



PROPOSED CIP

Capital Improvements Program

FYs 2019-2024

Washington Suburban Sanitary Commission

Proposed Six-Year Capital Improvements Program Fiscal Years 2019 - 2024

October 1, 2017

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On our cover: Our Piscataway Bio-Energy project employs innovative technologies to recover resources and produce green energy, while achieving optimum value for our customers. WSSC's investment in advanced technology will advance our region through efficiency, technology, and sustainability. Through this project, we'll be putting science to work to improve WSSC processes and reduce our overall environmental impact.

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**WASHINGTON SUBURBAN SANITARY COMMISSION
PROPOSED CAPITAL IMPROVEMENTS PROGRAM
FISCAL YEARS 2019-2024**

LEGAL AUTHORITY AND RESPONSIBILITY

Statutory Basis

Under Section 23-301 of the Public Utilities Article, WSSD Laws, Annotated Code of Maryland, the Washington Suburban Sanitary Commission (WSSC) is responsible for annually preparing a Six-Year Capital Improvements Program (CIP) for major water and sanitary sewerage facilities and transmitting it to the County Council and the County Executive of Montgomery County and the County Executive of Prince George's County by October 1 each year. The Commission, where required by the two County Councils' final action on the program, must revise the same and then, prior to the commencement of the first fiscal year of the six-year program, adopt the Capital Improvements Program.

Section 23-301 defines major projects for inclusion in the CIP as water mains at least 16 inches in diameter, sewer mains at least 15 inches in diameter, water or sewage pumping stations, force mains, storage facilities, and other major facilities. Project information presented in this document complies with all legal requirements of the ten-year water and sewerage plans and is in direct support of the two counties' approved land use plans and policies for orderly growth and development. By WSSC Resolution No. 2017-2160 dated June 21, 2017, the Commission adopted the FYs 2018-2023 CIP as amended.

WSSC's Role

The Commission is a bi-county agency established 100 years ago, in 1918, by an act of the Maryland General Assembly. The WSSC is responsible for planning, designing, constructing, operating, and maintaining water and sewerage systems, and acquiring facility sites and rights-of-way in order to provide potable water and sanitary sewer services to residents, businesses, and federal, state, and local municipalities within the Washington Suburban Sanitary District (WSSD). The WSSD encompasses nearly all of Montgomery and Prince George's Counties and provides water and sewer service to approximately 1.8 million customers in an area of nearly 1,000 square miles. A board of six commissioners directs the WSSC, three appointed by the County Executive of Prince George's County and confirmed by the Prince George's County Council, and three appointed by the Montgomery County Executive and confirmed by the Montgomery County Council. Commissioners serve four-year staggered terms.

WSSC's Mission

We are entrusted by our community to provide safe and reliable water, life's most precious resource, and return clean water to our environment, all in an ethical, sustainable, and financially responsible manner.

WSSC's Responsibilities

The WSSC's primary responsibilities include:

- protecting the health and safety of the residents of both counties by providing an adequate supply of safe drinking water;
- meeting fire-fighting requirements;
- collecting and adequately treating wastewater before it is returned to the waters of the State of Maryland;
- managing and safeguarding the watershed and the water supply by implementing sound forestation and land use practices, and by discouraging development within the watershed buffer;
- monitoring the collection and treatment of wastewater;
- discharging an effluent cleansed of nutrients, pollutants, and hazardous materials;
- managing treated wastewater biosolids responsibly and cost effectively;
- maintaining the existing water and wastewater infrastructures;
- planning for the orderly growth of the Sanitary District and WSSC services to meet the needs of the communities we serve;
- monitoring adherence to all plumbing and gasfitting standards and ensuring proper coordination with other public utilities; and
- managing operations to provide efficient service to its customers while keeping costs as low as possible.

The projects contained in this Capital Improvements Program represent the WSSC's plan to successfully meet its responsibilities. The WSSC strives to maintain a balance between the use of valuable resources and the public's demand for clean water. In carrying out these activities that will help ensure that we fulfill our core mission, we are energized by the opportunity to strengthen our local economies by assuring that we maintain fair, ethical and equitable contracting practices. This will allow us to secure high quality and competitively priced goods and services from our diverse and talented local businesses in Prince George's and Montgomery Counties.

PROGRAM OVERVIEW

Objective

The principal objective of the Capital Improvements Program (CIP) is the six-year programming of planning, design, land acquisition, and construction activities on a yearly basis for major water and sewerage infrastructure projects and programs. These projects and programs may be necessary for system improvements for service to existing customers, to comply with federal and/or state environmental mandates, or to support new development in accordance with the counties' approved plans and policies for orderly growth and development.

Spending Affordability and Fiscal Implications

Projects in this CIP are primarily financed with funds from the Water Supply and Sewage Disposal Bond Funds. The Commission largely finances these projects with the proceeds from the sale of long-term debt. Water supply bonds are issued to finance the planning, design, and construction of major water treatment, storage, and transmission facilities. Sewage disposal bonds are issued to finance the planning, design, and construction of major sewage collection, treatment, and disposal facilities.

The water supply and sewage disposal bonds are repaid to bond holders over a 30-year period by annual principal and interest payments or, debt service. In this manner, the initial high cost of capital improvements is spread over time and paid for by future customers who will benefit from the facilities, as well as by current customers. The annual debt service on outstanding bonds is paid from the Commission's operating funds. The primary funding source for the repayment of debt is the revenue generated by water consumption and sewer use charges. Water and sewer charges are set on an annual basis to cover both operational and debt service costs (associated with the water supply and sewage disposal bonds) of the Commission. It is through this capital project financing process that the size of the CIP impacts the size of water and sewer bond issues, the associated debt service costs, and, ultimately, our customers' water and sewer bills.

Several capital spending and funding practices are noteworthy. The Commission:

- continues an aggressive program to rehabilitate or replace the older portions of the Commission's 5,500 miles of water main and 5,400 miles of sewer main infrastructure;
- funds capital facilities needed to accommodate growth with the System Development Charge (SDC). This charge is reviewed annually by the County Councils. (Refer to Appendices A and B for details. A comparison of SDC revenues and estimated growth spending for the six-year program period is displayed on the table titled "Growth Funding Gap" in the Funding Growth section of this document.);

- uses PAYGO (Pay-As-You-Go): the practice of using current revenues, when budgeted, to the extent practical to help fund the capital program, thereby reducing the need for debt financing;
- maximizes and manages the collection of funding from alternative sources including state and federal grants, and payments from other jurisdictions for projects which specifically benefit them. The amount of these collections varies from year to year. The WSSC's reliance on rate-supported debt to build the capital program is reduced to the extent that these sources are available to help fund capital projects; and
- does not allow the use of rate-supported debt to fund CIP-sized water and sewer projects requested by Applicants in support of new development. These projects, identified as Development Services Process (DSP) projects, may only proceed if built at the Applicant's expense. (An explanation of the DSP process is included in the Development Services Process section of this document.) However, since these projects are eligible for SDC credits (to the extent that SDC funds are available), the Applicants should eventually recoup their costs. (Refer to Appendix B for definitions and details.)

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 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." The objective of this process is to create a framework for controlling costs and achieving low or moderate water/sewer bill increases, as well as slowing the rate at which the WSSC is incurring debt, thus reducing the portion of WSSC water/sewer bills dedicated to paying off debt. This valuable, annual process focuses debate on the need to balance affordability considerations against providing the resources necessary to serve existing customers, meet environmental mandates, and provide the facilities needed for growth.

The Commission has submitted a CIP and budget, which generally conforms to the Spending Affordability Guidelines (SAG) established by both county governments every year since 1994. Over the five-year period from FY'96 through FY'00, CIP spending was reduced by a total of \$85.9 million. Over the period from FY'01 to FY'07, the Commission submitted budgets that did not require any further reductions. In two of the three years from FY'08 to FY'10, CIP spending was reduced or deferred by a total of \$95.8 million. The FY'11 through FY'18 CIPs did not require any reductions.

The FY'19 expenditures are estimated at \$424.4 million, which represents a decrease of approximately \$52.8 million from the approved funding level for FY'18. The decrease is primarily due to the decrease in the Trunk Sewer Reconstruction Program and projected construction progress on the Blue Plains WWTP Enhanced Nutrient Removal, and Patuxent WFP Expansion projects.

Funding Sources

The projects included in this Capital Improvements 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 and for the rehabilitation of sewer mains as part of the Chesapeake Bay Program;
- Federal Grants - Department of Energy grants related to WSSC’s Energy Performance Program and Piscataway WWTP Bio-Energy projects to promote and develop green energy sources;
- Local Government Contributions – payments to the WSSC 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 (SDC); and
- Contribution/Other – projects funded by Applicants for growth projects where the County Councils have directed that no WSSC rate-supported debt be used to pay for the project.

A graph is provided on page 25 which displays the funding allocations for the major funding sources.

Funding Growth

The portion of the CIP needed to accommodate growth is approximately \$153 million, which equals 8% of all expenditures in the six-year program. The major funding sources for this part of the program are System Development Charge (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 the WSSC to impose, a System Development Charge. This is a charge on new development to pay for that part of the Commission's Capital Improvements Program needed to accommodate growth in the WSSC's customer base. In accordance with the enabling legislation, the Councils approved, and the Commission began to phase in, this charge beginning in FY'94. The SDC charge was eventually 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'18, 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 Commission adopted the Councils' actions by Resolution Number 2017-2157 dated June 21, 2017. Policies and other information associated with the System Development Charge are included in this document in Appendices A through D.

It is estimated that there will be an overall growth funding surplus of \$44.8 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 WSSC would issue new SDC supported debt to cover this temporary gap rather than increasing the SDC. 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 that follows. To estimate the gap/surplus for an individual fiscal year, it is assumed that 92% 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)

	<u>FY'19</u>	<u>FY'20</u>	<u>FY'21</u>	<u>FY'22</u>	<u>FY'23</u>	<u>FY'24</u>	<u>6 YEAR TOTAL</u>
CIP GROWTH EXPENDITURES	\$69.7	\$48.0	\$20.0	\$5.1	\$5.5	\$4.2	\$152.5
Expenditures Adjusted for Completion	64.1	49.8	22.2	6.3	5.5	4.3	152.2
FUNDING SOURCES							
Privately Funded Projects	14.8	12.8	5.2	1.0	1.1	0.9	35.8
Estimated SDC Revenue	28.7	29.7	29.7	31.7	31.7	32.7	184.2
Less SDC Developer Credits	(4.0)	(4.0)	(3.0)	(2.0)	(2.0)	(2.0)	(17.0)
Less SDC Exemptions ¹	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(6.0)
TOTAL FUNDING SOURCES	\$38.5	\$37.5	\$30.9	\$29.7	\$29.8	\$30.6	\$197.0
FUNDING GAP/(SURPLUS)							
ADJUSTED FOR COMPLETION	\$25.6	\$12.3	(\$8.7)	(\$23.4)	(\$24.3)	(\$26.3)	(\$44.8)

¹Each County may grant SDC exemptions, as identified in Appendix A, totaling up to \$500,000 per fiscal year as provided for in Maryland State Law (Public Utilities Article, Section 25-403(b)). Unused exemption amounts are available for use in future fiscal years. Cumulative unused SDC exemptions totaled approximately \$6.2 million for Montgomery County and \$2.9 million for Prince George's County through June 30, 2017.

Expenditures

The FYs 2019-2024 Proposed Capital Improvements Program includes 70 projects for a grand total of \$3.5 billion dollars. The grand total is \$180 million greater than the Adopted FYs 2018-2023 CIP primarily due to updating the Potomac WFP Consent Decree project to reflect the findings from the audit and long-term upgrade report and the updated estimate for the Piscataway Bio-Energy project, partially offset by a decrease in the Trunk Sewer Reconstruction Program. Expenditures for the six-year program period are estimated at \$2.0 billion. FY'19 expenditures are estimated at \$424.4 million, which is \$52.8 million less than the funding level approved for FY'18. Of the \$424.4 million, \$158.3 million is for the Water Program and \$266.0 million is for the Sewerage Program. Approximately one third of the projects in this CIP are System Extension Process (SEP) growth projects. The SEP projects' estimated six-year program cost is \$35.9 million, with approximately \$16.0 million programmed in FY'19. There is one new project this cycle. New projects are shown on the New Projects Listing near the end of this section.

A table comparing the Adopted FYs 2018-2023 CIP to the Proposed FYs 2019-2024 CIP follows:

WSSC CIP - COMPARISON

(In Thousands)

	<u>TOTAL PROGRAM</u>	<u>TOTAL SIX YEARS</u>	<u>BUDGET YEARS COMPARISON</u>
Adopted FYs 2018-2023	\$3,348,799	\$1,906,553	\$477,192
Proposed FYs 2019-2024	3,528,736	2,010,675	424,371
Change	\$179,937	\$104,122	(\$52,821)

Six-year program expenditures are estimated at approximately \$2.0 billion, \$907.9 million for the Water Program and \$1.1 billion for the Sewerage Program. This is a \$104.1 million increase from the six-year total in the Adopted FYs 2018-2023 CIP. The overall increase is primarily due to updating the Potomac WFP Consent Decree project to reflect the findings from the audit and long-term upgrade report and the updated estimate for the Piscataway Bio-Energy project, partially offset by a decrease in the Trunk Sewer Reconstruction Program.

Expenditure Categories

Expenditures are divided into three main categories: projects needed for growth, projects needed to implement environmental regulations, and projects needed for system improvements. The categories are defined as follows:

Growth – any project, or part of a project, that increases the demand for treatment and delivery of potable water and/or increases system requirements to collect and treat more sewage in response to new, first time, service hookups to the WSSC’s existing customer base.

Environmental Regulations – any project which is required to meet changes in federal regulations, such as the Clean Water Act, or in response to more stringent state operating permit requirements, but does not increase system capacity. Any part of this type of a project that provides for additional capacity is for growth.

System Improvements – any project which improves or replaces components of existing water and sewerage systems or provides for mainline relocations required in response to county or state transportation department road projects where the intended purpose is not to increase the capacity of any system components. This category also includes program-sized water main extensions for which the primary function is to provide water supply redundancy to pressure zones or smaller areas in the Sanitary District or for system loops to improve maintainability and reliability. Any part of this type of a project not dictated by maintenance or rehabilitation needs and that provides for additional capacity is for growth. (Refer to Figure 3, which displays funding allocations for all three categories.)

CIP Development Schedule

The CIP production cycle spans 13 months, beginning in May of each year. The organizational units responsible for project initiation submit project description forms (commonly referred to as PDFs) to the WSSC's Finance Office (Budget Division). The expenditures, and schedules displayed on each PDF represent the WSSC's best estimate of the cost and the time it will take to plan, design, and construct a project. These submittals are comprehensively reviewed with the General Manager/CEO and Senior Staff each June to assess the addition of new projects, changes in cost or scope, criticality, priority, environmental sensitivity, adherence to county growth and public outreach policies, and construction schedule changes.

Following this comprehensive review, worksessions are conducted by the WSSC Budget Division with the Prince George's and Montgomery County Governments, Maryland-National Capital Park and Planning Commission (M-NCP&PC), and local municipality representatives to solicit their input, and a draft document is presented to the WSSC's Commissioners for their consideration. Draft CIP Public Hearing documents are published and distributed each August and the Commissioners' public hearings are held in September. The hearings are advertised in a major newspaper circulated in Prince George's and Montgomery Counties, and special notices are sent to the Prince George's and Montgomery Counties' State Senators and Delegates, County Executives, County Council members and County Government staff. In addition, a notice is included with each water bill mailed to WSSC customers throughout the months of June, July, and August inviting them to participate in the public hearings. After considering all relevant comments, the Commissioners approve the Proposed CIP document for transmittal to both county governments before October 1, in accordance with state law.

After January of the following year, the Prince George's and Montgomery County Executives transmit their recommendations to their respective County Councils. Each County Council conducts separate public hearings and worksessions to consider additional modifications to the Proposed CIP. On or before May 15th, the County Councils meet jointly to agree on required changes, and on or before June 1st each year, enact formal resolutions identifying project modifications and approving the addition of new projects. The WSSC then adopts these changes and additions before the beginning of the new fiscal year on July 1. If the Councils do not jointly agree on changes by June 1, under law, the CIP is approved as proposed by the WSSC.

Program Description

Individual project information is displayed on the project description forms. The content of these forms, as prescribed under Section 23-301 of the Public Utilities Article, WSSD Laws, Annotated Code of Maryland, includes as applicable: estimated diameter, length, and location of pipelines; design capacity; population and area to be served; project justification; project expenditure schedule showing the estimated cost and funding sources; and, where applicable, a map. Project description forms are organized within the following major sections: Montgomery County Water, Montgomery County Sewer, Bi-County Water, Bi-County Sewer, Prince George's County Water, Prince George's County Sewer, and Information Only Projects. A financial summary of expenditures by major section is included at the end of this narrative. Project number prefixes indicate a water (W-), sewerage (S-), or administrative (A-) project. Administrative projects are included in the Information Only section and refer to projects that may include a combination of water and sewerage sub-projects. Each major section includes a financial summary for the projects in that section, a list of new projects, a PDF for each project, and a list of projects that are being closed out in the section.







Anticipated land, rights-of-way and any watershed buffer property projected acquisition costs are consolidated onto composite PDFs (W-202.00 and S-203.00). This format provides flexibility in expending funds in a specific fiscal year and permits the WSSC to respond to the uncertainty of implementation schedules, unpredictable delays, unanticipated rights-of-way requirements, and the need to assure the WSSC an equitable negotiation position by avoiding project-specific cost displays prior to contacting property owners. When a land purchase has been concluded, this cost is transferred back to the individual project.

A Projects Pending Close-Out list is included at the end of each major section when required. Each list contains projects which were approved and included in the prior adopted CIP, but which do not appear in this program for reasons such as expected construction completion or project cancellation.

The CIP document also contains an Information Only Projects section. Projects in this section are not required to be in the program under Section 23-301 of the Public Utilities Article, WSSD Laws, Annotated Code of Maryland, but may be included for any number of reasons such as: fiscal planning purposes; the reader's improved understanding of the full scope of a specific set of projects; or responding to requests from county governments. Expenditures for Information Only projects are not included as part of the CIP six-year program costs, but are shown separately on the bottom line of the financial summary at the end of this section for informational purposes.

Funding requirements for the first year of the six-year program, as shown on each project description form (PDF) in Block B, Column Year 1, are included in the Commission's capital and operating budgets. In addition to adopting a six-year CIP, the Montgomery and Prince George's County Governments also annually review and approve the WSSC's capital and operating budget.

The following symbols are used on the individual project maps to represent different types of water and sewerage system components:

- Water Main/Gravity Sewer 
- Water/Wastewater Pumping Station 
- Sewage Force Main 
- Water/Sewage Storage Facility 
- Water Filtration Plant 
- Wastewater Treatment Plant 

CIP PLANNING PROCESS

Water Treatment/Distribution Systems

The provision of potable water involves three major areas: supply, treatment, and distribution. The Potomac and Patuxent Rivers are the two sources of water supply for the Washington Suburban Sanitary District (WSSD), with the majority of water coming from the Potomac. Raw water is taken directly from the natural flow of the Potomac River into the Potomac Water Filtration Plant in Montgomery County. Water from the Patuxent River is impounded in two reservoirs by the Brighton and T. Howard Duckett Dams, which are the sources of supply to the Patuxent Water Filtration Plant in northern Prince George's County. The Triadelphia and T. Howard Duckett reservoirs have a combined storage capacity of approximately 10.2 billion gallons of water. The two filtration plants have produced an average of 162.4 million gallons of potable water per day over the last five fiscal years.

The natural flow in the Potomac River can be augmented during low flow conditions by two other reservoirs. The Jennings Randolph Reservoir impounds 13.0 billion gallons of emergency raw water supply. The reservoir is located on the North Fork of the Potomac River in West Virginia, and is owned and operated by the U.S. Army Corps of Engineers. Little Seneca Lake in Montgomery County provides an additional 3.8 billion gallons of useable raw water storage, and is owned and operated by the WSSC. Both reservoirs are shared by users in the Washington Metropolitan area, including the U.S. Army Corps of Engineers, the Fairfax County Water Authority, and the WSSC. Withdrawal during low flow conditions is governed by the terms of the Potomac Low Flow Allocation Agreement of 1981 as amended, and is administered by the Interstate Commission on the Potomac River Basin.

As raw water enters a plant, it goes through several stages of filtration and purification. Much of the finished water produced at the WSSC's plants has to be pumped into the distribution system. Water pumping stations are strategically located throughout the Sanitary District to move water to higher topographic elevations to maintain adequate system pressure. The WSSD is divided into 17 major pressure zones that represent hydraulically separated segments of the water system. The pipelines within each of the zones must be designed to serve not only customers within the confines of that zone, but also customers in adjacent interconnected zones. Water to zones at higher elevations must be pumped; water to lower elevations must be closely controlled with pressure regulating valves. A system under pressure enables the pipes to be laid uphill or downhill, with the flow direction independent of the slope of the ground. The design and operation of a water system is a complex task which requires detailed knowledge of the interrelationships between the source of supply, the location of pumping stations, pump characteristics, pressure reducing valves, storage facilities, pipe diameters and capacity characteristics, consumption patterns throughout the day, operating techniques and costs, and location of our 1.8 million customers spread out over our 1,000 square mile service area.

More than 40 elevated tanks, standpipes, and ground-level storage structures in the distribution system are filled with finished, filtered water to meet daily peak customer demand and to provide reserves for fire protection and emergencies. A network of more than 5,500 miles of underground water pipeline delivers water to homes, apartments, schools, hospitals, businesses, and all other types of buildings where water meters measure the amount of water used. All customer accounts are metered and billed based upon individual usage. For the past 100 years, these facilities have been operated and maintained by the WSSC 24 hours a day, 7 days a week, including holidays throughout the year, in order to provide safe and reliable service to our customers.

Wastewater Treatment/Collection Systems

Wastewater facilities are divided into two functions: treatment and conveyance of sewage. Sewage treatment is accomplished through a network of facilities, the base of which is the regional treatment plant. The WSSC owns and operates 6 wastewater treatment plants, which receive and process waste from residences, businesses (where waste is a by-product of the manufacturing process), restaurants, hospitals, and other commercial and industrial users.

During the treatment process, solid material is removed, harmful organisms are destroyed, and excess disinfection products are neutralized before the remaining liquid is sent back to the river. The WSSC's six treatment plants have a combined treatment capacity of 95 million gallons per day (mgd). The six plants are Piscataway, Western Branch, Parkway, Seneca, Damascus, and Hyattstown. Unlike the water system, operation of the sewerage system is highly dependent upon other area jurisdictions and, for this reason, the WSSC has purchased 169 mgd of treatment capacity at the Blue Plains Regional Wastewater Treatment Plant located in the District of Columbia, 3 mgd of capacity at the Mattawoman Wastewater Treatment plant located in northern Charles County, and 20,000 gallons per day of capacity in the Town of Poolesville's wastewater treatment plant. The capital costs of the Blue Plains and Mattawoman plants are shared among the users based upon treatment capacity allocations. The WSSC also pays to the District of Columbia and Charles County a share of the operating, maintenance, and overhead costs at each plant, in proportion to actual flows. These cost-sharing arrangements were agreed to in the Intermunicipal Agreement of 2012 and the Mattawoman Agreement of 1980, respectively. Sewer capacity purchased by the WSSC in the Poolesville plant is in accordance with the May 1984 agreement between the WSSC, the Town of Poolesville, and the Montgomery County Government.

