrical upgrades; and replacement of the existing 78-inch and 48-inch PCCP discharge mains, which are nearing the end of their useful lives, after the new 84-inch redundant discharge main is in place.

BENEFIT

System Reliability: This project will improve service reliability through fewer and shorter service interruptions.; Infrastructure Reinvestment: This project replaces existing infrastructure that has exceeded its useful life.

JUSTIFICATION

The primary purpose of this project is to provide redundancy to facilitate extended shutdowns for periodic maintenance, inspections, and repairs and to mitigate the risk to plant operations due to failure of any one of the finished water mains. The existing 78-inch PCCP main, which was installed in 1967, is the primary feed to the 96-inch Montgomery County Main Zone pipeline and the 66-inch River Road pipeline. The existing 48-inch PCCP main, which was installed in 1962, serves as only a partial backup to the 78-inch line, since it is not adequately sized to meet the current summer season demands. Furthermore, the existing mains are nearing the end of their useful lives and the 78-inch main alone cannot meet the projected 2040 maximum day demands of 210 MGD. The 78-inch main and the 48-inch main together could convey 210 MGD; however, relying on both pipes to meet future demands would decrease the redundancy and reliability of WSSC Water's system. The redundancy, process improvement, and rehabilitation/replacement work recommended by the Potomac WFP Main Zone Redundancy Business Case Evaluation (CDM Smith, May 2021), undertaken as part of WSSC Water's Asset Management Program, provides value to the customer by minimizing the risk of failure and ensuring a safe and reliable supply of up to 210 MGD of water in order to meet the current and future needs of the WSSD.

COST CHANGE

The schedule and expenditure projections have been updated to reflect the revised scope of the project.

OTHER

The project scope has been revised to include additional redundancy measures, rehabilitation/replacement of aging equipment, and other process improvements that were identified and validated through WSSC Water's Asset Management Program. The schedule and expenditure projections shown in Block B above are order of magnitude estimates and are expected to change based upon site conditions and design constraints. The schedule may change with the construction of the 78-inch and 48-inch replacement pipes after FY'28, once the 84-inch discharge main is in place.

COORDINATION

Coordinating Agencies: Maryland Department of Natural Resources; Maryland Department of the Environment; Maryland State Highway Administration;

E. Annual Operating Budget Impact (000's)		FY of Impact
Staff & Other		
Maintenance	\$44	29
Debt Service	\$2,636	29
Total Cost	\$2,680	29
Impact on Water and Sewer Rate	\$0.01	29

F. Approval and Expenditure Data (000's)

Date First in Program	FY'13
Date First Approved	FY'13
Initial Cost Estimate	330
Cost Estimate Last FY	39,069
Present Cost Estimate	111,184
Approved Request Last FY	913
Total Expense & Encumbrances	1,931
Approval Request Year 1	1,155

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Planning
Percent Complete	95 %
Estimated Completion Date	June 2028

Growth	59%
System Improvement	41%
Environmental Regulation	
Population Served	
Capacity	210 MGD

H. Map

MAP NOT AVAILABLE