The other function of the sewerage system is to convey waste flows from the point of origin (for example, from a customer's home) to a point of treatment. The sewerage network contains more than 5,400 miles of pipeline, with pipe sizes ranging from 6 to 102 inches in diameter, and is predominantly a gravity system. This means the flow travels in a downhill direction without any other help and, therefore, sewers need to be located generally along streambeds at the lowest elevation in a basin. The sewers in one drainage basin are independent of those in other basins. There are 13 major drainage basins in the Sanitary District.

The largest diameter pipelines (interceptor sewers) run up from the treatment plant to the major lines (trunk lines) within individual drainage basins. Smaller diameter pipelines (outfall) run up sub-basins from the major lines. Even smaller lines (lateral), usually built in or along subdivision streets to provide service to abutting properties, lead up to hundreds of thousands of individual service connections (hookups from the pipe in the street to a private home or building) to be served by the remainder of the conveyance system. Ideally, the entire system would provide for the gravitational flow of waste from the individual houses, businesses, and other sources through the lateral subdivision lines to the outfall pipelines to the larger diameter interceptors pipelines to the treatment plant. Because gravity cannot always be used to accomplish this ideal pattern of flow, the WSSC has more than 40 wastewater pumping stations in operation, and others in standby status, throughout the Sanitary District. These pumping stations range from 0.08 to 306 mgd in capacity. Pumping stations lift wastewater through a pressure line called a force main, over ridges or from stream valleys that have no continuous trunk sewer, into the gravity-flow system of an adjacent drainage basin that contains existing pipeline and treatment facilities. All WSSC wastewater flows through enclosed trunk line systems and is completely separate and independent from the storm drain system. For the past 100 years, these facilities have been operated and maintained by the WSSC 24 hours a day, 7 days a week, including holidays throughout the year, in order to provide safe and reliable service to all of our customers.

In addition, small pressure systems exist throughout the Sanitary District. A typical system is comprised of a grinder pump (one for each dwelling unit grouped in a small residential development) contained in a sump, pumping through a plastic force main, and then connecting to a gravity sewer line located nearby. This type of system is limited in size, and is necessary to overcome minor changes in topography to avoid the construction of a conventional gravity line in another direction where the distance to an existing sewer would be considerably greater and less cost effective.

Approximately 64% of all wastewater originating in Montgomery County and central Prince George's County follows the Anacostia, Rock Creek, and Potomac River Valleys, to the Blue Plains Wastewater Treatment Plant. The WSSC's proportionate share of capital costs at Blue Plains, to meet suburban Maryland's treatment requirements, represents some of the most significant planned expenditures in this document.

The WSSC's wastewater collection and treatment systems are nationally recognized as components of one of the country's most effective pollution control networks. All of the above-mentioned sewage treatment plants go beyond conventional, second-stage treatment to provide "tertiary treatment," which is an advanced treatment process. All of the WSSC's plants have state of the art, integrated, enhanced nutrient removal processes to significantly reduce the amount of nitrogen and phosphorous reaching the Chesapeake Bay. These features ensure that the quality of the effluent (treated wastewater discharged from the plants) is better than the natural waters into which it is returned. The purpose of the projects contained in this document and their associated cost is to expand, replace, or rehabilitate the existing water and sewerage systems described above; to continue a very high level of continuous service and reliability; and to protect the health of current and new customers, while mitigating impacts on the environment.

Environmental Concerns

The Commission is commitment to protecting the natural environment of Prince George's and Montgomery Counties as it carries out its mandate to provide sanitary sewer and drinking water services. This commitment focuses on those unique natural and manmade features (waterways, woodlands, and wetlands, as well as parklands, historical sites, and residential areas) that have been indicated by federal, state, and local environmental protection laws and regulations. Specific impact information is included in the evaluation of alternatives during the Commission's Asset Management Process, if the environment features will be affected by the proposed construction of a project. Six areas are addressed as appropriate:

- Stream Valleys – identify the classification of the stream and, in general terms, the published water quality. From published maps, show the topography including the 100-year floodplain;
- Wetlands (Tidal and Non-tidal) – using published maps, show the locations of these and give their classification;
- Woodlands or Forested Areas – using aerial photographs or published maps, show the location of these and identify their type;
- Parklands – using published maps, show the location of all land holdings of the Maryland-National Capital Park & Planning Commission, the Department of Natural Resources, and the National Park Service;
- Steep Slopes – using published maps, show all slopes greater than 15%; and,
- Historical/Archaeological Sites – the Maryland Geological Survey (State Archaeologist) and Maryland Historical Trust will provide information on sites near the project alternatives. The Maryland-National Capital Park & Planning Commission or county government may provide additional information of local interest.

A further extension of these protections has been funded by the approximately \$175.4 million included in the six-year program which is attributable to meeting environmental regulations. These projects, currently estimated at 9% of the total six-year costs in this CIP, are mandated by the U.S. Environmental Protection Agency under the Clean Water Act through the State of Maryland Department of the Environment in response to pollution controls in the form of more stringent state discharge permit requirements. The environmental component is allocated among the projects listed on the following page, and project details can be found on the individual project description forms included elsewhere in this document.

Environmental Spending

	<u>(Dollars in Millions)</u>
• W-73.33, Potomac WFP Consent Decree Program	121.2
• W-172.05, Patuxent WFP Phase II Expansion	0.2
• S-22.10, Blue Plains WWTP: Enhanced Nutrient Removal	11.3
• S-22.11, Blue Plains: Pipelines & Appurtenances	42.7
 Total Six-Year Program Expenditures Allocated to Environmental Regulations	 \$175.4

Public Outreach

The Commission's proactive Project Outreach program is an integral part of our process to include early public involvement in projects. The objective is to inform affected communities about the WSSC's plans, actively seek their input, and respond to their concerns. The WSSC's planning approach is an open process, receptive to public comment and involvement. Residents of Prince George's and Montgomery Counties are given the opportunity to review clear, accessible documents that describe the rationale behind program planning and project decisions. The overall outreach goals are to:

- identify community and public policy issues early in the planning stage;
- address the known community concerns and environmental issues that are within the reasonable context of the planning effort;
- promote community understanding of system needs and demands, and the planning process used by the WSSC to maintain public health standards and water quality protection;
- provide constructive forums for community involvement and information throughout the planning process;
- provide a clear understanding of the decision-making process;
- address potential health and environmental risks; and
- establish and maintain open lines of communication.

The Project Outreach program advocates achieving planning goals through a collaborative effort among WSSC staff, technical experts, citizens and/or organizations, and public officials. Fostering community involvement allows the WSSC to be responsive and sensitive to community concerns, to define the best approach to addresses customers' concerns, and to garner community support while meeting public health objectives.

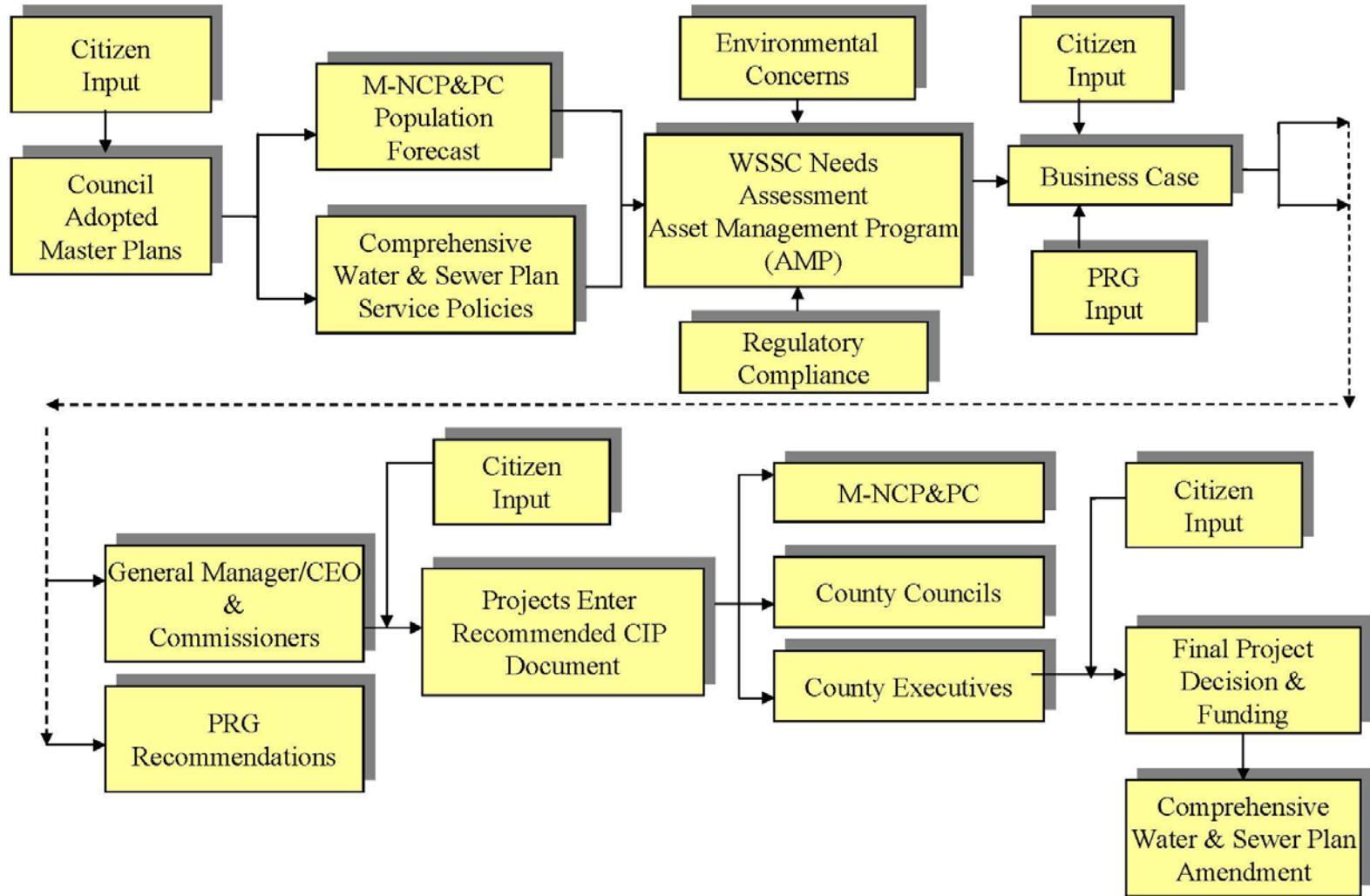
The Planning Process

Effective planning is the application of a well-thought-out process that combines engineering data, environmental requirements, economic factors, and public interaction to establish a sound basis for making competent decisions, for efficiently conducting and documenting specific work tasks, and for successfully implementing needed solutions. The WSSC's planning process includes Business Case Studies to identify needs, develop and evaluate options, and identify a preferred solution. An important goal in the process is to produce a result that is acceptable to citizens, elected officials, regulatory agencies, and the WSSC at a reasonable cost.

A number of outside influences affect the WSSC's project planning. Water and sewer projects are essentially an infrastructure response to land use decisions made by the two county governments and demographic information (population forecasts) provided by the Washington Council of Governments and the Maryland-National Capital Park & Planning Commission. These elements are used by the WSSC to calculate projected water and sewerage demands. The WSSC must also consider environmental consequences and compliance with federal and state regulations such as the Clean Water Act and Safe Drinking Water Act. The WSSC's needs analysis also incorporates both county governments' guidance on service policies as contained in the Comprehensive Ten-Year Water and Sewerage Plans. Generally stated, the goals, purposes, and concepts provided by the Prince George's and Montgomery County Governments require that the water and sewerage systems be consistent with officially-approved local and general plans, and provide adequate capacity to accommodate the foreseeable development of the area served based upon population and employment projections. This requirement corresponds with what has always been Commission policy: to provide utility service to the type and location of development that each county governing body has approved, if economically and otherwise feasible. Figure 1, on the following page, displays the overall project planning and approval process.

FIGURE 1

PROJECT DEVELOPMENT & APPROVAL PROCESS



WSSC Asset Management Program

WSSC’s Strategic Priority, to Improve Infrastructure, focuses on our Core Value of Cost Effectiveness to improve capital investment management. The objective of the Asset Management Program (AMP) is to identify infrastructure needs and investment strategies for the next 30 years, or more, and develop and implement an asset management framework for optimal investment decision making. A key task is to identify the existing and future capacity, regulatory, and rehabilitation/ repair/replacement requirements for the next 30 years. The AMP provides input to the Commission’s multi-year financial forecasting and develops and refines a 30-year capital investment projection based on the following requirements: regulatory, capacity, maintenance, rehabilitation/replacement, process control, energy conservation, efficiency and reliability.

How Projects Enter the CIP

The Asset Management Program (AMP) systematically identifies and validates water and wastewater needs, and is the primary source of new projects. Figure 2 depicts some of the important elements common to the WSSC Asset Management Program.

FIGURE 2

Overview of WSSC AMP Process		
Genesis and Validation	Business Case Development	Review and Approval
Asset Management Plans • Establishment of Need • Need Validation • Funding	Technical Analysis and Documentation • Coordination • Community Outreach • Project Validation • Solution Recommendation	• Project Prioritization • Public Comment • County Governments • WSSC CIP
Implementation		

The WSSC’s needs assessments may identify other potential projects. A project may be added in response to relocation requirements due to road improvements or the need to construct a segment of pipe in advance of paving. Projects may also be included at the request of either county government, usually to provide service to a planned county service facility, or in response to a request for service from an Applicant for new development. Projects may also enter the CIP when they are split from previously approved projects. Projects may be split either at the request of the Applicant or by WSSC for administrative reasons such as to afford better project management or to provide greater clarity to the reader.

System Extension Process (SEP)

System Extension Process (SEP) projects are undertaken by developers to support future growth. Service to properties approved under the SEP almost always require the extension of small diameter subdivision lines and may involve program-sized pipes that must be included in the WSSC's CIP. This document includes only the portion of an Applicant's total pipe extension or pumping facility requirements and associated costs that conform to the definition provided in the section titled "Statutory Basis" at the beginning of this narrative.

To initiate a project, the Applicant will submit preliminary subdivision plans to the Planning Department of the Maryland-National Capital Park and Planning Commission (M-NCPPC) for their County. WSSC will review these submittals for water and/or sewer service, including a determination if the property to be served is located within the appropriate "service category." (Service category designations are a staging tool employed by and strictly administered in the Comprehensive Ten-Year Water and Sewerage Plans by both county governments. If the property is not in the correct service category, the Applicant must contact the appropriate County office to begin a County Ten-Year Plan amendment process for reconsideration of the service area designation currently assigned to the property. If a designation change is approved later by the County Council, the Applicant may proceed with the construction of the project.) Once it has been determined that the property to be served is located within the appropriate service category, and a request for Hydraulic Planning Analysis (HPA) is made and completed, the WSSC issues a Letter of Findings (LOF) which specifies the project conditions that must be met prior to the start of construction. The need for a CIP-sized project is identified by WSSC during the HPA review. WSSC will perform a review of the design plans for compliance with WSSC requirements. Construction can begin when design plans have been approved, all necessary permits and rights-of-way have been obtained, and the Applicant has satisfied all other project conditions. Approximately one third of the projects in this document are SEP-related.

For those projects serving one new residence or providing relief from a residential health hazard, the Applicant may hire an engineer to follow the System Extension Process or can opt to follow the WSSC Built Process. Each step in the WSSC Built Process is done at the Applicant's expense. In this case, the Applicant will prepare a feasibility study for review and for WSSC to issue a Feasibility Letter of Findings. The Letter of Findings will again specify any project conditions and advise the Applicant of their cost responsibilities. If the Applicant elects to proceed with the WSSC Built Process, WSSC will prepare the design plans. Once the Applicant has met all the project conditions from the Letter of Findings, the design plans are approved, and all permits and rights-of-way are acquired, the WSSC will proceed with the construction of the project at the Applicant's expense. However, such projects rarely include CIP-sized mains.

Project Development Criteria

It has been the WSSC's policy to have facilities in service when, or before, they are needed so that new development demands on the system do not result in a reduction of the level of service provided to existing customers. This policy provides for unrestricted water supply and no sewage overflows and avoids a water or sewer connection moratorium. This general service policy has guided the planning and sizing of the WSSC's

systems for many years and requires that both the water and wastewater systems are sized to handle the peak or maximum demands, adjusted for weather-related usage. The task is to balance cost and spending affordability limits with environmental consequences, risk and system reliability.

Water and wastewater systems are composed of functionally different sub-systems: treatment, transmission, distribution, collection, and storage. Ideally, the capacity of each component should match the capacity of the other parts of the system. An example of a real situation from the past is the comparison of the Blue Plains Wastewater Treatment Plant to the Muddy Branch and Seneca Creek wastewater transmission systems. The plant had enough capacity but, in contrast, probable peak flows in the sewers exceeded pipeline capacity. These were part of the same network, yet one of the sub-systems had excess capacity, while other parts, although connected, were deficient. Transmission projects to correct this imbalance were completed in these basins, ensuring capacity to handle future flows in the conveyance systems.

For most facilities, the WSSC plans enough capacity to last 20 years or more. When it seems clear that adding capacity incrementally will not be economical, feasible, or is significantly disruptive, longer range planning is done. A pipeline is sized for full development, or “build out” of its service area, to avoid repeated environmental and community disruption caused by construction. In most cases, this results in a service life that extends beyond 20 years. Since the weather-related usage and future population projections are broad-based estimates of future conditions used in the calculation of future flow demands, the rate at which predicted flows increase or decrease in a pipeline system is somewhat variable, but still useful in providing a long-range target for timing the WSSC’s project construction. The WSSC conservatively estimates the lead time required to plan, design, and construct a facility, and projects enter the CIP on that basis. It is not unusual for 10 or more years to elapse before a major facility project, such as a treatment plant, is finished following its initial appearance in this document.

Twenty-year estimates of increases in customer demand are based on the most recent M-NCP&PC demographic forecasts of population, dwelling units, and employment. Estimates of full development demands are based on the most current land use and zoning information available from the M-NCP&PC. This data is organized by Traffic Analysis Zones in Montgomery County and by Policy Analysis Zones in Prince George’s County. The information is then disaggregated by sub-basins for use in the planning and sizing of projects.

Project Estimates

Pipeline cost estimates are developed through the use of a detailed checklist of cost elements. The comprehensiveness and uniformity of planning-level cost estimates is significantly improved through the inclusion of more site-specific details, previously not considered until advanced stages of design. Through this process the number of projects with cost increases that typically occur when a project transitions from the preliminary planning phase to the design phase is greatly reduced.

Actual design plans and profiles, if available, are analyzed together with United States Geological Survey soil maps. Additional factors such as site access, excessive traffic, known jurisdictional constraints, presence of rock or running sand, work through existing neighborhoods or open

fields, and proximity to other existing utility lines are taken into consideration. The base prices upon which the estimates are predicated have been derived from both historical cost data and the most recent bid information. The specific final unit prices are increased or decreased, dependent upon factors such as those listed above. In addition, all environmental mitigation costs for efforts such as reforestation are already included in the individual project costs. Regardless of the extensive checklist, some additional costs may be required by permitting agencies to reflect unpredictable requirements for things such as changes in alignment, more complex traffic management plans, or for changes in permit requirements for more stringent erosion protection measures at construction sites. The need for these kinds of features is project specific and is identified on individual project description forms (PDFs) when appropriate.

Order of Magnitude cost estimates for major facility projects (e.g., treatment plants and pumping stations) are first derived from Business Cases in the planning stage and further refined in the design phase based on estimates developed by consulting engineers. The WSSC requires that projects be re-evaluated by consulting engineers at the 30% and 70% stages of design. Estimated construction costs, reflecting any modifications, are identified on the individual PDFs, if applicable. Because the costs displayed in the CIP are estimates and not actual costs, construction contingencies may be added.

The “Other” cost element, displayed in Block B, in the Expenditure Schedule on each PDF, is a broad estimate of the direct and indirect expenses associated with the implementation of each project and is not covered by the other major cost categories. These costs include direct support costs for a project such as salaries, wages, and related personnel costs (social security, retirement), and services, rentals, supplies, mileage, and other expenses. (General overhead costs, which may be allocated to a project, are not included.) This element is estimated for the majority of the projects in this document by multiplying the sum of the project’s Planning, Design and Supervision, and Construction cost elements in each column on the PDF by a constant 15%. There are exceptions: a value, based upon 1%, is applied to Blue Plains project costs; a constant of 10% is used to more realistically estimate these expenses for projects with a total estimated cost of \$10 to \$49 million; and, a constant of 5% is used for projects with a total estimated cost of \$50 million or more.

A project’s previous expenditures, which include all direct, indirect and overhead costs, are shown on the PDF in the Block B Expenditure Schedule in the “Thru” Column. These expenditures are accessed from the WSSC’s financial information system through the period ending April 30th of each year. End of the fiscal year expenditures were not available in time for the development of project expenditure schedules and are estimated.

FIGURE 3

WSSC PROPOSED FYS 2019-24 CIP

SIX-YEAR PROGRAM EXPENDITURES BY MAJOR CATEGORY

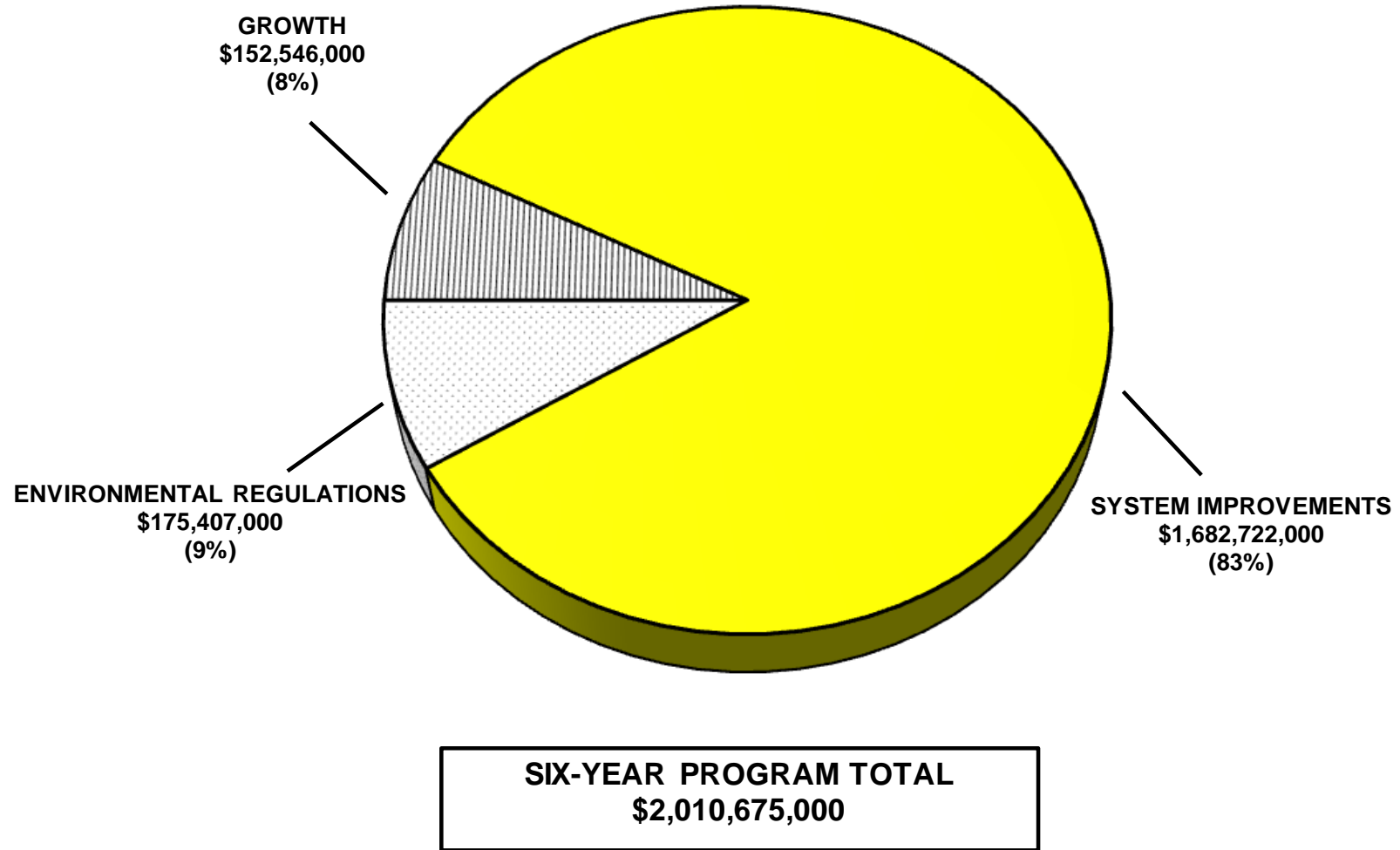
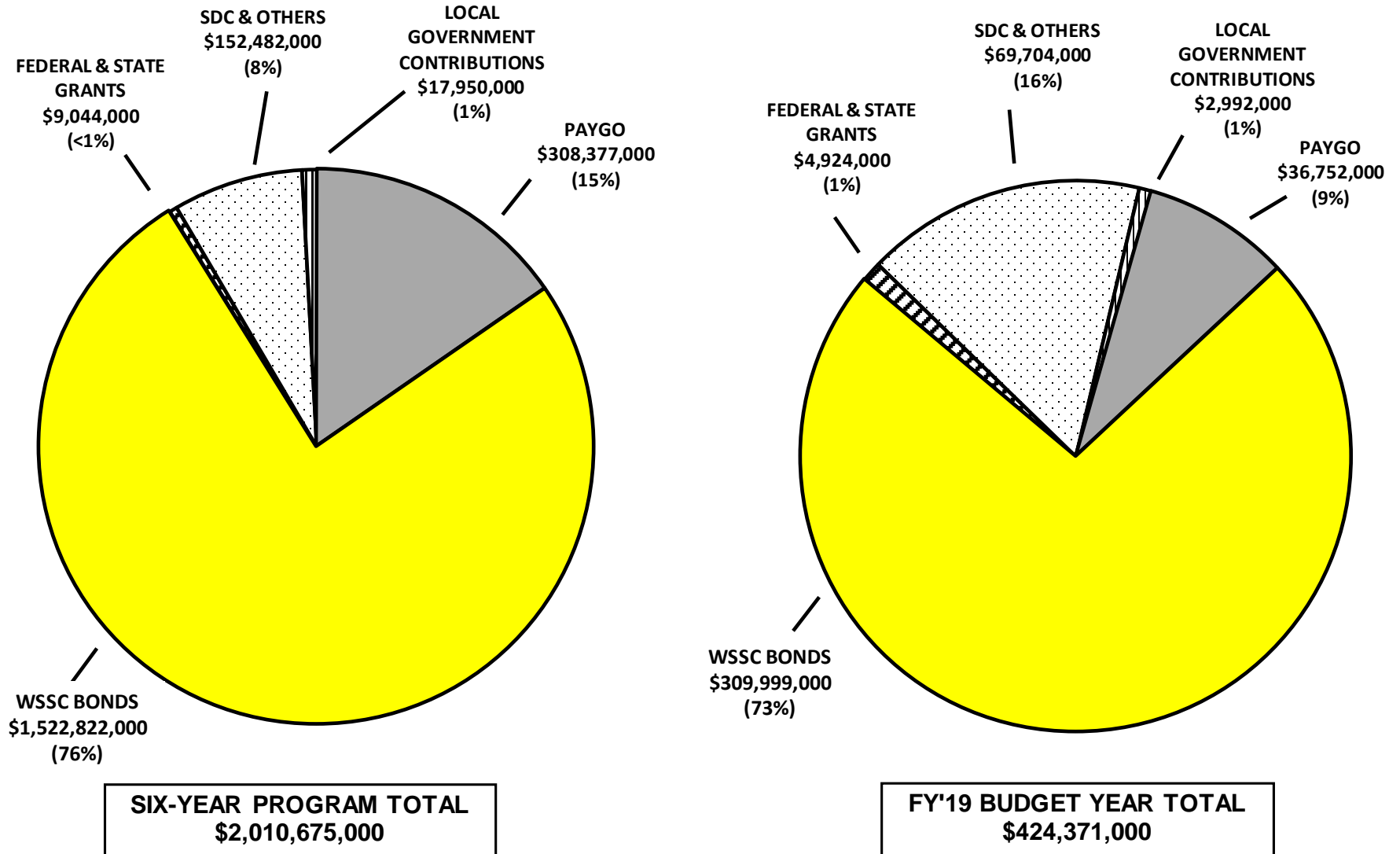


FIGURE 4

WSSC PROPOSED FY 2019-24 CIP

FUNDING BY SOURCE



**WSSC FYS 2019 - 2024 CIP
NEW PROJECTS LISTING
(costs in thousands)**

Agency Number	Project Name	Total Project Cost	6 Year Program Cost	Budget Year Cost	% of Growth
<i>Prince George's County Sewer Projects</i>					
S-77.20	Parkway North Substation Replacement	\$5,003	\$3,813	\$2,650	0%
TOTALS		<u>\$5,003</u>	<u>\$3,813</u>	<u>\$2,650</u>	

WSSC FYS 2019 - 2024 CIP
ALL PROJECTS PENDING CLOSE-OUT
(costs in thousands)

Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'17	Estimated Expenditures FY'18	Remarks
<u>Montgomery County Water Projects</u>					
W- 46.14	Clarksburg Area Stage 3 Water Main, Parts 1, 2, & 3	\$5,102	\$5,082	\$20	Project completion expected in FY'18.
<u>Montgomery County Sewer Projects</u>					
S- 25.03	Twinbrook Commons Sewer	938	938	0	Project complete.
S- 25.04	Mid-Pike Plaza Sewer Main, Phase 1	4,122	4,122	0	Project complete.
S- 25.05	Mid-Pike Plaza Sewer Main, Phase 2	5,564	5,564	0	Project complete.
S- 84.65	Tapestry Wastewater Pumping Station	391	391	0	Project changed to low pressure sewer system.
S- 84.66	Tapestry WWPS Force Main	41	41	0	Project changed to low pressure sewer system.
<u>Bi-County Water Projects</u>					
W- 127.01	Bi-County Water Tunnel	141,636	140,624	1,012	Project completion expected in FY'18.
<u>Prince George's County Water Projects</u>					
W- 120.16	Villages of Timothy Water Main, Part 3	0	0	0	Project combined with W-120.14 & W-120.15.
W- 137.02	South Potomac Supply Improvement, Phase 1	17,390	16,790	600	Project completion expected in FY'18.
<u>Prince George's County Sewer Projects</u>					
S- 57.94	Western Branch WWTP Incinerator Emissions Control	2,312	2,312	0	Project no longer needed.
<u>Information Only Projects</u>					
A- 104.00	Entrepreneurial Projects	2,871	0	0	Project terminated in FY'17.
TOTALS		<u>\$180,367</u>	<u>\$175,864</u>	<u>\$1,632</u>	

FINANCIAL SUMMARY

DATE: October 1, 2017

(ALL FIGURES IN THOUSANDS)

TOTAL WSSC CIP

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 17	EST. EXPEND 18	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 19	YR 2 20	YR 3 21	YR 4 22	YR 5 23	YR 6 24		
	Montgomery County Water Projects	52,122	15,226	20,692	16,204	13,869	1,674	661	0	0	0	0	1-1
	Prince George's County Water Projects	366,956	74,898	54,690	214,639	49,408	45,971	41,452	27,196	26,914	23,698	22,729	5-1
	Bi-County Water Projects	1,080,113	275,599	98,030	677,084	95,051	90,219	126,141	138,661	121,536	105,476	29,400	3-1
	TOTAL WATER PROJECTS	1,499,191	365,723	173,412	907,927	158,328	137,864	168,254	165,857	148,450	129,174	52,129	
	Montgomery County Sewerage Projects	41,380	12,615	2,951	25,814	12,537	10,317	2,960	0	0	0	0	2-1
	Prince George's County Sewerage Projects	426,845	212,888	32,821	180,556	60,397	52,596	26,871	26,216	13,549	927	580	6-1
	Bi-County Sewerage Projects	1,561,320	352,145	221,244	896,378	193,109	225,456	201,910	114,954	86,377	74,572	91,553	4-1
	TOTAL SEWERAGE PROJECTS	2,029,545	577,648	257,016	1,102,748	266,043	288,369	231,741	141,170	99,926	75,499	92,133	
	TOTAL WSSC PROGRAM	3,528,736	943,371	430,428	2,010,675	424,371	426,233	399,995	307,027	248,376	204,673	144,262	
	Total Information Only Projects	1,714,279	29,853	241,920	1,441,143	246,933	251,278	248,723	228,086	231,192	234,931	1,363	7-1

Section 1 - Montgomery County Water Projects

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

MONTGOMERY COUNTY WATER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 17	EST. EXPEND 18	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 19	YR 2 20	YR 3 21	YR 4 22	YR 5 23	YR 6 24		
W-3.02	Olney Standpipe Replacement	8,278	2,886	4,322	1,070	918	152	0	0	0	0	0	1-2
W-46.15	Clarksburg Elevated Water Storage Facility	7,594	2,081	3,649	1,864	1,864	0	0	0	0	0	0	1-4
W-46.24	Clarksburg Area Stage 3 Water Main, Part 4	3,969	2,039	437	1,493	581	493	419	0	0	0	0	1-5
W-46.25	Clarksburg Area Stage 3 Water Main, Part 5	1,796	0	1,576	220	159	61	0	0	0	0	0	1-6
W-90.04	Brink Zone Reliability Improvements	13,040	1,050	4,290	7,700	6,490	968	242	0	0	0	0	1-7
W-138.02	Shady Grove Standpipe Replacement	12,343	2,088	6,398	3,857	3,857	0	0	0	0	0	0	1-8
	Projects Pending Close-Out	5,102	5,082	20	0	0	0	0	0	0	0	0	1-9
	TOTAL MONTGOMERY COUNTY WATER PROJECTS	52,122	15,226	20,692	16,204	13,869	1,674	661	0	0	0	0	

Olney Standpipe Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-3.02	063801	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Montgomery High Zone 560I;
Drainage Basins	
Planning Areas	Olney & Vicinity PA 23; Not Applicable;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	2,443	1,647	357	439	357	82					
Land	25	25									
Site Improvements & Utilities											
Construction	5,106	1,214	3,401	491	441	50					
Other	704		564	140	120	20					
Total	8,278	2,886	4,322	1,070	918	152					

C. Funding Schedule (000's)

WSSC Bonds	8,278	2,886	4,322	1,070	918	152					
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D. Description & Justification

DESCRIPTION
 This project provides for the community outreach, planning, site selection, design, and construction of up to 1.5 million gallons (MG) of elevated storage to serve the Olney area, and for the removal of the existing Olney Standpipe.

JUSTIFICATION
 The efforts of the Systems Control Group have improved the minimum chlorine residual concentrations and appear to have lowered the THM concentrations in the distribution system. However, these efforts still leave the Olney area with troublesome chlorine residuals and result in low-pressure complaints during the drawdown efforts. The existing Olney Standpipe with 1.8 million gallons of non-usable storage requires constant attention to maintain acceptable water quality.
 Montgomery County High Zone Facility Plan, Boyle Engineering (1991); Memorandum from Jeff Asner to Karen Wright dated March 22, 2004; Water Storage Volume Criteria Report (November 2005).

COST CHANGE
 Cost has decreased to reflect actual bid amount.

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown in Block B are based upon actual bid. Project completion is currently projected for July 2019.

COORDINATION
 Coordinating Agencies: Maryland State Highway Administration; Montgomery County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$538	21
Total Cost	\$538	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

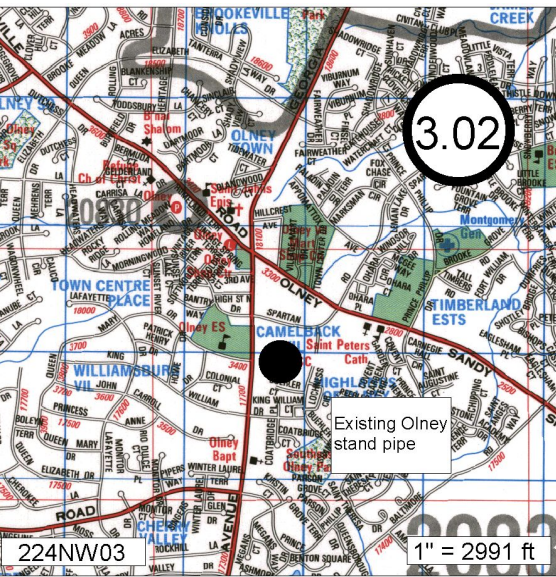
Date First in Program	FY 06
Date First Approved	FY 06
Initial Cost Estimate	3,911
Cost Estimate Last FY	9,977
Present Cost Estimate	8,278
Approved Request Last FY	4,070
Total Expense & Encumbrances	2,886
Approval Request Year 1	918

G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	23%
Est Completion Date	July 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	1.5 MG

H. Map



GERMANTOWN/CLARKSBURG AREA PROJECTS
(costs in thousands)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'18 TOTAL COST	PROPOSED FY'19 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
W-46.15	Clarksburg Elevated Water Storage Facility	5,757	7,594	1,837	31.9%	1,864	FY 2019
W-46.24	Clarksburg Area Stage 3 Water Main, Part 4	3,905	3,969	64	1.6%	1,493	Developer Dependent
W-46.25	Clarksburg Area Stage 3 Water Main, Part 5	1,672	1,796	124	7.4%	220	FY 2020
	TOTALS	\$11,334	\$13,359	\$2,025	17.9%	\$3,577	

Summary: These projects are in response to the growth in the up-county area including Germantown and Clarksburg. The Clarksburg Elevated Water Storage Facility project (W-46.15), Clarksburg Area Stage 3 Water Main, Part 4 project (W-46.24) and Clarksburg Area Stage 3 Water Main, Part 5 (W-46.25) will serve the areas designated as "Stage 3" in the Clarksburg Master Plan and Hyattstown Special Study Area.

Cost Impact: The cost has been increased due to the finalization of a land purchase for W-46.15 Clarksburg Elevated Water Storage Facility.

Clarksburg Elevated Water Storage Facility

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-46.15	973819	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Clarksburg HG760B;
Drainage Basins	
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	1,245	751	273	221	221						
Land	1,330	1,330									
Site Improvements & Utilities											
Construction	4,300		2,900	1,400	1,400						
Other	719		476	243	243						
Total	7,594	2,081	3,649	1,864	1,864						

C. Funding Schedule (000's)

SDC	7,594	2,081	3,649	1,864	1,864						
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D. Description & Justification

DESCRIPTION
 This project provides for the community outreach, site selection, planning, design, and construction for a 1 million gallon (MG) elevated storage facility in the HG760 water pressure zone.

JUSTIFICATION
 This project is required to meet projected future growth in the HG760 pressure zone. Reevaluation of this project with Round 6.2 growth forecasts indicates a storage deficit for this zone. The facility plan identified the preferred location for the water storage facility. As noted in the facility plan, public meetings were held to obtain comments concerning the location.
 Montgomery County High Zone Supply Facility Plan, WSSC; M-NCP&PC Round 6.2 growth forecasts; Western Clarksburg Facility Plan, Rogers Associates (December 2004); Water Storage Volume Criteria Report (November 2005); Finished Water Storage Analysis (December 2013).

COST CHANGE
 Cost has increased due to the finalization of the land purchase.

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown in Block B are design level estimates and may change based upon actual bid. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process was completed on January 23, 2015); Maryland Department of the Environment;
 Coordinating Projects: W-46.14-Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service		
Total Cost		
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

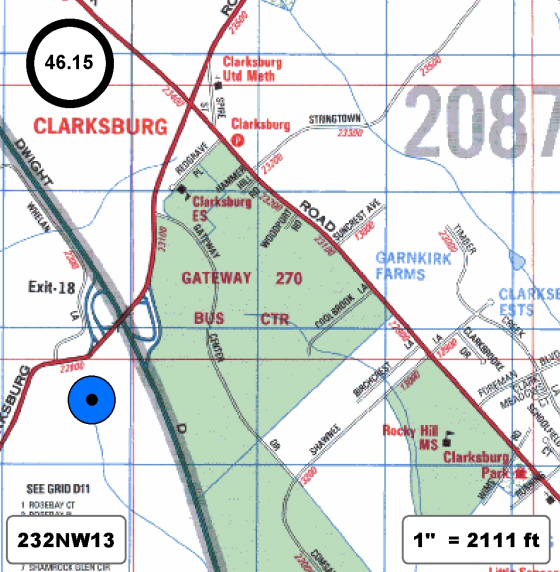
Date First in Program	FY 97
Date First Approved	FY 97
Initial Cost Estimate	138
Cost Estimate Last FY	5,757
Present Cost Estimate	7,594
Approved Request Last FY	3,281
Total Expense & Encumbrances	2,081
Approval Request Year 1	1,864

G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	0%
Est Completion Date	FY 2019

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	1 MG

H. Map



Clarksburg Area Stage 3 Water Main, Part 4

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-46.24	113800	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Brink HG760A;
Drainage Basins	
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	508	222	152	134	69	45	20				
Land											
Site Improvements & Utilities											
Construction	3,209	1,817	228	1,164	436	384	344				
Other	252		57	195	76	64	55				
Total	3,969	2,039	437	1,493	581	493	419				

C. Funding Schedule (000's)

Contribution/Other	3,969	2,039	437	1,493	581	493	419				
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D. Description & Justification

DESCRIPTION
 This project provides for the design and construction of 3,580 feet of 24-inch diameter water main along Brink Road and Route 355 and 2,920 feet of 24-inch diameter water main along West Old Baltimore Road.

JUSTIFICATION
 This water main is planned to serve the area designated as "Stage 3" in the Clarksburg Master Plan and Hyattstown Special Study Area, approved and adopted in June 1994. General Plan and M-NCP&PC Round 6 growth forecasts.

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown in Block B are based on information provided by the developer. Design and construction of this project will be performed by the developer under System Extension Permits. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park & Planning Commission; Maryland State Highway Administration;
 Coordinating Projects: W-46.14-Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3; W-46.15-Clarksburg Elevated Water Storage Facility; W-46.25-Clarksburg Area Stage 3 Water Main, Part 5;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$168	22
Other Project Costs		
Debt Service		
Total Cost	\$168	22
Impact on Water and Sewer Rate		

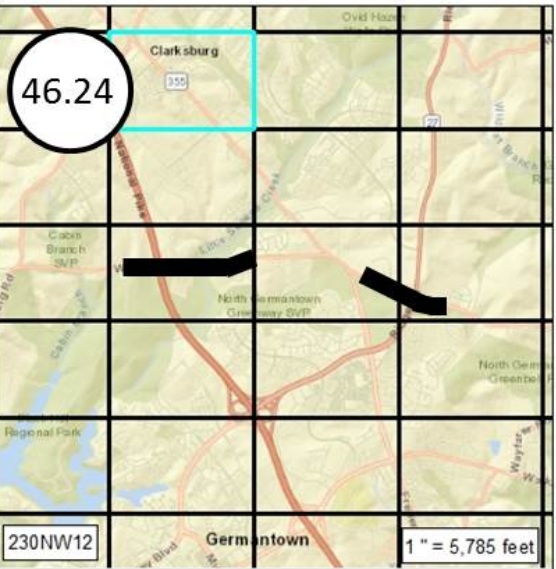
F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 97
Initial Cost Estimate	1,954
Cost Estimate Last FY	3,905
Present Cost Estimate	3,969
Approved Request Last FY	569
Total Expense & Encumbrances	2,039
Approval Request Year 1	581

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	50%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Clarksburg Area Stage 3 Water Main, Part 5

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-46.25	163801	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Brink HG760A;
Drainage Basins	
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	196		170	26	18	8					
Land											
Site Improvements & Utilities											
Construction	1,365		1,200	165	120	45					
Other	235		206	29	21	8					
Total	1,796		1,576	220	159	61					

C. Funding Schedule (000's)

Contribution/Other	1,796	1,576	220	159	61						
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D. Description & Justification

DESCRIPTION
 This project provides for the design and construction of 2,700 feet of 24-inch diameter water main along Route 355 and West Old Baltimore Road.

JUSTIFICATION
 This water main is planned to serve the area designated as "Stage 3" in the Clarksburg Master Plan and Hyattstown Special Study Area, approved and adopted in June, 1994.
 General Plan and M-NCPPC Round 6 growth forecasts.

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. Pending area road projects had resulted in the need to accelerate portions of the 24-inch water project separate from project W-46.24. The project will be completed by the developer in conjunction with Montgomery County and Maryland State Highway Administration road projects. No rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Montgomery County Government; Maryland-National Capital Park & Planning Commission; Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation;
 Coordinating Projects: W-46.24-Clarksburg Area Stage 3 Water Main, Part 4;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$70	21
Other Project Costs		
Debt Service		
Total Cost	\$70	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY16
Date First Approved	FY97
Initial Cost Estimate	1,624
Cost Estimate Last FY	1,672
Present Cost Estimate	1,796
Approved Request Last FY	1,464
Total Expense & Encumbrances	
Approval Request Year 1	159

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	20%
Est Completion Date	FY 2020

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Brink Zone Reliability Improvements

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-90.04	143800	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Woodfield HG740A; Clarksburg HG740B;
Drainage Basins	
Planning Areas	Gaithersburg & Vicinity PA 20;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	1,950	1,050	400	500	400	80	20				
Land											
Site Improvements & Utilities											
Construction	10,000		3,500	6,500	5,500	800	200				
Other	1,090		390	700	590	88	22				
Total	13,040	1,050	4,290	7,700	6,490	968	242				

C. Funding Schedule (000's)

WSSC Bonds	13,040	1,050	4,290	7,700	6,490	968	242				
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of a new water pumping station and pipeline to increase reliability and redundancy to the Montgomery County High Zone water transmission system.

JUSTIFICATION
 The Neelsville Water Pumping Station is the sole delivery of water from the Montgomery County High Zone (HG660) through a single 24-inch diameter PCCP Water Transmission Main that crosses 2 miles to the Brink Elevated Tank (HG760). The new pumping station will effectively deliver water to the Brink Elevated Tank and, in turn, the Cedar Heights (HG836), Damascus (HG960), and dependent pressure zones.

Business Case Evaluation: Brink Reliability Assessment, Black & Veatch (June 2013)

COST CHANGE

Cost increase is based on decision to proceed with a site-built pumping station based on WSSC Design Guideline - DG02 standard rather than a pre-fabricated station.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B are design level estimates and may change based upon actual bid.

COORDINATION

Coordinating Agencies: Montgomery County Government; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$848	22
Total Cost	\$848	22
Impact on Water and Sewer Rate	\$0.02	22

F. Approval and Expenditure Data (000's)

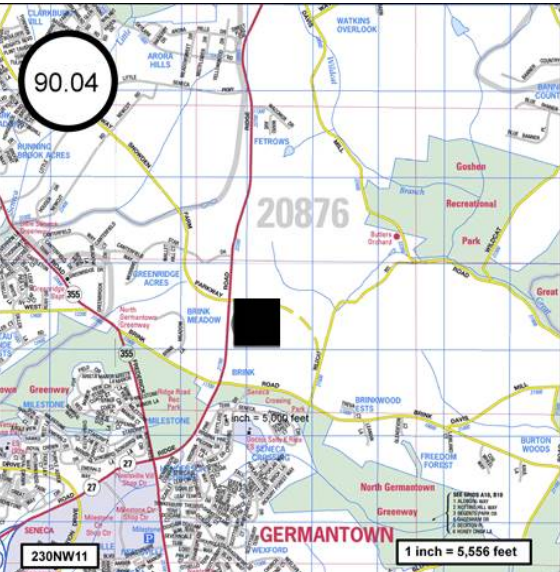
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	345
Cost Estimate Last FY	7,500
Present Cost Estimate	13,040
Approved Request Last FY	4,280
Total Expense & Encumbrances	1,050
Approval Request Year 1	6,490

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	90%
Est Completion Date	September 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	13 MGD

H. Map



Shady Grove Standpipe Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-138.02	093801	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Montgomery High HG660A;
Drainage Basins	
Planning Areas	Gaithersburg & Vicinity PA 20;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	2,242	1,622	339	281	281						
Land											
Site Improvements & Utilities											
Construction	9,168	466	5,477	3,225	3,225						
Other	933		582	351	351						
Total	12,343	2,088	6,398	3,857	3,857						

C. Funding Schedule (000's)

WSSC Bonds	12,343	2,088	6,398	3,857	3,857						
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 3.0 million gallons (MG) of elevated storage to replace the existing Shady Grove Standpipe.

JUSTIFICATION
 The existing 5.0 MG standpipe is in need of extensive repairs. Replacing the standpipe with a smaller elevated storage facility will provide the same level of service while helping to meet U.S. Environmental Protection Agency regulations for disinfectant by-products and improving water quality.

Water Storage Volume Criteria Report (November 2005); 2006 Water Production Projections; WSSC Memorandum dated May 7, 2007, from Karen Wright, Systems Control Group Leader; WSSC Memorandum dated May 24, 2007, from Tim Hirrel, Planning Group.

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown in Block B are based upon actual bid. Project completion is projected for January 2019.

COORDINATION
 Coordinating Agencies: Montgomery County Government; City of Rockville; Maryland Department of the Environment; Maryland Department of Natural Resources; Maryland-National Capital Park & Planning Commission;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$803	20
Total Cost	\$803	20
Impact on Water and Sewer Rate	\$0.02	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	7,475
Cost Estimate Last FY	12,097
Present Cost Estimate	12,343
Approved Request Last FY	5,206
Total Expense & Encumbrances	2,088
Approval Request Year 1	3,857

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	5%
Est Completion Date	January 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	3.0 MG

H. Map



PROJECTS PENDING CLOSE-OUT
Montgomery County Water Projects
(costs in thousands)

Project Number	Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'17	Estimated Expenditures FY'18	Remarks
973818	W- 46.14	Clarksburg Area Stage 3 Water Main, Parts 1, 2, & 3	\$5,102	\$5,082	\$20	Project completion expected in FY'18.
		TOTALS	\$5,102	\$5,082	\$20	

Section 2 - Montgomery County Sewer Projects

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

MONTGOMERY COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 17	EST. EXPEND 18	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM	
						YR 1 19	YR 2 20	YR 3 21	YR 4 22	YR 5 23	YR 6 24			
S-84.47	Clarksburg Triangle Outfall Sewer, Part 2	2,644	1,185	739	720	619	101	0	0	0	0	0	0	2-3
S-84.60	Cabin Branch Wastewater Pumping Station	3,084	28	270	2,786	1,393	1,393	0	0	0	0	0	0	2-4
S-84.61	Cabin Branch WWPS Force Main	449	10	60	379	179	180	20	0	0	0	0	0	2-5
S-84.67	Milestone Center Sewer Main	514	0	0	514	492	22	0	0	0	0	0	0	2-6
S-84.68	Clarksburg Wastewater Pumping Station	3,450	97	261	3,092	1,311	1,552	229	0	0	0	0	0	2-7
S-84.69	Clarksburg WWPS Force Main	1,840	0	963	877	877	0	0	0	0	0	0	0	2-8
S-85.21	Shady Grove Station Sewer Augmentation	2,465	125	324	2,016	1,209	807	0	0	0	0	0	0	2-9
S-103.16	Cabin John Trunk Sewer Relief	15,878	114	334	15,430	6,457	6,262	2,711	0	0	0	0	0	2-10
	Projects Pending Close-Out	11,056	11,056	0	0	0	0	0	0	0	0	0	0	2-11
TOTAL MONTGOMERY COUNTY SEWER PROJECTS		41,380	12,615	2,951	25,814	12,537	10,317	2,960	0	0	0	0	0	

CABIN BRANCH AREA PROJECTS
(costs in thousands)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'18 TOTAL COST	PROPOSED FY'19 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
S-84.47	Clarksburg Triangle Outfall Sewer, Part 2	\$2,615	\$2,644	\$29	1.1%	\$720	Developer Dependent
S-84.60	Cabin Branch Wastewater Pumping Station	3,000	3,084	84	2.8%	2,786	Developer Dependent
S-84.61	Cabin Branch WWPS Force Main	436	449	13	3.0%	379	Developer Dependent
	TOTALS	\$6,051	\$6,177	\$126	2.1%	\$3,885	

Summary: This group of Development Services Process (DSP) projects is programmed to serve new development in the Clarksburg area west of Route 355, including the Clarksburg Triangle and Cabin Branch areas. The need for these projects was identified in the Stage 3 requirements of the Clarksburg Master Plan and Hyattstown Special Study Area reports. Estimated completion schedules are dependent upon the property developers' schedules. No WSSC rate supported debt will be used for these projects. The projects that will impact local wetlands will be coordinated with the Maryland-National Capital Park & Planning Commission, Montgomery County Department of Environmental Protection, Maryland Department of the Environment, Maryland Department of Natural Resources, and the U.S. Fish & Wildlife Service, along with Montgomery County Government. The individual project description forms on the pages following this summary provide additional information.

Cost Impact: Not applicable.

Clarksburg Triangle Outfall Sewer, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.47	023811	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	510	258	235	17	15	2					
Land											
Site Improvements & Utilities											
Construction	1,944	927	408	609	523	86					
Other	190		96	94	81	13					
Total	2,644	1,185	739	720	619	101					

C. Funding Schedule (000's)

Contribution/Other	2,644	1,185	739	720	619	101					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of approximately 4,200 feet of 24-inch, 1,450 feet of 21-inch, 1,670 feet of 18-inch, and 580 feet of 15-inch diameter outfall sewer along a tributary west of and parallel to U.S. Interstate 270, north of West Old Baltimore Road. This sewer is projected to serve new development in Stage 3 of the Clarksburg planning area west of I-270 and potentially serve Clarksburg Development Stage 4 as specified in the 1994 Clarksburg Master Plan.

JUSTIFICATION
 The Cabin Branch neighborhood includes Clarksburg Triangle and other Stage 3 properties west of I-270 and east of Clarksburg Road. Clarksburg Master Plan and Hyattstown Special Study Area (1994); Montgomery County Council Resolution Number 14-772; Water and Sewer Plan Service Area Map Amendments for the Clarksburg Master Plan Area (Adopted February 13, 2001); Clarksburg Stages 3 and 4 Area Facility Plan, Rodgers Consulting (December 2004); Ten Mile Creek Area Limited Master Plan (2014).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. The 24-inch and 21-inch diameter sewers have been completed and placed in service. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; (Non-Tidal Wetlands Permit) Maryland Department of Natural Resources; U.S. Fish and Wildlife Service; Montgomery County Government;
 Coordinating Projects: W-46.14-Clarksburg Area Stage 3 Water Main, Parts 1, 2 & 3;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$137	21
Other Project Costs		
Debt Service		
Total Cost	\$137	21
Impact on Water and Sewer Rate		

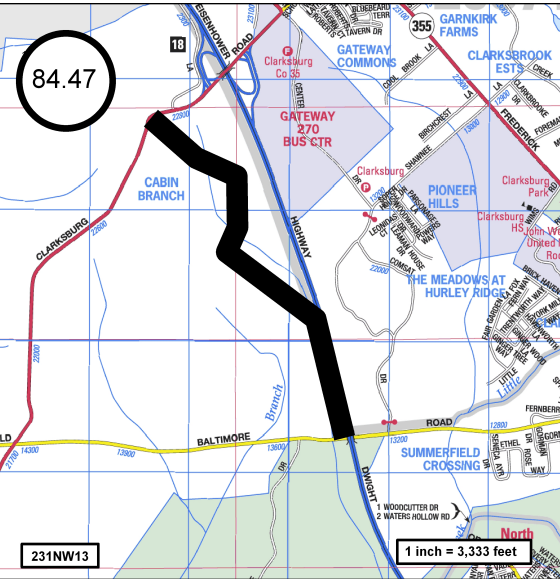
F. Approval and Expenditure Data (000's)

Date First in Program	FY 02
Date First Approved	FY 02
Initial Cost Estimate	22
Cost Estimate Last FY	2,615
Present Cost Estimate	2,644
Approved Request Last FY	606
Total Expense & Encumbrances	1,185
Approval Request Year 1	619

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	70%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	10.8 MGD

H. Map



Cabin Branch Wastewater Pumping Station

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.60	023807	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	365	28	235	102	51	51					
Land											
Site Improvements & Utilities											
Construction	2,320			2,320	1,160	1,160					
Other	399		35	364	182	182					
Total	3,084	28	270	2,786	1,393	1,393					

C. Funding Schedule (000's)

Contribution/Other	3,084	28	270	2,786	1,393	1,393					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of a 0.9 MGD wastewater pumping station. This wastewater pumping station is projected to serve new development in Stage 3 of the Clarksburg planning area west of I-270.

JUSTIFICATION
 The Cabin Branch neighborhood includes Clarksburg Triangle and other Stage 3 properties west of I-270 and east of Clarksburg Road. Clarksburg Master Plan and Hyattstown Special Study Area (1994); Montgomery County Council Resolution Number 14-772; Water and Sewer Plan Service Area Map Amendments for the Clarksburg Master Plan Area (Adopted February 13, 2001); Clarksburg Stages 3 and 4 Area Facility Plan, Rodgers Consulting (December 2004); Cabin Branch - Amended Phase I Letter of Findings #6 (September 2013).

COST CHANGE
 Costs were increased based upon information provided by the developer.

OTHER
 The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a Memorandum of Understanding. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; (Non-Tidal Wetlands Permit) Maryland Department of Natural Resources; U.S. Fish and Wildlife Service; Maryland Department of the Environment; Montgomery County Government;
 Coordinating Projects: S-84.61-Cabin Branch WWPS Force Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service		
Total Cost		
Impact on Water and Sewer Rate		

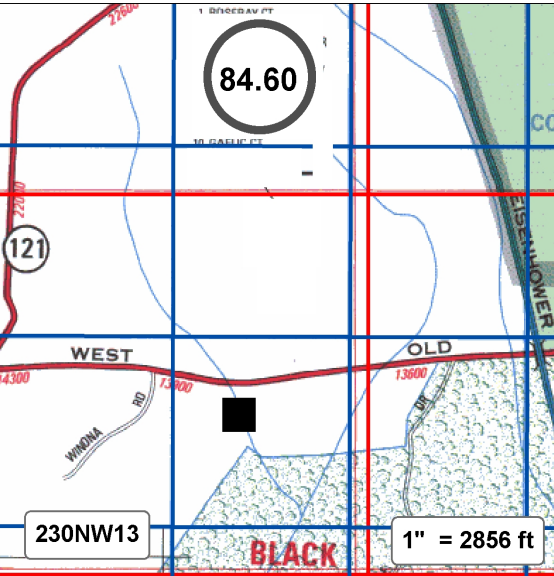
F. Approval and Expenditure Data (000's)

Date First in Program	FY 02
Date First Approved	FY 02
Initial Cost Estimate	22
Cost Estimate Last FY	3,000
Present Cost Estimate	3,084
Approved Request Last FY	1,325
Total Expense & Encumbrances	28
Approval Request Year 1	1,393

G. Status Information

Land Status	Land acquired
Project Phase	Design
Percent Complete	0%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	1,550
Capacity	0.9 MGD

H. Map



Cabin Branch WWPS Force Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.61	023808	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	99	10	34	55	51	4					
Land											
Site Improvements & Utilities											
Construction	294		0	294	102	172	20				
Other	56		26	30	26	4					
Total	449	10	60	379	179	180	20				

C. Funding Schedule (000's)

Contribution/Other	449	10	60	379	179	180	20				
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 2,000 feet of 10-inch diameter force main downstream of the Cabin Branch Wastewater Pumping Station. The wastewater pumping station and force main will provide service to new development in Stage 3 of the Clarksburg planning area, west of I-270.

JUSTIFICATION
 The Cabin Branch neighborhood includes Clarksburg Triangle and other Stage 3 properties west of I-270 and east of Clarksburg Road. Clarksburg Master Plan and Hyattstown Special Study Area (1994); Montgomery County Council Resolution Number 14-772; Water and Sewer Plan Service Area Map Amendments for the Clarksburg Master Plan Area (Adopted February 13, 2001); Clarksburg Stages 3 and 4 Area Facility Plan, Rodgers Consulting (December 2004); Cabin Branch - Amended Phase I Letter of Findings #6 (September 2013).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project. Land costs are included in WSSC Project S-203.00.

COORDINATION

Coordinating Agencies: Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; (Non-Tidal Wetlands Permit) Maryland Department of Natural Resources; U.S. Fish and Wildlife Service; Montgomery County Government;
 Coordinating Projects: S-84.47-Clarksburg Triangle Outfall Sewer, Part 2; S-84.60-Cabin Branch Wastewater Pumping Station;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$35	22
Other Project Costs		
Debt Service		
Total Cost	\$35	22
Impact on Water and Sewer Rate		

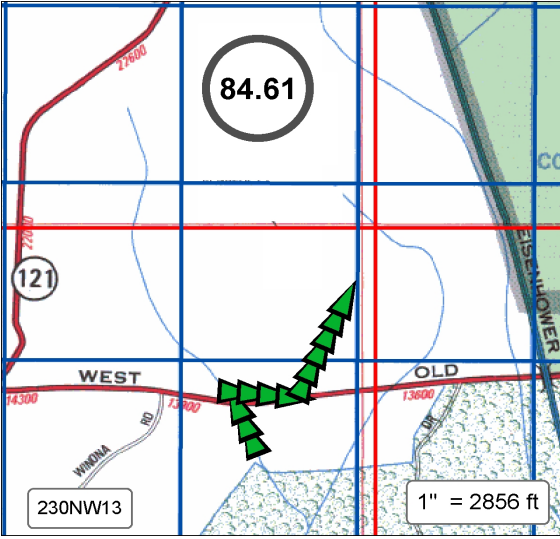
F. Approval and Expenditure Data (000's)

Date First in Program	FY 02
Date First Approved	FY 02
Initial Cost Estimate	22
Cost Estimate Last FY	436
Present Cost Estimate	449
Approved Request Last FY	147
Total Expense & Encumbrances	10
Approval Request Year 1	179

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	100%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	1,550
Capacity	0.9 MGD

H. Map



Milestone Center Sewer Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.67	173804	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Germantown & Vicinity PA 19;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	122			122	122						
Land											
Site Improvements & Utilities											
Construction	325			325	306	19					
Other	67			67	64	3					
Total	514			514	492	22					

C. Funding Schedule (000's)

Contribution/Other	514			514	492	22					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of approximately 1,860 feet of 18-inch diameter sewer main to serve the new Milestone development.

JUSTIFICATION
 Milestone Development Amended Hydraulic Planning Analysis and Letter of Findings #2 (January 2016).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditures and schedule projection shown in Block B are planning level estimates and may change based on site-specific conditions and design constraints. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Montgomery County Government;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$32	21
Other Project Costs		
Debt Service		
Total Cost	\$32	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 18
Date First Approved	FY 18
Initial Cost Estimate	504
Cost Estimate Last FY	504
Present Cost Estimate	514
Approved Request Last FY	483
Total Expense & Encumbrances	
Approval Request Year 1	492

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	0%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	2.83 MGD

H. Map



Clarksburg Wastewater Pumping Station

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.68	173802	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	424	97	227	100	40	50	10				
Land											
Site Improvements & Utilities											
Construction	2,589			2,589	1,100	1,300	189				
Other	437		34	403	171	202	30				
Total	3,450	97	261	3,092	1,311	1,552	229				

C. Funding Schedule (000's)

SDC	3,450	97	261	3,092	1,311	1,552	229				
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of a 0.94 MGD wastewater pumping station. The new wastewater pumping station and force main will provide service to the Miles property and the Clarksburg Historic District.

JUSTIFICATION
 Clarksburg Master Plan & Hyattstown Special Study Area (Approved and Adopted, June 1994). Ten Mile Creek Area Limited Amendment to Clarksburg Master Plan and Hyattstown Special Study Area (Approved July 2014). Clarksburg - Ten Mile Creek Area Sewer Facility Study Business Case, CDM Smith (March 2015).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The schedule and expenditure projections shown in Block B above are planning level estimates and may change based upon site conditions and design constraints. Planning work began in FY'17 under ESP project S-602.61, Clarksburg - Ten Mile Creek Area Study. The Montgomery County Planning Board endorsed the Study recommendation Alternative 12 on May 26, 2016. The Montgomery County Council adopted a resolution supporting the Study recommendation on July 12, 2016. No WSSC rate supported debt will be used for this project. Land costs are included in WSSC project S-203.00.

COORDINATION

Coordinating Agencies: Montgomery County Government; Montgomery County Department of Environmental Protection;
 Coordinating Projects: S-84.69-Clarksburg WWPS Force Main

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service		
Total Cost		
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

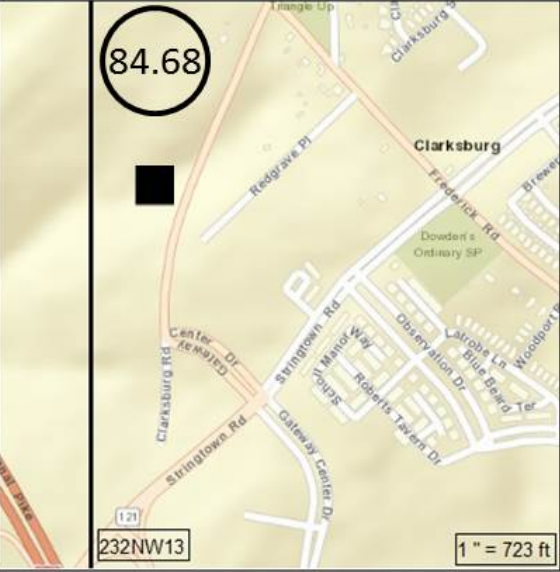
Date First in Program	FY 18
Date First Approved	FY 18
Initial Cost Estimate	3,393
Cost Estimate Last FY	3,393
Present Cost Estimate	3,450
Approved Request Last FY	290
Total Expense & Encumbrances	97
Approval Request Year 1	1,311

G. Status Information

Land Status	Site Selected
Project Phase	Design
Percent Complete	20%
Est Completion Date	FY 2021

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	0.94 MGD

H. Map



Clarksburg WWPS Force Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-84.69	173803	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Seneca Creek 15;
Planning Areas	Clarksburg & Vicinity PA 13;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	122		87	35	35						
Land											
Site Improvements & Utilities											
Construction	1,478		750	728	728						
Other	240		126	114	114						
Total	1,840		963	877	877						

C. Funding Schedule (000's)

SDC	1,840	963	877	877							
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 1,270 feet of force main downstream of the Clarksburg Wastewater Pumping Station. The new wastewater pumping station and force main will provide service to the Miles property and the Clarksburg Historic District.

JUSTIFICATION
 Clarksburg Master Plan & Hyattstown Special Study Area (Approved and Adopted, June 1994). Ten Mile Creek Area Limited Amendment to Clarksburg Master Plan and Hyattstown Special Study Area (Approved July 2014). Clarksburg - Ten Mile Creek Area Sewer Facility Study Business Case, CDM Smith (March 2015).

COST CHANGE
 Cost estimate updated based upon planning level estimate.

OTHER
 The project scope has remained the same. The schedule and expenditure projections shown in Block B above are planning level estimates and may change based upon site conditions and design constraints. Planning work began in FY'17 under ESP project S-602.61, Clarksburg - Ten Mile Creek Area Study. The Montgomery County Planning Board endorsed the Study recommendation Alternative 12 on May 26, 2016. The Montgomery County Council adopted a resolution supporting the Study recommendation on July 12, 2016. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Montgomery County Government; Montgomery County Department of Environmental Protection;
 Coordinating Projects: S-84.68-Clarksburg Wastewater Pumping Station

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$22	20
Other Project Costs		
Debt Service		
Total Cost	\$22	20
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 18
Date First Approved	FY 18
Initial Cost Estimate	1,149
Cost Estimate Last FY	1,149
Present Cost Estimate	1,840
Approved Request Last FY	100
Total Expense & Encumbrances	
Approval Request Year 1	877

G. Status Information

Land Status	Site Selected
Project Phase	Design
Percent Complete	30%
Est Completion Date	FY 2019

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Shady Grove Station Sewer Augmentation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-85.21	153800	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Rock Creek 05;
Planning Areas	Gaithersburg & Vicinity PA 20;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	170	122	21	27	15	12					
Land											
Site Improvements & Utilities											
Construction	1,990	3	261	1,726	1,036	690					
Other	305		42	263	158	105					
Total	2,465	125	324	2,016	1,209	807					

C. Funding Schedule (000's)

Contribution/Other	2,465	125	324	2,016	1,209	807					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of approximately 3,600 feet of 15-inch to 18-inch diameter sewers. These sewers will replace an existing 10-inch diameter sewer main near Crabbs Branch Creek and CSX Railroad and terminate at a manhole approximately 300 feet southeast of Redland Road.

JUSTIFICATION
 The new 15-inch and 18-inch diameter sewers will serve the area encompassed by Shady Grove Road, I-370 and CSX Railroad.
 Due to the development density proposed in DA5409Z12, the projected peak wastewater flow exceeds the capacity of existing sewers.

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a Systems Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Montgomery County Department of Public Works and Transportation; Montgomery County Government; Maryland-National Capital Park & Planning Commission;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$68	21
Other Project Costs		
Debt Service		
Total Cost	\$68	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

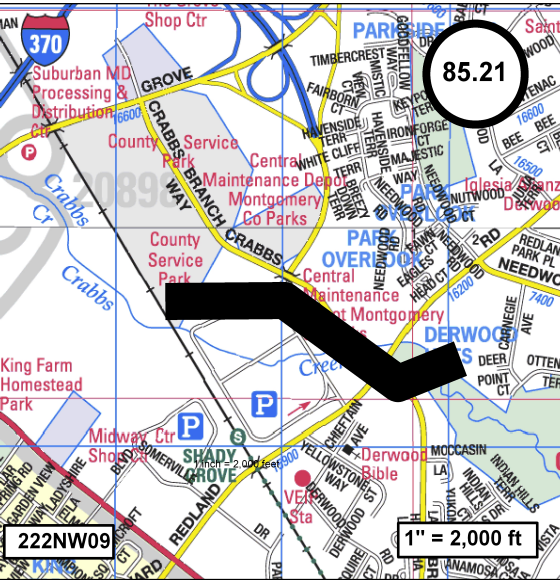
Date First in Program	FY 15
Date First Approved	FY 15
Initial Cost Estimate	2,254
Cost Estimate Last FY	2,321
Present Cost Estimate	2,465
Approved Request Last FY	1,216
Total Expense & Encumbrances	125
Approval Request Year 1	1,209

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	50%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	5,500
Capacity	1.0 - 3.0 mgd

H. Map



Cabin John Trunk Sewer Relief

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-103.16	153801	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Cabin John 07;
Planning Areas	Bethesda-Chevy Chase & Vicinity PA 35;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	628	114	290	224	192	22	10				
Land											
Site Improvements & Utilities											
Construction	13,193			13,193	5,423	5,423	2,347				
Other	2,057		44	2,013	842	817	354				
Total	15,878	114	334	15,430	6,457	6,262	2,711				

C. Funding Schedule (000's)

Contribution/Other	15,878	114	334	15,430	6,457	6,262	2,711				
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D. Description & Justification

<p>DESCRIPTION This project provides for the planning, design, and construction of 3,400 feet of 24-inch diameter sewer in the Cabin John Basin.</p> <p>JUSTIFICATION Mid-Pike Plaza Hydraulic Planning Analysis (November, 2012).</p> <p>COST CHANGE Not applicable.</p> <p>OTHER The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a Systems Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.</p> <p>COORDINATION Coordinating Agencies: Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Maryland Department of Natural Resources; Montgomery County Government; Maryland State Highway Administration; Coordinating Projects: S-25.04-Mid-Pike Plaza Sewer Main, Phase 1; S-25.05-Mid-Pike Plaza Sewer Main, Phase 2;</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$59	22
Other Project Costs		
Debt Service		
Total Cost	\$59	22
Impact on Water and Sewer Rate		

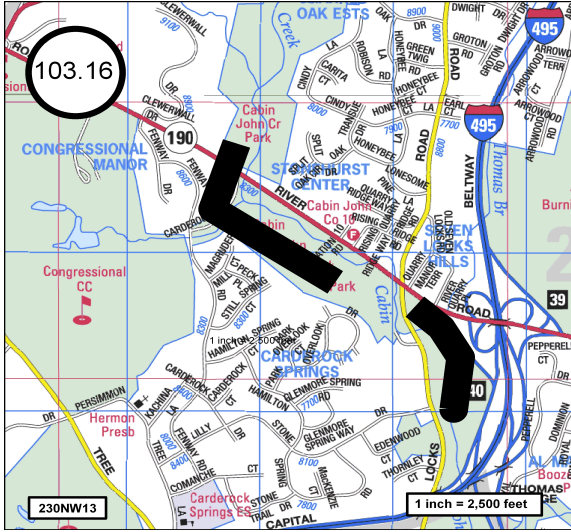
F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	7,999
Cost Estimate Last FY	15,567
Present Cost Estimate	15,878
Approved Request Last FY	6,262
Total Expense & Encumbrances	114
Approval Request Year 1	6,457

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	10%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	29.37 to 36.74 MGD

H. Map



PROJECTS PENDING CLOSE-OUT
Montgomery County Sewer Projects
(costs in thousands)

Project Number	Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'17	Estimated Expenditures FY'18	Remarks
083801	S- 25.03	Twinbrook Commons Sewer	\$938	\$938	\$0	Project complete.
123801	S- 25.04	Mid-Pike Plaza Sewer Main, Phase 1	4,122	4,122	0	Project complete.
143801	S- 25.05	Mid-Pike Plaza Sewer Main, Phase 2	5,564	5,564	0	Project complete.
083803	S- 84.65	Tapestry Wastewater Pumping Station	391	391	0	Project changed to low pressure sewer.
083804	S- 84.66	Tapestry WWPS Force Main	41	41	0	Project changed to low pressure sewer.
		TOTALS	\$11,056	\$11,056	\$0	

Section 3 - Bi-County Water Projects

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

BI-COUNTY WATER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 17	EST. EXPEND 18	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 19	YR 2 20	YR 3 21	YR 4 22	YR 5 23	YR 6 24		
W-73.19	Potomac WFP Outdoor Substation No. 2 Replacement	15,052	14,450	580	22	22	0	0	0	0	0	0	3-3
W-73.21	Potomac WFP Corrosion Mitigation	17,280	15,600	1,615	65	65	0	0	0	0	0	0	3-4
W-73.22	Potomac WFP Pre-Filter Chlorination & Air Scour Improvements	24,961	7,751	4,786	12,424	7,883	4,518	23	0	0	0	0	3-5
W-73.30	Potomac WFP Submerged Channel Intake	83,104	4,322	525	78,257	1,470	3,917	24,255	24,150	19,425	5,040	0	3-6
W-73.32	Potomac WFP Main Zone Pipeline	37,470	950	550	35,970	1,100	660	19,030	15,180	0	0	0	3-7
W-73.33	Potomac WFP Consent Decree Program	157,480	1,500	5,430	121,150	9,850	10,500	19,950	27,300	28,350	25,200	29,400	3-8
W-139.02	Duckett & Brighton Dam Upgrades	30,754	14,066	8,142	8,546	7,801	745	0	0	0	0	0	3-9
W-161.01	Large Diameter Water Pipe & Large Valve Rehabilitation Program	448,555	0	53,208	395,347	53,622	57,862	62,865	72,021	73,751	75,226	0	3-10
W-172.05	Patuxent WFP Phase II Expansion	63,899	56,594	6,229	1,076	1,076	0	0	0	0	0	0	3-13
W-172.07	Patuxent Raw Water Pipeline	33,663	12,705	4,202	16,756	8,378	8,378	0	0	0	0	0	3-14
W-172.08	Rocky Gorge Pump Station Upgrade	22,564	7,037	10,974	4,553	2,484	2,069	0	0	0	0	0	3-15
W-202.00	Land & Rights-of-Way Acquisition - Bi-County Water	3,695	0	777	2,918	1,300	1,570	18	10	10	10	0	3-16
	Projects Pending Close-Out	141,636	140,624	1,012	0	0	0	0	0	0	0	0	3-17
TOTAL BI-COUNTY WATER PROJECTS		1,080,113	275,599	98,030	677,084	95,051	90,219	126,141	138,661	121,536	105,476	29,400	

POTOMAC WATER FILTRATION PLANT PROJECTS
(costs in thousands)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'18 TOTAL COST	PROPOSED FY'19 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
W-73.19	Potomac WFP Outdoor Substation No. 2 Replacement	\$14,850	\$15,052	\$202	1.4%	\$22	August 2017
W-73.21	Potomac WFP Corrosion Mitigation	15,557	17,280	1,723	11.1%	65	September 2017
W-73.22	Potomac WFP Pre-Filter Chlorination & Air Scour Improvements	22,129	24,961	2,832	12.8%	12,424	December 2020
W-73.30	Potomac WFP Submerged Channel Intake	83,104	83,104	0	0.0%	78,257	FY 2024
W-73.32	Potomac WFP Main Zone Pipeline	36,494	37,470	976	2.7%	35,970	FY 2022
W-73.33	Potomac WFP Consent Decree Program	43,050	157,480	114,430	265.8%	121,150	January 2026
	TOTALS	\$215,184	\$335,347	\$120,163	55.8%	\$247,888	

Summary: This group of projects represents operational improvements to the Potomac Water Filtration Plant (WFP) in Montgomery County. The Potomac WFP Outdoor Substation No. 2 Replacement project (W-73.19) provides for the replacement of the Outdoor Substation No. 2 (OSS-2) at the Potomac Water Filtration Plant which is over 30 years old and contains 5kV switchgear that houses air magnetic breakers which are obsolete. The Potomac WFP Corrosion Mitigation (W-73.21) provides for upgrading/replacing existing metallic components in the eight sedimentation basins due to accelerated corrosion, along with upgrading components in the rapid mix and flocculation processes. The Potomac WFP Pre-Filter Chlorination & Air Scour Improvements project (W-73.22) provides for a pre-filter chlorination system, evaluation of retrofitting an air scour system, and the replacement of existing plant filters to improve the performance of the underdrain system. The Potomac WFP Submerged Channel Intake project (W-73.30) will provide an additional barrier against drinking water contamination, enhance reliability, and reduce treatment costs by drawing water from a location with a cleaner, more stable water quality. The Potomac WFP Main Zone Pipeline project (W-73.32) provides an 84-inch diameter redundancy main from the Main Zone pumping station to the 96-inch diameter and 66-inch diameter main why connections on River Road. The Potomac WFP Consent Decree Program project (W-73.33) 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 the Commission to meet the new discharge limitations identified in the Consent Decree.

Cost Impact: The increase in cost is due to several factors. Performance issues relating to additional concrete and equipment repair work in the basins contributed to the increase associated with W-73.21 Potomac WFP Corrosion Mitigation. The need to replace all 32 filter underdrains led to the increase in W-73.22 Potomac WFP Pre-Filter Chlorination & Air Scour Improvements. And finally, the Potomac WFP Consent Decree Program (W-73.33) was increased significantly based on estimates from the December 2016 Audit and Long-Term Upgrade Report for the Potomac WFP.

Potomac WFP Outdoor Substation No. 2 Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.19	113802	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	4,405	4,027	377	1	1						
Land											
Site Improvements & Utilities											
Construction	10,593	10,423	150	20	20						
Other	54		53	1	1						
Total	15,052	14,450	580	22	22						

C. Funding Schedule (000's)

WSSC Bonds	15,052	14,450	580	22	22						
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction required to replace the Outdoor Substation No. 2 (OSS-2) 5kV switchgear and the two motor control centers (MCCs) located in the Raw Water Pumping Station No. 1 at the Potomac Water Filtration Plant. OSS-2 is over 30 years old and contains 5kV switchgear that houses air magnetic breakers which are obsolete. The two MCCs are over 50 years old, and the manufacturer is no longer in business, making replacement parts difficult to obtain.

JUSTIFICATION
 The Phase ID - Energy Performance Project included engineering and planning of equipment and operations upgrades to develop an energy efficient and guaranteed savings program to upgrade/replace pumps at the Potomac Raw Water Pumping Stations (RWPS) #1 and #2, and upgrade Main Zone pump #3. Subsequent tests and inspections of OSS-2 serving RWPS #1 and #2 resulted in a report indicating that OSS-2 was unsafe and in poor condition, and that WSSC should move in an expeditious manner to replace the switchgear in its entirety. Industry practice is to replace 5 kV switchgear between 25 and 30 years old, when in an environment with airborne chemicals. The old breakers in OSS-2 have misalignment problems, and the switchgear housing is corroded, which can pose safety risks to the plant electrical and mechanical maintenance staff as well as the operators.

Energy Performance Project, Phase ID, Energy Systems Group (ESG) (March 2009). Raw Water Pump Testing and subsequent site visits and meetings at Potomac from April to June 2009 by ESG, Whitman Requardt & Assoc., and Shah Assoc. (sub-consultants to ESG).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown in Block B above are based on actual bid. The project is substantially complete in FY'18. Estimated cost shown for FY'19 is for site restoration.

COORDINATION
 Coordinating Agencies: Montgomery County Government; Prince George's County Government;
 Coordinating Projects: A-103.00-Energy Performance Program;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$979	20
Total Cost	\$979	20
Impact on Water and Sewer Rate	\$0.02	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	7,934
Cost Estimate Last FY	14,850
Present Cost Estimate	15,052
Approved Request Last FY	1,248
Total Expense & Encumbrances	14,450
Approval Request Year 1	22

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	99%
Est Completion Date	August 2017

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Potomac WFP Corrosion Mitigation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.21	143802	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	2,685	2,600	75	10	10						
Land											
Site Improvements & Utilities											
Construction	14,450	13,000	1,400	50	50						
Other	145		140	5	5						
Total	17,280	15,600	1,615	65	65						

C. Funding Schedule (000's)

WSSC Bonds	17,280	15,600	1,615	65	65						
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction required to upgrade and replace the existing metallic components in the eight Sedimentation Basins due to accelerated corrosion observed since the implementation of the full-scale Low pH Enhanced Coagulation Program in 2008. The project will also upgrade components in the Rapid Mix and Flocculation process areas in anticipation of the Ferric Chloride Feed System Project implementation that will introduce a coagulant that is not compatible with several of the existing metallic components.

JUSTIFICATION
 Sedimentation Basin components, such as valve hardware, pipe couplings, operator extensions, cross beams, cross collector drive chains and pipe support brackets, are all essential elements. Failure could mean losing important and significant process capacity, possibly for extended periods of time. This could hinder the Commission's ability to meet water supply demands, particularly when the system may need to recover quickly, as in the case of a major water main break. Replacing the metallic components with compatible materials will help maintain the integrity of our system. The project also includes the replacement of the existing polyurethane sprockets, chains for the cross collector drive, augers, auger shafts, and auger chains.

Technical Memorandum No. 1 - Impact of Ferric Chloride on Existing Facilities, Hazen and Sawyer, (May 2010); Potomac Sedimentation Basin Corrosion Study, Hatch Mott MacDonald, (July 2010).

COST CHANGE
 Cost increase is due to performance issues relating to additional concrete, and equipment repair work in the basins.

OTHER
 The project scope has remained the same. Expenditures and schedule projections shown in Block B above are based upon actual bid. The project will be substantially complete in FY'18. Estimated cost shown for FY'19 is for project closeout activities.

COORDINATION
 Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland Department of the Environment;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,124	20
Total Cost	\$1,124	20
Impact on Water and Sewer Rate	\$0.02	20

F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	7,443
Cost Estimate Last FY	15,557
Present Cost Estimate	17,280
Approved Request Last FY	760
Total Expense & Encumbrances	15,600
Approval Request Year 1	65

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	90%
Est Completion Date	September 2017

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Potomac WFP Pre-Filter Chlorination & Air Scour Improvements

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.22	143803	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	2,941	1,873	103	965	591	373	1				
Land											
Site Improvements & Utilities											
Construction	20,455	5,878	4,248	10,329	6,575	3,734	20				
Other	1,565		435	1,130	717	411	2				
Total	24,961	7,751	4,786	12,424	7,883	4,518	23				

C. Funding Schedule (000's)

WSSC Bonds	24,961	7,751	4,786	12,424	7,883	4,518	23				
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D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides for the planning, design, and construction of a pre-filter chlorination system and filter air scour system for the Potomac Water Filtration Plant. It also includes the replacement of all 32 filter underdrains.</p> <p>JUSTIFICATION</p> <p>Due to numerous separate incidents of catastrophic filter underdrain failures since October 2006, an investigation was conducted by WSSC and ITT Leopold, suppliers of the failed underdrain systems. The investigation revealed that the ITT Leopold underdrain system with an Integral Media Support (IMS) cap is not compatible with the biologically active filters at the Potomac WFP.</p> <p>Engineering Standard - I. M. S. Cap Monitoring Operation, and Maintenance Instructions, ITT Water & Wastewater, Leopold, Inc., (April 2009). Memo from John Geibel, P.E., Sr. Product Engineer @ ITT Water & Wastewater, Leopold, Inc. - Potomac Filtration Plant Visit April 2009 - to Joseph Johnson, Potomac Plant Superintendent, (May 2010);</p> <p>COST CHANGE</p> <p>Total project cost has increased to include the cost for replacement of all 32 filter underdrains.</p> <p>OTHER</p> <p>The project scope has been modified to include the replacement of all 32 filter underdrains. The Potomac Water Filtration Plant experienced fourteen separate incidents of catastrophic filter underdrain failure from October 2006 through FY'17, including three filters that failed twice. The failure rate accelerated with six of the fourteen filter failures taking place during the spring and summer of 2016. Expenditure and schedule projections shown in Block B above include design level estimates for Air Scour (which may change based on actual bids) and on actual bids for Underdrain Replacement. The original plan was to design and construct both pre-filter chlorination and air scour systems as one deliverable at the same time. However, due to the more critical need to implement pre-filter chlorination at the Potomac plant, this portion of the project was placed on an accelerated schedule for design and construction, separate from that of the air scour system. Estimated cost for FY'21 is for site restoration.</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		
Maintenance		
Other Project Costs		
Debt Service	\$1,624	22
Total Cost	\$1,624	22
Impact on Water and Sewer Rate	\$0.03	22

F. Approval and Expenditure Data (000's)

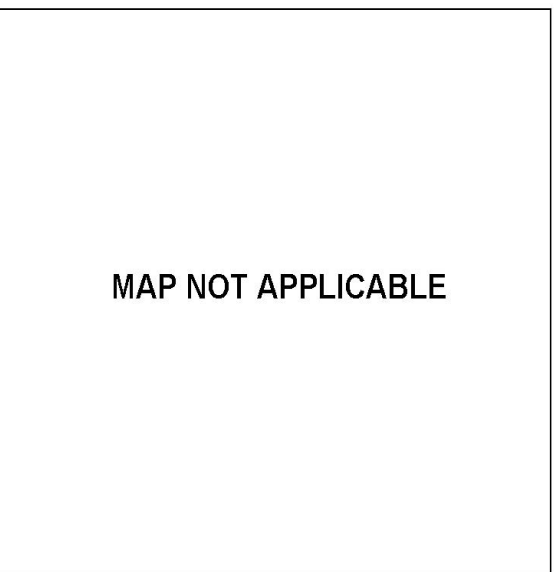
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	5,602
Cost Estimate Last FY	22,129
Present Cost Estimate	24,961
Approved Request Last FY	9,972
Total Expense & Encumbrances	7,751
Approval Request Year 1	7,883

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	30%
Est Completion Date	December 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Potomac WFP Submerged Channel Intake

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.30	033812	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Potomac WFP HGPOWF;
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	10,652	4,322	500	5,830	1,400	1,730	1,100	1,000	500	100	
Land											
Site Improvements & Utilities											
Construction	68,700			68,700		2,000	22,000	22,000	18,000	4,700	
Other	3,752		25	3,727	70	187	1,155	1,150	925	240	
Total	83,104	4,322	525	78,257	1,470	3,917	24,255	24,150	19,425	5,040	

C. Funding Schedule (000's)

WSSC Bonds	83,104	4,322	525	78,257	1,470	3,917	24,255	24,150	19,425	5,040
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D. Description & Justification

<p>DESCRIPTION</p> <p>This project includes planning, which involves community outreach and coordination with elected officials, design, and construction of a submerged channel intake to provide an additional barrier against drinking water contamination (particularly Giardia cysts and Cryptosporidium oocysts), as well as to enhance reliability and reduce treatment costs by drawing water from a location with cleaner, more stable water quality.</p> <p>JUSTIFICATION</p> <p>The project is expected to pay for itself over time based upon the reduced chemical and solids handling costs resulting from the cleaner raw water source. It also provides for a more reliable supply by eliminating the current problems associated with ice and vegetation blocking the existing bank withdrawal. This project is consistent with the industry's recommended multiple barrier approach.</p> <p>"Technical Memorandum No. 2 Water Quality Needs Assessment," O'Brien & Gere Engineers, Inc. (November 2001); "Draft Source Water Assessment Study," Maryland Department of the Environment (April 2002); "Potomac WFP Facility Plan," O'Brien & Gere Engineers, Inc. (September 2002). "Draft Feasibility Study Report", Black & Veatch (November 2013).</p> <p>COST CHANGE</p> <p>Not applicable.</p> <p>OTHER</p> <p>The project scope has remained the same. As part of the planning phase of this project, significant outreach activities will occur. A series of briefings with State legislators, County Council members, County Executive staff and County Council staff will be undertaken prior to commencement of further engineering work. As the planning process moves into its final stages and the National Environmental Policy Act (NEPA) approval process is underway, elected officials, county government staffs, environmental community members, and the general public will be engaged in an on-going information, outreach and project participation program. Expenditure and schedule projections shown above are planning level estimates and may change based on site-specific conditions and design constraints. Both Councils will review the results of the detailed study and must approve continuing with the project before design and construction may proceed. Land costs are included in WSSC Project W-202.00.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Montgomery County Government; Prince George's County Government; National Park Service; Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Environmental Resources; U.S. Army Corps of Engineers; Maryland-National Capital Park & Planning Commission;</p> <p>Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$5,406	25
Total Cost	\$5,406	25
Impact on Water and Sewer Rate	\$0.11	25

F. Approval and Expenditure Data (000's)

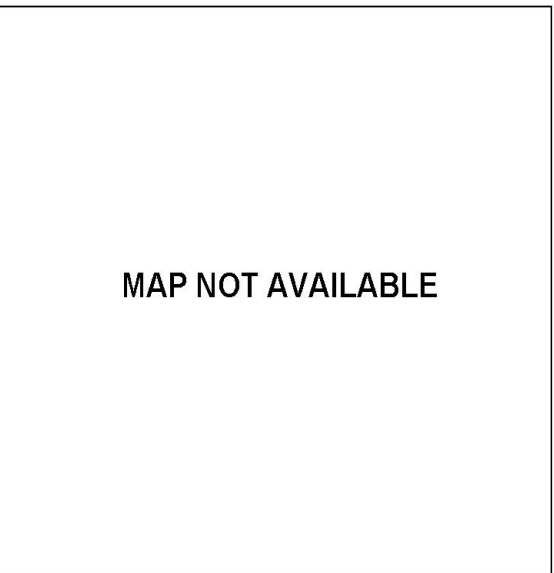
Date First in Program	FY 04
Date First Approved	FY 03
Initial Cost Estimate	936
Cost Estimate Last FY	83,104
Present Cost Estimate	83,104
Approved Request Last FY	1,523
Total Expense & Encumbrances	4,322
Approval Request Year 1	1,470

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	95%
Est Completion Date	FY 2024

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Potomac WFP Main Zone Pipeline

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.32	133800	Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	3,650	950	500	2,200	1,000	600	300	300			
Land											
Site Improvements & Utilities											
Construction	30,500			30,500			17,000	13,500			
Other	3,320		50	3,270	100	60	1,730	1,380			
Total	37,470	950	550	35,970	1,100	660	19,030	15,180			

C. Funding Schedule (000's)

WSSC Bonds	37,470	950	550	35,970	1,100	660	19,030	15,180			
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D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides for the planning, design, and construction of approximately 1,500 feet of 84-inch diameter redundancy main from the Main Zone pumping station to the 96-inch diameter and 66-inch diameter main wye connections on River Road. The project will include a rock tunnel segment.</p> <p>JUSTIFICATION</p> <p>The existing 78-inch diameter PCCP pipeline is the major feed to the 96-inch diameter Montgomery County Main Zone pipeline and the 66-inch diameter River Road pipeline. The primary purpose of this project is to provide redundancy for the existing line. The Business Case recommended a new 84-inch diameter main be installed from the Main Zone pumping station to the 66-inch diameter and 96-inch diameter wye connection. In addition the wye connection will be replaced as part of this project.</p> <p>E-mail from M. Woodcock to C. Fricke and E. Betanzo dated April 27, 2011; "Business Case Evaluation for Potomac Water Treatment Plan - 78 inch finished water main redundancy", O'Brien and Gere Engineers, Inc. (October 2013)</p> <p>COST CHANGE</p> <p>Not applicable.</p> <p>OTHER</p> <p>The project scope has remained the same. Expenditure and schedule projections shown in Block B above are Order of Magnitude estimates and may change based upon site specific conditions and design constraints.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Montgomery County Government; Maryland Department of the Environment; Maryland Department of Natural Resources; U.S. Army Corps of Engineers; Maryland-National Capital Park & Planning Commission;</p> <p>Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$39	23
Other Project Costs		
Debt Service	\$2,437	23
Total Cost	\$2,476	23
Impact on Water and Sewer Rate	\$0.05	23

F. Approval and Expenditure Data (000's)

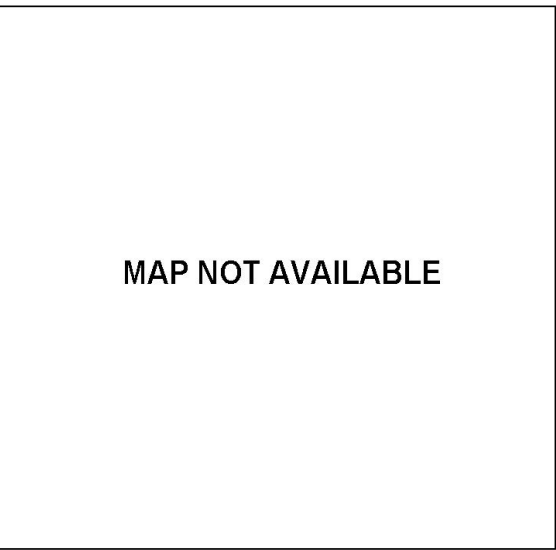
Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	330
Cost Estimate Last FY	36,494
Present Cost Estimate	37,470
Approved Request Last FY	9,504
Total Expense & Encumbrances	950
Approval Request Year 1	1,100

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	10%
Est Completion Date	FY 2022

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	Approximately 200 mgd

H. Map



Potomac WFP Consent Decree Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-73.33	173801	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Potomac WFP HGPOWF;
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	28,500	1,500	4,000	20,000	4,000	4,000	4,000	4,000	2,000	2,000	3,000
Land	1,000		600	400	400						
Site Improvements & Utilities											
Construction	120,600		600	95,000	5,000	6,000	15,000	22,000	25,000	22,000	25,000
Other	7,380		230	5,750	450	500	950	1,300	1,350	1,200	1,400
Total	157,480	1,500	5,430	121,150	9,850	10,500	19,950	27,300	28,350	25,200	29,400

C. Funding Schedule (000's)

WSSC Bonds	157,480	1,500	5,430	121,150	9,850	10,500	19,950	27,300	28,350	25,200	29,400
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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 the Commission 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 the Commission is required to "undertake short-term operational changes and capital improvements at the Potomac WFP that will enable WSSC 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 the Commission 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. The Commission 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
 Cost increase is based on estimates from the December 2016 Audit and Long-Term Upgrade Report for the Potomac WFP.

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown above are Order of Magnitude level estimates. The construction estimates have increased significantly based on the Short-Term Audit Report and Long-Term Upgrade Plan Report dated December 2016. The expenditure and schedule projections shown above also include \$1,000,000 for Supplemental Environmental Projects included under CD Section IX. Paragraph 50. Preliminary planning work began in FY'16 under ESP project W-708.48, Potomac WFP Consent Decree Projects; operational requirements identified in CD Section IV. Interim Performance Measures and Plant Improvements are currently underway under ESP project W-708.47, Potomac WFP Turbidity Monitoring.

COORDINATION
 Coordinating Agencies: Maryland Department of the Environment; Montgomery County Government; Prince George's County Government; National Park Service; U.S. Environmental Protection Agency, Region III;
 Coordinating Projects: W-73.21-Potomac WFP Corrosion Mitigation; W-73.30-Potomac WFP Submerged Channel Intake;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$10,244	
Total Cost	\$10,244	
Impact on Water and Sewer Rate	\$0.22	

F. Approval and Expenditure Data (000's)

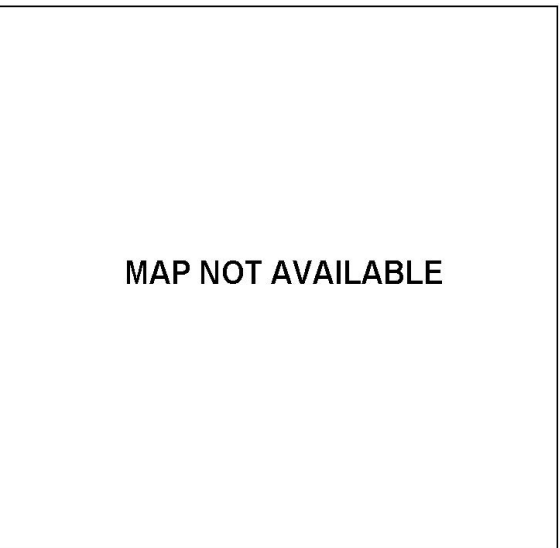
Date First in Program	FY 17
Date First Approved	FY 16
Initial Cost Estimate	27,250
Cost Estimate Last FY	43,050
Present Cost Estimate	157,480
Approved Request Last FY	7,000
Total Expense & Encumbrances	1,500
Approval Request Year 1	9,850

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Planning
Percent Complete	95%
Est Completion Date	January 2026

Growth	
System Improvement	
Environmental Regulation	100%
Population Served	
Capacity	

H. Map



Duckett & Brighton Dam Upgrades

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-139.02	073802	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	9,465	7,238	1,033	1,194	1,023	171					
Land											
Site Improvements & Utilities											
Construction	19,772	6,828	6,369	6,575	6,069	506					
Other	1,517		740	777	709	68					
Total	30,754	14,066	8,142	8,546	7,801	745					

C. Funding Schedule (000's)

WSSC Bonds	30,754	14,066	8,142	8,546	7,801	745					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of the upgrades required to enable the T. Howard Duckett Dam to meet current Maryland Department of the Environment (MDE) dam safety standards including the Probable Maximum Flood (PMF) criteria and maximum credible earthquake loadings. The upgrades include parapet walls on both embankments of the dam and three foot thick scour slabs tied into the rock on the downstream side of the dam. The project also includes work at the Brighton Dam to assure continued safe operation, e.g., spillway resurfacing, new stairs and intake repairs.

JUSTIFICATION
 The MDE requested that WSSC perform a safety analysis of the T. Howard Duckett Dam to ensure that the dam can safely pass the Probable Maximum Flood criteria. MDE also requested that the evaluation include an analysis of the dam's ability to withstand the maximum credible earthquake loadings. The safety analysis includes geotechnical and structural evaluations.
 December 13, 2004 letter from MDE; "Comprehensive Safety Evaluation of the T. Howard Duckett Dam", URS Corporation (January 2007); June 28, 2007 letter from MDE.

COST CHANGE
 Costs were decreased based on the actual bid for the recently awarded Brighton Dam Upgrades construction project.

OTHER
 The project scope has remained the same. Expenditures and schedule projections shown in Block B above reflect the actual bid for the Brighton Dam Upgrades construction. Construction work at Duckett Dam is substantially complete. Brighton Dam Upgrades construction project is currently under construction.

COORDINATION
 Coordinating Agencies: Maryland State Highway Administration; Montgomery County Government; Prince George's County Government; Howard County Government; City of Laurel; Maryland Department of the Environment; U.S. Army Corps of Engineers;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$2,001	21
Total Cost	\$2,001	21
Impact on Water and Sewer Rate	\$0.04	21

F. Approval and Expenditure Data (000's)

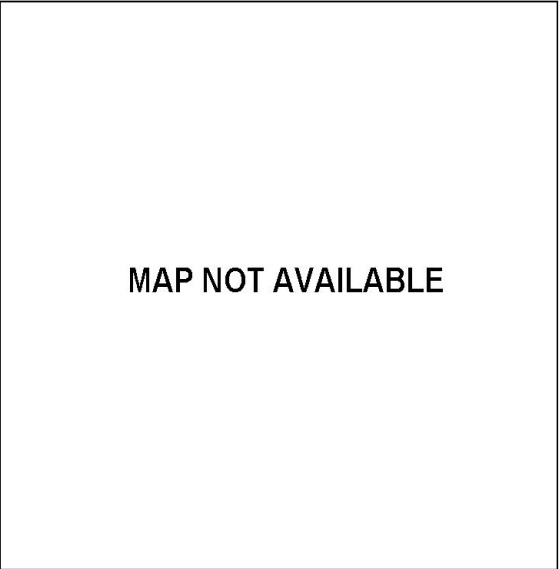
Date First in Program	FY 07
Date First Approved	FY 07
Initial Cost Estimate	575
Cost Estimate Last FY	35,415
Present Cost Estimate	30,754
Approved Request Last FY	10,673
Total Expense & Encumbrances	14,066
Approval Request Year 1	7,801

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	35%
Est Completion Date	April 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Large Diameter Water Pipe & Large Valve Rehabilitation Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-161.01	113803	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	45,049		4,421	40,628	6,441	6,569	6,701	6,835	6,971	7,111	
Land											
Site Improvements & Utilities											
Construction	382,146		46,253	335,893	44,628	48,538	53,170	61,756	63,268	64,533	
Other	21,360		2,534	18,826	2,553	2,755	2,994	3,430	3,512	3,582	
Total	448,555		53,208	395,347	53,622	57,862	62,865	72,021	73,751	75,226	

C. Funding Schedule (000's)

WSSC Bonds	448,555	53,208	395,347	53,622	57,862	62,865	72,021	73,751	75,226
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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 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 annually 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'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 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 and replace (when necessary) any of the 1500 large diameter valves and vaults located throughout the system.

Utility Wide Master Plan, (December 2007); 30 Year Infrastructure Plan (2007); FY2016 Water Transmission System Asset Management Plan (February 2014); WSSC FY 2018 Buried Water Asset Systems Asset Management Plan (December 2015);

COST CHANGE

Overall program costs were increased for inflation and to reflect higher construction unit costs for pipe replacements due to requirements to fill or remove abandoned pipe.

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$29,179	25
Total Cost	\$29,179	25
Impact on Water and Sewer Rate	\$0.62	25

F. Approval and Expenditure Data (000's)

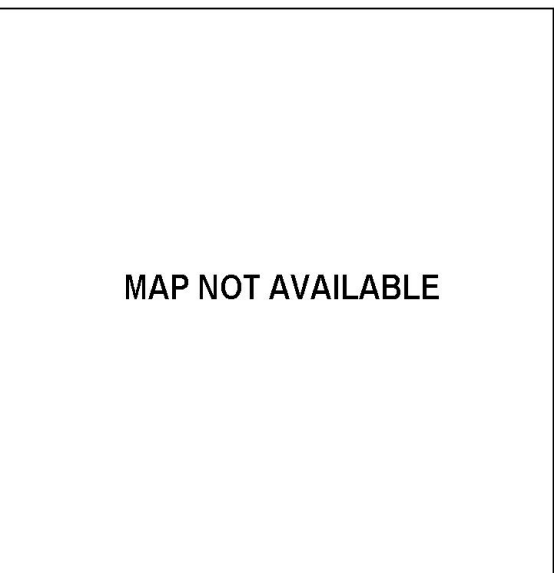
Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	
Cost Estimate Last FY	415,928
Present Cost Estimate	448,555
Approved Request Last FY	41,501
Total Expense & Encumbrances	
Approval Request Year 1	53,622

G. Status Information

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

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Large Diameter Water Pipe & Large Valve Rehabilitation Program

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 inspections and condition assessments. Life to date expenditures for this program are approximately \$174 million. Additional costs associated with PCCP inspection/condition assessment, large valve inspection/repairs and emergency repairs are included in the Operating Budget.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; 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); Maryland-National Capital Park & Planning Commission; Prince George's County Department of Permitting Inspection and Enforcement; Local Community Civic Associations;
Coordinating Projects: W-1.00-Water Reconstruction Program; A-107.00-Specialty Valve Vault Rehabilitation Program;

PATUXENT WATER FILTRATION PLANT PROJECTS
(costs in thousands)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'18 TOTAL COST	PROPOSED FY'19 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
W-172.05	Patuxent WFP Phase II Expansion	\$64,214	\$63,899	(\$315)	-0.5%	\$1,076	August 2018
W-172.07	Patuxent Raw Water Pipeline	32,932	33,663	731	2.2%	16,756	FY 2020
W-172.08	Rocky Gorge Pump Station Upgrade	22,179	22,564	385	1.7%	4,553	August 2019
	TOTALS	\$119,325	\$120,126	\$801	0.7%	\$22,385	

Summary: The Patuxent Water Filtration Plant (WFP) Phase II Expansion project (W-172.05) provides for the addition of a sixth treatment train, a new electrical substation, upgrades to existing yard piping, upgrades to chemical facilities, new UV disinfection facilities, an upgrade to the existing potassium permanganate feed system, upgrades to the existing sewer system and new solids removal facilities. In conjunction with the WFP Phase II Expansion project, the Patuxent Raw Water Pipeline project (W-172.07) and the Rocky Gorge Pump Station Upgrade project (W-172.08) provide for a new raw water pipeline and the necessary modification/expansion to the pumping station to allow the delivery of up to 110 million gallons per day (MGD) of raw water to the Patuxent WFP.

Cost Impact: Not applicable.

Patuxent WFP Phase II Expansion

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-172.05	033807	Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	16,459	13,802	2,432	225	225						
Land	21	21									
Site Improvements & Utilities											
Construction	47,071	42,771	3,500	800	800						
Other	348		297	51	51						
Total	63,899	56,594	6,229	1,076	1,076						

C. Funding Schedule (000's)

WSSC Bonds	63,899	56,594	6,229	1,076	1,076						
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D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides for the addition of a sixth treatment train, a new electrical substation, a new residuals handling facility, new UV disinfection facilities, upgrades to existing yard piping, and upgrades to chemical facilities at the Patuxent WFP along with an upgrade to the existing potassium permanganate and carbon feed systems at the Patuxent Pretreatment Facility and a new relief sewer which upgrades the existing sewer system along Sweitzer Lane to accommodate the new residuals facility.</p> <p>JUSTIFICATION</p> <p>Phase II will add a sixth treatment train consisting of a three stage flocculation chamber, sedimentation basin with chain and flight solids removal and plate settlers, disinfectant contact chamber, and two deep bed granular carbon filters. A fourth raw water pipeline, Patuxent Raw Water Pipeline (W-172.07) and the modification and expansion of the Rocky Gorge Water Pumping Station (W-172.08), will provide a firm raw water pumping/transmission capacity of 110 MGD. These improvements will give the plant a firm nominal capacity of 72 MGD, with emergency capacity of 110 MGD. New UV disinfection facilities are being added to the plant in order to assure compliance with future EPA regulations for Cryptosporidium treatment and Stage 2 Disinfection Byproducts Rule effective 2012. This project also adds a residuals handling facility to remove the solids from impacting the Parkway WWTP and a relief sewer along Sweitzer Lane to assure no sanitary sewer overflows (SSO) occur as a result of Plant wastewater discharge.</p> <p>"Patuxent WFP Facility Plan", O'Brien & Gere Engineers, Inc., (April, 1997); In-House Study (April, 2002); Patuxent Expansion Design Criteria Report (April, 2005), "Parkway WWTP Biosolids Facility Plan", CH2M Hill (October, 2009); "Evaluation of Residuals Handling Process Alternatives", AECOM Technical Services, (July, 2011)</p> <p>COST CHANGE</p> <p>Not applicable.</p> <p>OTHER</p> <p>The project scope has remained the same. Expenditure and schedule projections shown in Block B above are based on actual bids. In the event of an outage at the Potomac WFP, additional capacity at the Patuxent WFP will reduce customer impact. However, emergency conservation measures will still be required.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Maryland State Department of Transportation; Baltimore Gas & Electric; Maryland State Highway Administration;</p> <p>Coordinating Projects: W-12.02-Prince George's County HG415 Zone Water Main; W-172.07-Patuxent Raw Water Pipeline; W-172.08-Rocky Gorge Pump Station Upgrade;</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$4,157	20
Total Cost	\$4,157	20
Impact on Water and Sewer Rate	\$0.09	20

F. Approval and Expenditure Data (000's)

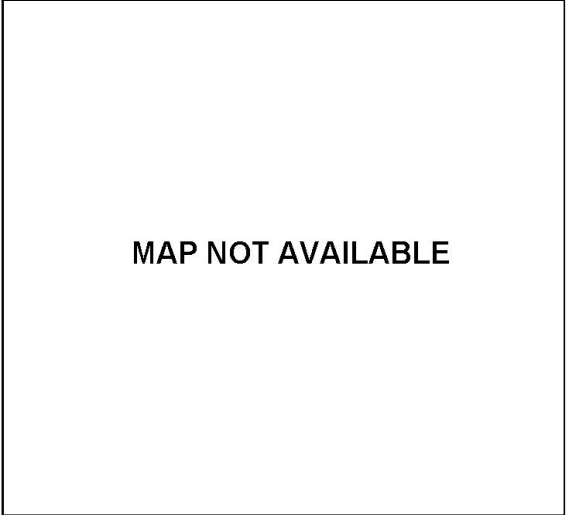
Date First in Program	FY 04
Date First Approved	FY 03
Initial Cost Estimate	33,002
Cost Estimate Last FY	64,214
Present Cost Estimate	63,899
Approved Request Last FY	8,956
Total Expense & Encumbrances	56,594
Approval Request Year 1	1,076

G. Status Information

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	80%
Est Completion Date	August 2018

Growth	
System Improvement	80%
Environmental Regulation	20%
Population Served	
Capacity	72 MGD nominal/110 MGD emergency

H. Map



Patuxent Raw Water Pipeline

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-172.07	063804	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	5,390	4,770	220	400	200	200					
Land											
Site Improvements & Utilities											
Construction	26,367	7,935	3,600	14,832	7,416	7,416					
Other	1,906		382	1,524	762	762					
Total	33,663	12,705	4,202	16,756	8,378	8,378					

C. Funding Schedule (000's)

WSSC Bonds	33,663	12,705	4,202	16,756	8,378	8,378					
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D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides for planning, design and construction of approximately 2.5 miles of new 48-inch diameter raw water pipeline from the Rocky Gorge Raw Water Pumping Station to the Patuxent Water Filtration Plant, cleaning of the existing water lines and replacement of valves.</p> <p>JUSTIFICATION</p> <p>The existing raw water supply facilities are hydraulically limited to 72 MGD with all pumps running at the Rocky Gorge Pumping Station. In order to convey more than 72 MGD of raw water, a new raw water pipeline is required. A fourth raw water pipeline from Rocky Gorge Pumping Station to the Patuxent Plant and modification/expansion of the Rocky Gorge Pumping Station will provide a firm raw water pumping transmission capacity of 110 MGD. These improvements, in conjunction with expansion of the Patuxent Water Filtration Plant, will give the Plant a firm nominal capacity of 72 MGD, with an emergency capacity of 110 MG.</p> <p>Patuxent WFP Facility Plan (April 1997); In-House Study (April 2002).</p> <p>COST CHANGE</p> <p>Not applicable.</p> <p>OTHER</p> <p>The project scope has remained the same. The Rocky Gorge Valve Replacement and the cleaning of existing raw water pipelines are 100% complete. The new raw water pipeline is currently in design. Expenditure and schedule estimates for the new raw water pipeline may change based upon design constraints and permitting issues. The project has been delayed due to a lengthy permit and right-of-way acquisition process. As with any construction project, areas disturbed by construction will be restored. This restoration includes paving of impacted roads in accordance with Prince George's County Policy and Specifications for Utility Installation and Maintenance Manual (Section 4.7.2). Land costs are included in WSSC Project W-202.00.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Interstate Commission on the Potomac River Basin; Local Community Civic Associations; (West Laurel Civic Association); Baltimore Gas & Electric;</p> <p>Coordinating Projects: W-172.05-Patuxent WFP Phase II Expansion; W-172.08-Rocky Gorge Pump Station Upgrade;</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$341	21
Other Project Costs		
Debt Service	\$2,190	21
Total Cost	\$2,531	21
Impact on Water and Sewer Rate	\$0.05	21

F. Approval and Expenditure Data (000's)

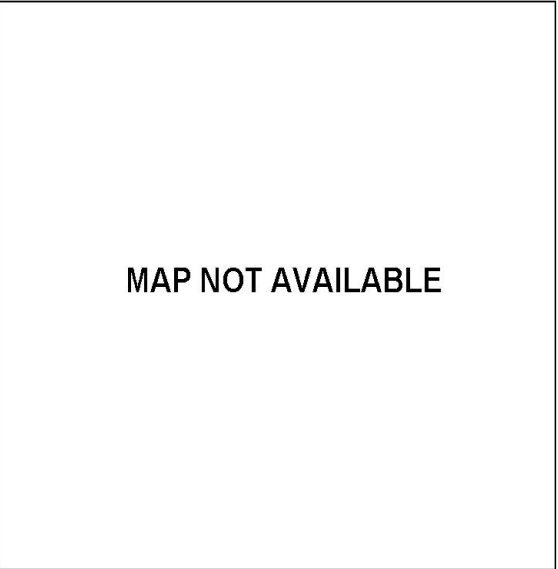
Date First in Program	FY 06
Date First Approved	FY 03
Initial Cost Estimate	18,750
Cost Estimate Last FY	32,932
Present Cost Estimate	33,663
Approved Request Last FY	4,180
Total Expense & Encumbrances	12,705
Approval Request Year 1	8,378

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	90%
Est Completion Date	FY 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Rocky Gorge Pump Station Upgrade

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-172.08	063805	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	5,787	3,137	1,800	850	436	414					
Land											
Site Improvements & Utilities											
Construction	15,148	3,900	8,000	3,248	1,748	1,500					
Other	1,629		1,174	455	300	155					
Total	22,564	7,037	10,974	4,553	2,484	2,069					

C. Funding Schedule (000's)

WSSC Bonds	22,564	7,037	10,974	4,553	2,484	2,069					
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D. Description & Justification

<p>DESCRIPTION This project provides for the modification and expansion of the Rocky Gorge Pump Station to allow the station to provide up to 110 MGD of raw water to the Patuxent Water Filtration Plant.</p> <p>JUSTIFICATION The modification and expansion of the Rocky Gorge Raw Water Pumping Station will provide a firm raw water pumping capacity of 110 MGD. The improvements to the pump station, along with a fourth water pipeline (W-172.07) and expansion of the Patuxent Plant (W-172.05) will give the Patuxent Plant a firm nominal capacity of 72 MGD, with emergency capacity of 110 MGD. Patuxent WFP Facility Plan (April 1997); In-House Study (April 2002)</p> <p>COST CHANGE Not applicable.</p> <p>OTHER The project scope remains the same. Expenditure and schedule projections shown in Block B above are based on actual bids.</p> <p>COORDINATION Coordinating Agencies: Maryland State Highway Administration; Montgomery County Government; Prince George's County Government; Maryland Department of the Environment; Baltimore Gas & Electric; Coordinating Projects: W-172.05-Patuxent WFP Phase II Expansion; W-172.07-Patuxent Raw Water Pipeline; W-139.02-Duckett & Brighton Dam Upgrades;</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,468	21
Total Cost	\$1,468	21
Impact on Water and Sewer Rate	\$0.03	21

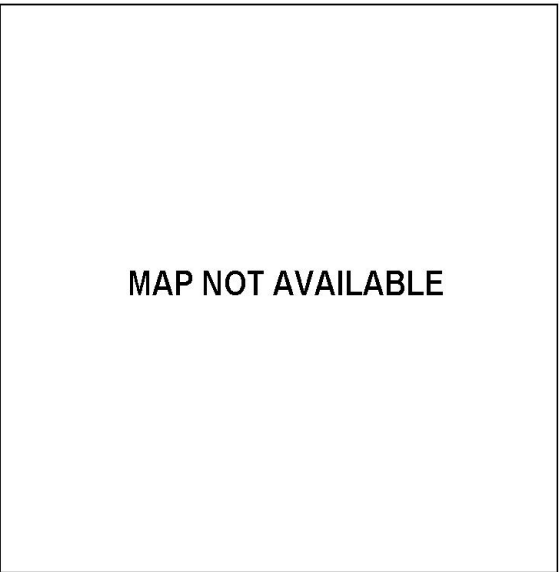
F. Approval and Expenditure Data (000's)

Date First in Program	FY 06
Date First Approved	FY 03
Initial Cost Estimate	12,930
Cost Estimate Last FY	22,179
Present Cost Estimate	22,564
Approved Request Last FY	7,590
Total Expense & Encumbrances	7,037
Approval Request Year 1	2,484

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	30%
Est Completion Date	August 2019
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	110 MGD

H. Map



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

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-202.00	983857	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision											
Land	3,695		777	2,918	1,300	1,570	18	10	10	10	
Site Improvements & Utilities											
Construction											
Other											
Total	3,695		777	2,918	1,300	1,570	18	10	10	10	

C. Funding Schedule (000's)

	Total	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24
WSSC Bonds	3,081	372	2,709	1,091	1,570	18	10	10	10
SDC	614	405	209	209					

D. Description & Justification

DESCRIPTION
 This PDF provides a consolidated estimate of funding for the acquisition of land and rights-of-way for water projects and for easement and land acquisitions for watershed protection. Expenditures are programmed based upon anticipated schedules and are required for the completion of those specific projects. These costs do not include purchases which have already been completed.

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

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

COST CHANGE
 Not applicable.

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

COORDINATION
 Coordinating Agencies: Not Applicable
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$200	25
Total Cost	\$200	25
Impact on Water and Sewer Rate		

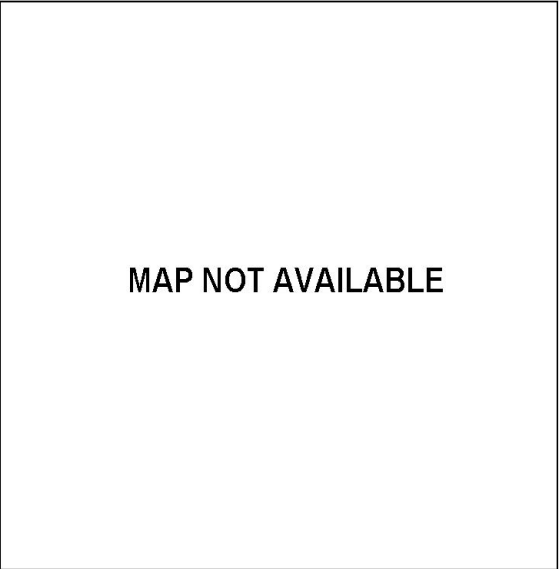
F. Approval and Expenditure Data (000's)

Date First in Program	FY 98
Date First Approved	FY 98
Initial Cost Estimate	
Cost Estimate Last FY	4,529
Present Cost Estimate	3,695
Approved Request Last FY	2,375
Total Expense & Encumbrances	
Approval Request Year 1	1,300

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	On-Going
Percent Complete	
Est Completion Date	Not Applicable
Growth	17%
System Improvement	83%
Environmental Regulation	
Population Served	
Capacity	

H. Map



PROJECTS PENDING CLOSE-OUT
Bi-County Water Projects
(costs in thousands)

Project Number	Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'17	Estimated Expenditures FY'18	Remarks
934855	W-127.01	Bi-County Water Tunnel	\$141,636	\$140,624	\$1,012	Project completion expected in FY'18.
		TOTALS	\$141,636	\$140,624	\$1,012	

Section 4 - Bi-County Sewer Projects

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

BI-COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 17	EST. EXPEND 18	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 19	YR 2 20	YR 3 21	YR 4 22	YR 5 23	YR 6 24		
S-22.06	Blue Plains WWTP: Liquid Train Projects, Part 2	191,066	0	11,275	139,060	18,819	27,301	23,911	22,182	25,410	21,437	40,731	4-3
S-22.07	Blue Plains WWTP: Biosolids Management, Part 2	37,956	0	3,143	34,162	10,720	11,496	6,993	3,262	1,026	665	651	4-4
S-22.09	Blue Plains WWTP: Plant-wide Projects	98,532	0	7,495	74,087	7,040	13,940	15,915	14,818	14,625	7,749	16,950	4-5
S-22.10	Blue Plains WWTP: Enhanced Nutrient Removal	398,538	340,782	29,056	11,332	5,482	1,883	1,751	1,072	672	472	17,368	4-6
S-22.11	Blue Plains: Pipelines & Appurtenances	112,652	0	19,143	77,656	16,957	14,058	16,017	8,642	9,372	12,610	15,853	4-7
S-103.02	Piscataway WWTP Bio-Energy Project	248,677	6,871	8,873	232,933	44,310	76,251	73,553	34,566	4,253	0	0	4-8
S-170.08	Septage Discharge Facility Planning & Implementation	30,494	4,492	382	25,620	5,229	15,136	5,255	0	0	0	0	4-10
S-170.09	Trunk Sewer Reconstruction Program	442,915	0	141,557	301,358	84,457	65,376	58,500	30,397	31,004	31,624	0	4-11
S-203.00	Land & Rights-Of-Way Acquisition - Bi-County Sewer	490	0	320	170	95	15	15	15	15	15	0	4-12
TOTAL BI-COUNTY SEWER PROJECTS		1,561,320	352,145	221,244	896,378	193,109	225,456	201,910	114,954	86,377	74,572	91,553	

BLUE PLAINS WASTEWATER TREATMENT PLANT PROJECTS
(costs in thousands)

PROJECT NUMBER	PROJECT NAME	ADOPTED FY'18 TOTAL COST	PROPOSED FY'19 TOTAL COST	CHANGE \$	CHANGE %	SIX-YEAR COST	COMPLETION DATE (est)
S-22.06	Blue Plains WWTP: Liquid Train Projects, Part 2	\$173,026	\$191,066	\$18,040	10.4%	\$139,060	On-Going
S-22.07	Blue Plains WWTP: Biosolids Management, Part 2	36,101	37,956	1,855	5.1%	34,162	On-Going
S-22.09	Blue Plains WWTP: Plant-wide Projects	98,436	98,532	96	0.1%	74,087	On-Going
S-22.10	Blue Plains WWTP: Enhanced Nutrient Removal	381,788	398,538	16,750	4.4%	11,332	On-Going
S-22.11	Blue Plains: Pipelines & Appurtenances	98,924	112,652	13,728	13.9%	77,656	On-Going
	TOTALS	\$788,275	\$838,744	\$50,469	6.4%	\$336,297	

Summary: These five projects, with an estimated total cost of \$838.7 million, provide funding for the upgrade, expansion, and enhancement of wastewater treatment and solids handling facilities at the Regional Blue Plains Wastewater Treatment Plant, located in the District of Columbia. Whereas typical WSSC projects encompass planning, design, construction, and start-up for a single project, with defined starting and ending dates, the Blue Plains projects are comprised of many sub-projects and are “open-ended.” As the Blue Plains Facility Plans move forward and new sub-projects are approved, the costs of these new sub-projects are added to the appropriate existing Blue Plains project. The expenditures displayed represent the WSSC’s calculated share. There are four main funding divisions: liquid treatment train (S-22.06); biosolids management (S-22.07); plant-wide projects (S-22.09); and, pipelines & appurtenances (S-22.11). Project S-22.10 Enhanced Nutrient Removal (ENR) will achieve nutrient removal levels surpassing BNR as determined in the Tributary Strategy process of 2005 in order to meet Chesapeake Bay water quality targets.

Cost Impact: These five Blue Plains projects, which comprise one of the largest groups of expenditures in the CIP, represent 17% of the Six-Year WSSC CIP program. The figures shown above are derived from the latest available spending projections provided by the District of Columbia Water and Sewer Authority (DCWASA). Spending at the DCWASA staff-proposed rate in future years may challenge the WSSC’s ability to stay within County-established spending affordability limits. It is, therefore, recommended that the coordination of development and approval of the DCWASA’s and WSSC’s CIPs be sustained in order that the economic development and environmental objectives of the region be met, without causing a rapid increase in WSSC customers’ bills. An explanation of the cost changes for each project is included on the individual project description forms that immediately follow this summary page.

Blue Plains WWTP: Liquid Train Projects, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.06	954811	Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	35,781		3,199	23,824	3,409	4,447	4,327	4,230	2,005	5,406	8,758
Land											
Site Improvements & Utilities											
Construction	153,393		7,964	113,859	15,224	22,584	19,347	17,732	23,153	15,819	31,570
Other	1,892		112	1,377	186	270	237	220	252	212	403
Total	191,066		11,275	139,060	18,819	27,301	23,911	22,182	25,410	21,437	40,731

C. Funding Schedule (000's)

WSSC Bonds	180,576	10,656	131,425	17,786	25,802	22,598	20,964	24,015	20,260	38,495
City of Rockville	10,490	619	7,635	1,033	1,499	1,313	1,218	1,395	1,177	2,236

D. Description & Justification

DESCRIPTION
 This project provides funding for WSSC's share of Blue Plains liquid train projects for which construction began after June 30, 1993. Major projects include: Dual Purpose Sedimentation Basins Rehabilitation, Filtration/Disinfection Facilities Phases I&II, and Grit Chamber Buildings 1&2.

JUSTIFICATION
 This is a continuation of the DCWASA's upgrading of the Blue Plains Wastewater Treatment Plant.
 The Blue Plains Intermunicipal Agreement of 2012; the DCWASA Master Plan (1998); and the DCWASA Approved FY 2018 Capital Improvements Program.

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. Project costs are derived from the DCWASA Capital & Operating Budget 10-year forecast of spending and DCWASA's latest project management data, and fully reflect DCWASA'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. Life to date expenditures for this program are approximately \$370 million.

COORDINATION
 Coordinating Agencies: District of Columbia Water and Sewer Authority; (responsible for design and construction); City of Rockville; (responsible for a share of funding)
 Coordinating Projects: S-22.10-Blue Plains WWTP: Enhanced Nutrient Removal;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$11,747	
Total Cost	\$11,747	
Impact on Water and Sewer Rate	\$0.27	

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	173,026
Present Cost Estimate	191,066
Approved Request Last FY	13,154
Total Expense & Encumbrances	
Approval Request Year 1	18,819

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

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

H. Map

MAP NOT AVAILABLE

Blue Plains WWTP: Biosolids Management, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.07	954812	Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	6,411		535	5,231	1,086	1,340	1,291	636	448	430	645
Land											
Site Improvements & Utilities											
Construction	31,170		2,577	28,593	9,528	10,042	5,633	2,594	568	228	0
Other	375		31	338	106	114	69	32	10	7	6
Total	37,956		3,143	34,162	10,720	11,496	6,993	3,262	1,026	665	651

C. Funding Schedule (000's)

WSSC Bonds	35,872	2,970	32,287	10,132	10,865	6,609	3,083	970	628	615
City of Rockville	2,084	173	1,875	588	631	384	179	56	37	36

D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides funding for WSSC's share of the Blue Plains biosolids handling projects for which construction began after June 30, 1993. Major projects include: new Digestion Facilities; Gravity Thickener Facilities; and Solids Processing Building/Dewatered Sludge Loading Facility.</p> <p>JUSTIFICATION</p> <p>This project is needed to implement a set of facilities which will provide a permanent biosolids management program for Blue Plains. The Blue Plains Intermunicipal Agreement of 2012; the DCWASA Master Plan (1998); EPMC IV Facility Plan, CH2MHILL (2001); the Biosolids Management at DCWASA Blue Plains Wastewater Treatment Plant Phase II - Design and Cost Considerations for Treatment Alternatives Report (December 2007); and the DCWASA Approved FY 2018 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 DCWASA Capital & Operating Budget 10-year forecast of spending and DCWASA's latest project management data, and fully reflect DCWASA'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. Life to date expenditures for this program are approximately \$410 million.</p> <p>COORDINATION</p> <p>Coordinating Agencies: City of Rockville; (responsible for a share of funding); District of Columbia Water and Sewer Authority; (responsible for design and construction)</p> <p>Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$2,334	
Total Cost	\$2,334	
Impact on Water and Sewer Rate	\$0.05	

F. Approval and Expenditure Data (000's)

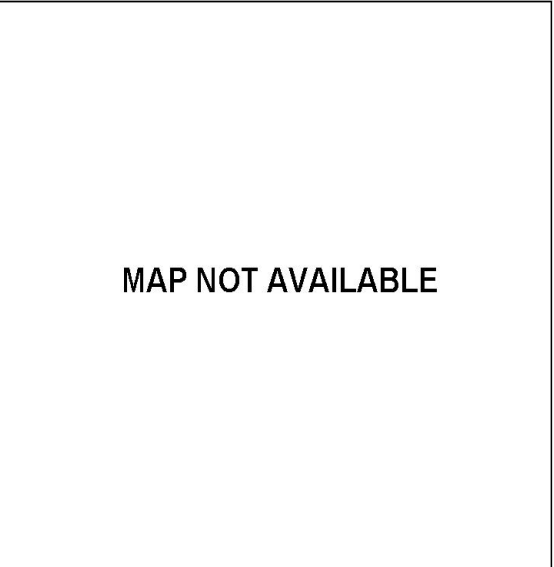
Date First in Program	FY 95
Date First Approved	FY 95
Initial Cost Estimate	
Cost Estimate Last FY	36,101
Present Cost Estimate	37,956
Approved Request Last FY	2,557
Total Expense & Encumbrances	
Approval Request Year 1	10,720

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

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

H. Map



Blue Plains WWTP: Plant-wide Projects

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.09	023805	Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	20,596		2,652	16,624	1,618	2,941	4,927	4,153	2,190	795	1,320
Land											
Site Improvements & Utilities											
Construction	76,959		4,769	56,728	5,352	10,861	10,830	10,518	12,290	6,877	15,462
Other	977		74	735	70	138	158	147	145	77	168
Total	98,532		7,495	74,087	7,040	13,940	15,915	14,818	14,625	7,749	16,950

C. Funding Schedule (000's)

WSSC Bonds	93,125	7,084	70,021	6,654	13,175	15,041	14,005	13,822	7,324	16,020
City of Rockville	5,407	411	4,066	386	765	874	813	803	425	930

D. Description & Justification

DESCRIPTION
 This project provides funding for WSSC's share of Blue Plains plant-wide projects for which construction began after June 30, 1993. Major projects include: Plant-wide Fine Bubble Aeration, Plant-wide Painting of Steel Pipes, Process Computer Control System, and Miscellaneous Projects.

JUSTIFICATION
 This is a continuation of the DCWASA's upgrading of the Blue Plains Wastewater Treatment Plant.
 The Blue Plains Intermunicipal Agreement of 2012; the WASA Master Plan (1998); and the DCWASA Approved FY 2018 Capital Improvement Program.

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. Project costs are derived from the DCWASA Capital & Operating Budget 10-year forecast and latest project management data, and reflect DCWASA'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. Life to date expenditures for this program are approximately \$210 million.

COORDINATION
 Coordinating Agencies: City of Rockville; (responsible for a share of funding); District of Columbia Water and Sewer Authority; (responsible for design and construction)
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$6,058	
Total Cost	\$6,058	
Impact on Water and Sewer Rate	\$0.14	

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	98,436
Present Cost Estimate	98,532
Approved Request Last FY	7,021
Total Expense & Encumbrances	
Approval Request Year 1	7,040

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

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

H. Map

MAP NOT AVAILABLE

Blue Plains WWTP: Enhanced Nutrient Removal

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.10	083800	Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	98,005	88,248	6,341	2,108	1,720	297	14	3	60	14	1,308
Land											
Site Improvements & Utilities											
Construction	299,960	252,534	22,427	9,111	3,708	1,567	1,720	1,058	605	453	15,888
Other	573		288	113	54	19	17	11	7	5	172
Total	398,538	340,782	29,056	11,332	5,482	1,883	1,751	1,072	672	472	17,368

C. Funding Schedule (000's)

WSSC Bonds	172,571	129,184	20,513	5,676	2,504	866	730	444	665	467	17,198
State Aid	219,800	205,998	8,258	5,544	2,924	999	1,004	617			
City of Rockville	6,167	5,600	285	112	54	18	17	11	7	5	170

D. Description & Justification

DESCRIPTION
 This project provides funding for WSSC'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 2005 Tributary Strategies Process and DC Water's 2010 NPDES permit. Major projects include: Enhanced Nitrogen Removal North, Enhanced Clarification Facilities, Enhanced Nitrogen Removal Facilities, Biosolids Filtrate Treatment Facilities, Combined Heat & Power as Back-up Power, Biosolids Blending Development Center, ENR Program Management, and Wet Weather Mitigation, Diversion at Bolling and Tunnel Dewatering Pump Station.

JUSTIFICATION
 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); DCWASA Approved FY 2018 Capital Improvement Program, and the Blue Plains Intermunicipal Agreement of 2012.

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. Project costs are derived from the DCWASA Capital & Operating Budget 10-year forecast and latest project management data, and reflect DCWASA's current expenditure estimates and schedules. Total Nitrogen Secondary Treatment Upgrades will take place after 2021. 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.

COORDINATION
 Coordinating Agencies: Maryland Department of the Environment; U.S. Environmental Protection Agency, Region III; District of Columbia Water and Sewer Authority; (responsible for design and construction); City of Rockville; (responsible for a share of funding)
 Coordinating Projects: S-22.06-Blue Plains WWTP: Liquid Train Projects, Part 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$11,226	
Total Cost	\$11,226	
Impact on Water and Sewer Rate	\$0.26	

F. Approval and Expenditure Data (000's)

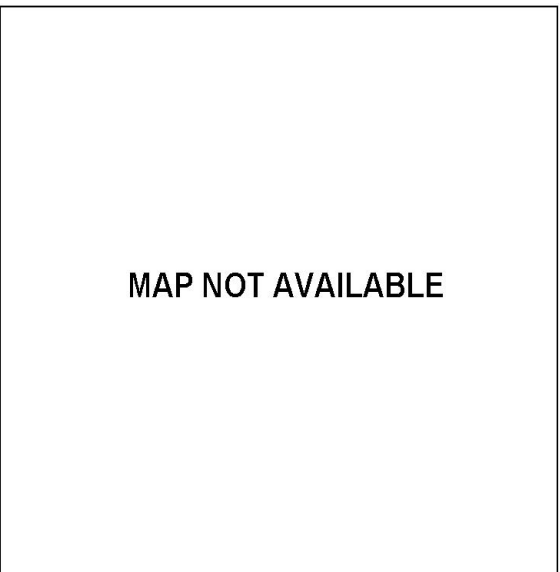
Date First in Program	FY 08
Date First Approved	FY 07
Initial Cost Estimate	648
Cost Estimate Last FY	381,788
Present Cost Estimate	398,538
Approved Request Last FY	28,619
Total Expense & Encumbrances	340,782
Approval Request Year 1	5,482

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	86%
Est Completion Date	FY 2026

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

H. Map



Blue Plains: Pipelines & Appurtenances

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-22.11	113804	Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	17,660		4,054	11,259	1,705	1,248	2,730	2,588	1,245	1,743	2,347
Land											
Site Improvements & Utilities											
Construction	93,875		14,899	65,627	15,084	12,671	13,128	5,968	8,034	10,742	13,349
Other	1,117		190	770	168	139	159	86	93	125	157
Total	112,652		19,143	77,656	16,957	14,058	16,017	8,642	9,372	12,610	15,853

C. Funding Schedule (000's)

WSSC Bonds	106,469	18,092	73,394	16,026	13,286	15,138	8,168	8,858	11,918	14,983
City of Rockville	6,183	1,051	4,262	931	772	879	474	514	692	870

D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides funding for WSSC's share of Blue Plains-associated projects which are "outside the fence" of the treatment plant. Major projects include: A new headquarters building; Potomac Interceptor Rehabilitation; Upper Potomac Interceptor; Potomac Sewage Pumping Station Rehabilitation; Influent Sewers Rehabilitation; and projects associated with the Combined Sewer Overflow (CSO) Long Term Control Plan (Clean Rivers Program) (e.g. Anacostia Tunnel).</p> <p>JUSTIFICATION</p> <p>This is a continuation of DCWASA's upgrading of the Blue Plains-associated projects outside the fence.</p> <p>The Blue Plains Intermunicipal Agreement of 2012; the WASA Master Plan (1998); Technical Memorandum No. 1, Multi-Jurisdictional Use Facilities Capital Cost Allocation, (June 2013); and the DCWASA Approved FY 2018 Capital Improvement Program.</p> <p>COST CHANGE</p> <p>The expenditure schedule has been updated to reflect the latest estimates for the Long Term Control Plan projects.</p> <p>OTHER</p> <p>The project scope has remained the same. Project costs are derived from the DC-WASA Capital & Operating Budget 10-year forecast and latest project management data, and reflect WASA'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 which varies by project based on the City's relative share of WSSC's flow as derived in the Multijurisdiction Use Facilities Study. Life to date expenditures for this program are approximately \$125 million.</p> <p>COORDINATION</p> <p>Coordinating Agencies: City of Rockville; (responsible for a share of funding); District of Columbia Water and Sewer Authority; (responsible for design and construction)</p> <p>Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$6,926	
Total Cost	\$6,926	
Impact on Water and Sewer Rate	\$0.16	

F. Approval and Expenditure Data (000's)

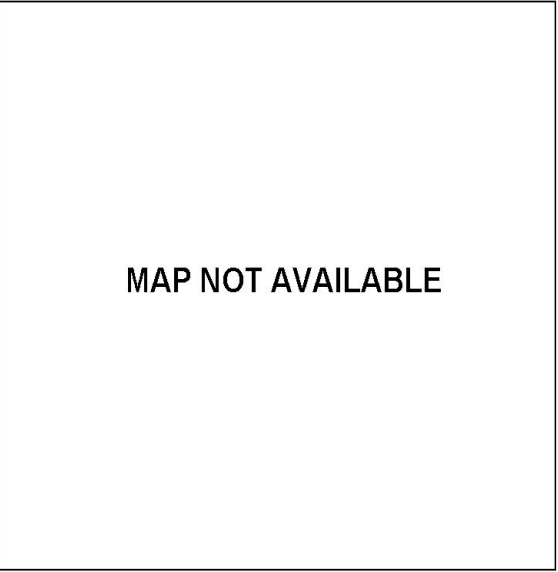
Date First in Program	FY 11
Date First Approved	FY 02
Initial Cost Estimate	
Cost Estimate Last FY	98,924
Present Cost Estimate	112,652
Approved Request Last FY	12,926
Total Expense & Encumbrances	
Approval Request Year 1	16,957

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

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

H. Map



Piscataway WWTP Bio-Energy Project

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-103.02	153802	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	41,161	6,871	6,250	28,040	12,700	9,820	4,550	920	50		
Land											
Site Improvements & Utilities											
Construction	196,000		2,200	193,800	29,500	62,800	65,500	32,000	4,000		
Other	11,516		423	11,093	2,110	3,631	3,503	1,646	203		
Total	248,677	6,871	8,873	232,933	44,310	76,251	73,553	34,566	4,253		

C. Funding Schedule (000's)

WSSC Bonds	244,607	6,301	8,873	229,433	42,310	74,751	73,553	34,566	4,253		
Federal Aid	570	570									
State Aid	3,500			3,500	2,000	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 WWTP. 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 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, the WSSC received approval for a federal Department of Energy grant of \$570,900 for the feasibility study/conceptual design phase. On June 16, 2010, the WSSC 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 Commission 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 at a location to be determined 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; 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; provide a net payback over time.

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$15,912	24
Total Cost	\$15,912	24
Impact on Water and Sewer Rate	\$0.37	24

F. Approval and Expenditure Data (000's)

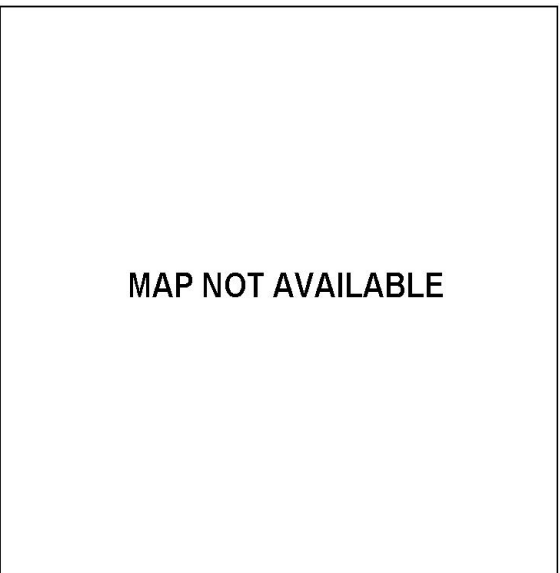
Date First in Program	FY 15
Date First Approved	FY 10
Initial Cost Estimate	345
Cost Estimate Last FY	162,190
Present Cost Estimate	248,677
Approved Request Last FY	3,990
Total Expense & Encumbrances	6,871
Approval Request Year 1	44,310

G. Status Information

	Public/Agency owned land
Land Status	
Project Phase	Design
Percent Complete	10%
Est Completion Date	March 2022

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Piscataway WWTP Bio-Energy Project

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 (March 2017).

COST CHANGE

Cost increased to reflect early design level estimate and inclusion of FOG Facility and Utility Water Upgrades from Piscataway WWTP Facility Plant, and biosolids transported from Western Branch WWTP.

OTHER

The project scope has changed to include a FOG Facility, Utility Water Upgrades at Piscataway Plant, and biosolids transported from Western Branch WWTP. The Commission has a defined scope and estimated capital cost, and is able to proceed with the detailed design and construction of the anerobic digestion, biomass, and combined heat and power generation system facilities for treating all biosolids from WSSC's Damascus, Seneca, Parkway, Western Branch and Piscataway WWTPs. 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 April 2017 the Maryland Energy Administration notified WSSC of approval of grant funding up to \$500,000. In June 2017 WSSC was approved for a \$3 million grant through the Maryland Department of the Environment's Energy Water Infrastructure Program (EWIP). WSSC has also applied for grants from the local power utility. WSSC will continue to apply for other available funding sources. The Commission 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. 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.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process); Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Chesapeake Bay Critical Areas; Maryland Energy Administration Washington Gas Light Company;
Coordinating Projects: S-96.14-Piscataway WWTP Facility Upgrades; S-170.08-Septage Discharge Facility Planning & Implementation;

Septage Discharge Facility Planning & Implementation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-170.08	103802	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	4,175	3,564	347	264	53	158	53				
Land											
Site Improvements & Utilities											
Construction	25,088	928		24,160	4,832	14,496	4,832				
Other	1,231		35	1,196	344	482	370				
Total	30,494	4,492	382	25,620	5,229	15,136	5,255				

C. Funding Schedule (000's)

WSSC Bonds	30,494	4,492	382	25,620	5,229	15,136	5,255				
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of a new Septage and Fats, Oils, Grease (FOG) discharge facility at the abandoned Rock Creek WWTP, and new Septage discharge facilities at Anacostia WWPS No 2 and Piscataway WWTP.

JUSTIFICATION
 Currently septage waste is collected at three locations: Muddy Branch Road Disposal Site in Montgomery County, and Ritchie Road Disposal Site and Bladensburg Disposal Site in Prince George's County (the Temple Hills Road site was closed down on July 1, 2015). The types of waste collected are as follows: Septic Tank Pump-Out (Sludge), Waste Holding Tank Discharge (Gray Water); Grease Trap Pump Out (FOG), Bus Holding Tank Discharge (Sewage and Chemicals), and Small Food Service Providers (Low Volume FOG Waste). FOG wastes should not be discharged to the Commission's sewerage system without treatment.
 Septage Discharge Facility Study for Montgomery County: Final Report, JMT (July 2012); Septage Discharge Facility Study for Prince George's County: Final Report, JMT (July 2012).

COST CHANGE
 The estimated construction cost of the three facilities has increased significantly based upon the final design submitted.

OTHER
 The project scope has remained the same. The expenditures and schedule projections shown in Block B are estimates at the 100% design stage and may change based upon actual bid. The design and construction of the FOG Discharge Facility at the Piscataway WWTP has been moved to the Piscataway WWTP Bio-Energy Project.

COORDINATION
 Coordinating Agencies: Montgomery County Government; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral) Montgomery County Department of Environmental Protection; Maryland Department of Natural Resources; Maryland Department of the Environment; Prince George's County Department of Environmental Resources;
 Coordinating Projects: S-103.02-Piscataway WWTP Bio-Energy Project;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,984	22
Total Cost	\$1,984	22
Impact on Water and Sewer Rate	\$0.05	22

F. Approval and Expenditure Data (000's)

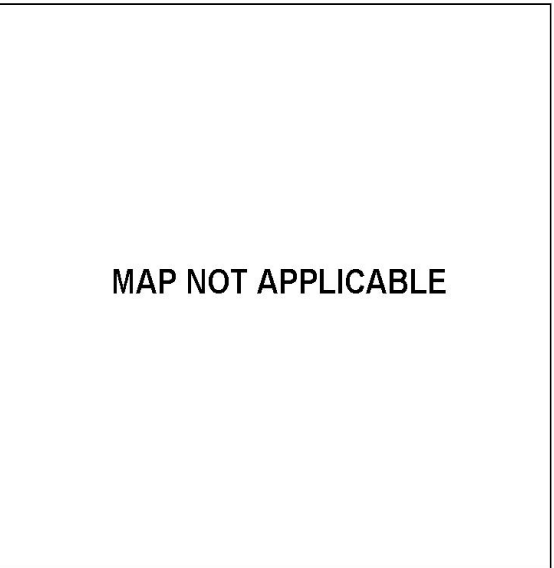
Date First in Program	FY 10
Date First Approved	FY 10
Initial Cost Estimate	10,835
Cost Estimate Last FY	14,344
Present Cost Estimate	30,494
Approved Request Last FY	2,521
Total Expense & Encumbrances	4,492
Approval Request Year 1	5,229

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	100%
Est Completion Date	FY 2021

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Trunk Sewer Reconstruction Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-170.09	113805	Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	101,445		30,311	71,134	16,771	14,971	11,693	9,051	9,232	9,416	
Land											
Site Improvements & Utilities											
Construction	301,303		97,690	203,613	60,750	44,372	42,467	18,306	18,672	19,046	
Other	40,167		13,556	26,611	6,936	6,033	4,340	3,040	3,100	3,162	
Total	442,915		141,557	301,358	84,457	65,376	58,500	30,397	31,004	31,624	

C. Funding Schedule (000's)

WSSC Bonds	442,915		141,557	301,358	84,457	65,376	58,500	30,397	31,004	31,624
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D. Description & Justification

<p>DESCRIPTION</p> <p>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.</p> <p>JUSTIFICATION</p> <p>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 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 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)</p> <p>COST CHANGE</p> <p>Program costs reflect the latest expenditure and schedule estimates.</p> <p>OTHER</p> <p>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'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 US 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. Beginning in FY 2015, construction work increased in the ESAs as a majority of the work was released for construction. 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 2022. Life to date expenditures for this program are approximately \$461 million. Land costs are included in WSSC Project S-203.00.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Maryland-National Capital Park & Planning Commission; National Park Service; Maryland Department of the Environment; Maryland Department of Natural Resources; (Critical Area Commission, FSD Approval Forest Conservation/Reforestation Rare, Threatened or Endangered Species) Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; U.S. Environmental Protection Agency, Region III; Maryland Historical Trust;</p> <p>Coordinating Projects: S-1.01-Sewer Reconstruction Program;</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$459	25
Other Project Costs		
Debt Service	\$28,812	25
Total Cost	\$29,271	25
Impact on Water and Sewer Rate	\$0.67	25

F. Approval and Expenditure Data (000's)

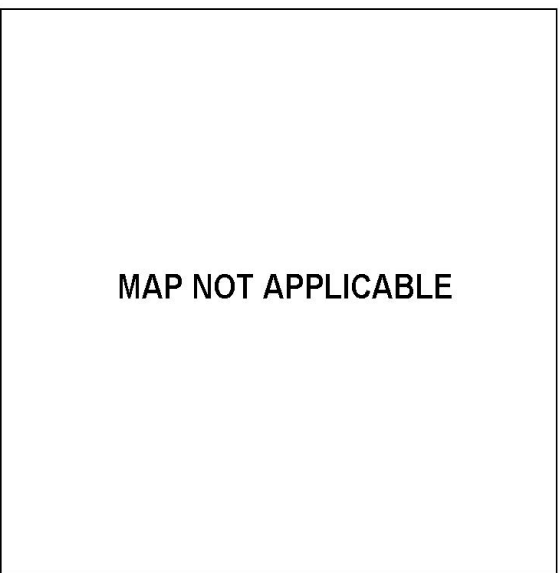
Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	
Cost Estimate Last FY	504,500
Present Cost Estimate	442,915
Approved Request Last FY	148,900
Total Expense & Encumbrances	
Approval Request Year 1	84,457

G. Status Information

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

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



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

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-203.00	163800	Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision											
Land	490		320	170	95	15	15	15	15	15	
Site Improvements & Utilities											
Construction											
Other											
Total	490		320	170	95	15	15	15	15	15	

C. Funding Schedule (000's)

WSSC Bonds	250	95	155	80	15	15	15	15	15	
SDC	180	180								
Contribution/Other	60	45	15	15						

D. Description & Justification

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

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

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

COST CHANGE
 Not applicable.

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

COORDINATION
 Coordinating Agencies: Not Applicable
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$16	25
Total Cost	\$16	25
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 98
Date First Approved	FY 98
Initial Cost Estimate	
Cost Estimate Last FY	405
Present Cost Estimate	490
Approved Request Last FY	95
Total Expense & Encumbrances	
Approval Request Year 1	95

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Not Applicable
Percent Complete	
Est Completion Date	Not Applicable
Growth	49%
System Improvement	51%
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Section 5 - Prince George's County Water Projects

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

PRINCE GEORGE'S COUNTY WATER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 17	EST. EXPEND 18	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM	
						YR 1 19	YR 2 20	YR 3 21	YR 4 22	YR 5 23	YR 6 24			
W-12.02	Prince George's County HG415 Zone Water Main	3,644	418	965	2,261	2,077	184	0	0	0	0	0	0	5-2
W-34.02	Old Branch Avenue Water Main	24,240	2,812	198	21,230	6,820	8,690	5,720	0	0	0	0	0	5-3
W-34.03	Water Transmission Improvements 385B Pressure Zone	23,253	1,203	8,830	13,220	6,620	4,400	2,200	0	0	0	0	0	5-4
W-34.04	Branch Avenue Water Transmission Improvements	60,377	8,295	13,825	38,257	14,751	17,741	5,765	0	0	0	0	0	5-5
W-34.05	Marlboro Zone Reinforcement Main	4,226	380	810	3,036	3,036	0	0	0	0	0	0	0	5-6
W-62.05	Clinton Zone Water Storage Facility Implementation	15,527	2,087	2,002	6,598	5,993	605	0	0	0	0	4,840	0	5-7
W-65.10	St. Barnabas Elevated Tank Replacement	10,784	4,346	6,016	422	422	0	0	0	0	0	0	0	5-8
W-84.02	Ritchie Marlboro Road Transmission & PRV	6,867	2,002	3,105	1,760	1,760	0	0	0	0	0	0	0	5-9
W-84.03	Smith Home Farms Water Main	2,603	801	570	1,232	414	412	406	0	0	0	0	0	5-10
W-84.04	Westphalia Town Center Water Main	1,532	556	43	933	313	367	253	0	0	0	0	0	5-11
W-84.05	Prince George's County 450A Zone Water Main	84,540	1,509	821	64,321	684	9,149	13,622	13,622	13,622	13,622	17,889	0	5-12
W-93.01	Konterra Town Center East Water Main	1,581	43	651	887	61	350	194	282					5-13
W-105.01	Marlton Section 18 Water Main, Lake Marlton Avenue	2,581	29	1	2,551	406	429	429	429	429	429			5-14
W-111.05	Hillmeade Road Water Main	5,438	1,002	1,760	2,676	2,676	0	0	0	0	0	0	0	5-15
W-119.01	John Hanson Highway Water Main, Part 1 □	13,970	6,078	7,282	610	610	0	0	0	0	0	0	0	5-16
W-120.14	Villages of Timothy Water Main, Part 1	1,069	54	540	475	475	0	0	0	0	0	0	0	5-17
W-120.15	Villages of Timothy Water Main, Part 2	337	18	170	149	149	0	0	0	0	0	0	0	5-18
W-123.14	Old Marlboro Pike Water Main	1,755	1,269	118	368	202	166		0	0	0	0	0	5-19
W-123.20	Oak Grove/Leeland Roads Water Main, Part 2	14,668	9,642	4,796	230	230	0	0	0	0	0	0	0	5-20
W-137.03 □	South Potomac Supply Improvement, Phase 2 □	54,632	30	1,313	53,289	1,575	3,478	12,863	12,863	12,863	9,647			5-21
W-147.00	Collington Elevated Water Storage Facility	15,942	15,534	274	134	134	0	0	0	0	0	0	0	5-22
	Projects Pending Close-Out	17,390	16,790	600	0	0	0	0	0	0	0	0	0	5-23
TOTAL PRINCE GEORGE'S COUNTY WATER PROJECTS		366,956	74,898	54,690	214,639	49,408	45,971	41,452	27,196	26,914	23,698	22,729		

Prince George's County HG415 Zone Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-12.02		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Patuxent HG415A; Montgomery High
Drainage Basins	
Planning Areas	Patuxent PA 15;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	446	418	24	4	3	1					
Land											
Site Improvements & Utilities											
Construction	2,787		929	1,858	1,800	58					
Other	411		12	399	274	125					
Total	3,644	418	965	2,261	2,077	184					

C. Funding Schedule (000's)

WSSC Bonds	3,644	418	965	2,261	2,077	184					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 1,500 feet of 24-inch diameter water main and new isolation valves, pressure relief valves with flow control capability, which will improve system reliability by improving the flexibility of the delivery system to the Montgomery County High Zone HG660, Main Zone HG495A and Patuxent Pressure Zone HG415A 30-inch and 42-inch diameter transmission mains leaving the Patuxent Plant.

JUSTIFICATION
 The new water main will provide a redundant feed to the Montgomery County High Zone HG660, Montgomery County Main Zone HG495 and Patuxent Pressure Zone HG415A from the Potomac Plant in the event the Patuxent Plant is out of service.
 BOA Contract No. PM0003A05, Task Order No. 12: Patuxent Pressure Zone HG415A Redundancy Study, Whitman, Requardt & Associates, LLP (February 2009); BOA Contract No. PM0019A08, Task Order No. 11, Patuxent Pressure Zone HG415A 24-inch Transmission Main, EBA Engineering (December 2011). PM0007A13, Task Order No. 14, Patuxent Pressure Zone HG415A 24-inch Transmission Main, EBA Engineering (March 16, 2017).

COST CHANGE
 Cost increase based upon more complex design requirements.

OTHER
 The project scope remains the same. Expenditure and schedule projections shown in Block B above are preliminary design level estimates and may change depending on site-specific conditions and design constrains. Land costs are included in WSSC Project W-202.00.

COORDINATION
 Coordinating Agencies: Prince George's County Government; Maryland Department of the Environment; Baltimore Gas & Electric;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$54	21
Other Project Costs		
Debt Service	\$237	21
Total Cost	\$291	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

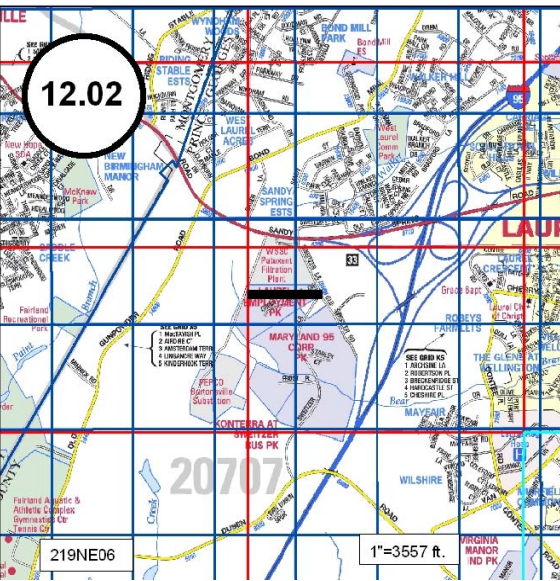
Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	1,074
Cost Estimate Last FY	3,443
Present Cost Estimate	3,644
Approved Request Last FY	2,098
Total Expense & Encumbrances	418
Approval Request Year 1	2,077

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	90%
Est Completion Date	FY 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Old Branch Avenue Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-34.02		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Clinton & Vicinity PA 81A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	3,430	2,650	180	600	200	200	200				
Land	162	162									
Site Improvements & Utilities											
Construction	18,700			18,700	6,000	7,700	5,000				
Other	1,948		18	1,930	620	790	520				
Total	24,240	2,812	198	21,230	6,820	8,690	5,720				

C. Funding Schedule (000's)

WSSC Bonds	12,120	1,406	99	10,615	3,410	4,345	2,860				
SDC	12,120	1,406	99	10,615	3,410	4,345	2,860				

D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of approximately 16,000 feet of 30-inch diameter water main and a new flow control valve along Old Branch Avenue, from Allentown Road to Piscataway Road.

JUSTIFICATION
 This project will provide redundancy to a large area of Prince George's County, including the 85,000 customers in Clinton Pressure Zone HG385B and dependent zones. Service to these zones would be severely disrupted with the loss of the Marlboro Road Pressure Reducing Valves or associated piping. The WSSC attempts to provide for average day demands in the event of the loss of any one water system facility and this project will meet that goal for Clinton Pressure Zone HG385B and dependent zones.
 General Plan; M-NCP&PC Round 7.0 growth forecasts; WSSC Memorandum dated May 16, 2006.

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditure and schedule projections as shown in Block B above are design level estimates and may change based upon the final engineer's estimate and actual bids. Five properties have been acquired.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; 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		
Maintenance	\$414	22
Other Project Costs		
Debt Service	\$788	22
Total Cost	\$1,202	22
Impact on Water and Sewer Rate	\$0.03	22

F. Approval and Expenditure Data (000's)

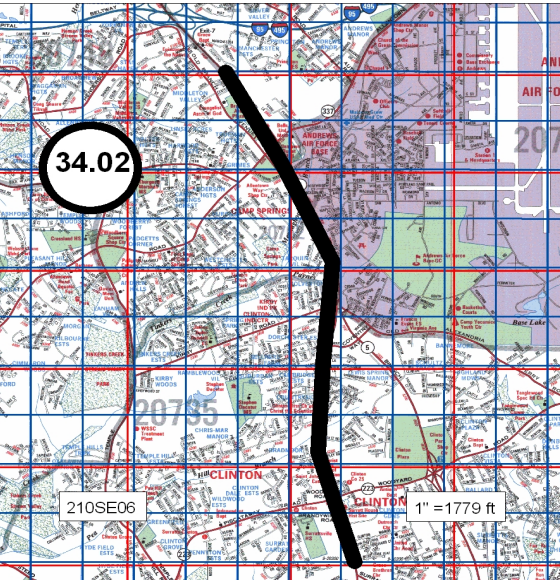
Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	10,350
Cost Estimate Last FY	23,510
Present Cost Estimate	24,240
Approved Request Last FY	8,640
Total Expense & Encumbrances	2,812
Approval Request Year 1	6,820

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	100%
Est Completion Date	FY 2021

Growth	50%
System Improvement	50%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Water Transmission Improvements 385B Pressure Zone

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-34.03		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Clinton & Vicinity PA 81A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	1,253	1,203	30	20	20						
Land											
Site Improvements & Utilities											
Construction	20,000		8,000	12,000	6,000	4,000	2,000				
Other	2,000		800	1,200	600	400	200				
Total	23,253	1,203	8,830	13,220	6,620	4,400	2,200				

C. Funding Schedule (000's)

SDC	23,253	1,203	8,830	13,220	6,620	4,400	2,200				
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of approximately 24,000 feet of 24-inch diameter water transmission main and a flow control valve along Accokeek Road that will improve system reliability through the HG385 and HG345 pressure zones.

JUSTIFICATION
 The existing transmission mains have been stressed by recent development in southern Prince George's County. In addition, head-loss due to increased water use is preventing the Accokeek elevated tank from operating as designed. A new water main will improve our transmission capacity to serve recent and future growth, and will also improve overall reliability for southern Prince George's County customers.
 Clinton Zone WSF & Transmission Improvements Modeling and Master Plan Report, Gannett Fleming, Inc. (February 2012).

COST CHANGE
 Cost decreased based upon final design estimate.

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown in Block B above are based on engineer's estimates and may change based on actual bid. The alignment has been established and design is being finalized. No WSSC rate supported debt will be used for this project. Land costs are included in WSSC Project W-202.00.

COORDINATION
 Coordinating Agencies: Maryland State Highway Administration; (Major stakeholder as 3/4 of the proposed alignment would be on SHA ROW); Maryland-National Capital Park & Planning Commission; (MNCPPC Mandatory Referral Review Approval obtained on March 3, 2015). Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Environmental Resources; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; Prince George's County Government;

Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$622	22
Other Project Costs		
Debt Service		
Total Cost	\$622	22
Impact on Water and Sewer Rate	\$0.01	22

F. Approval and Expenditure Data (000's)

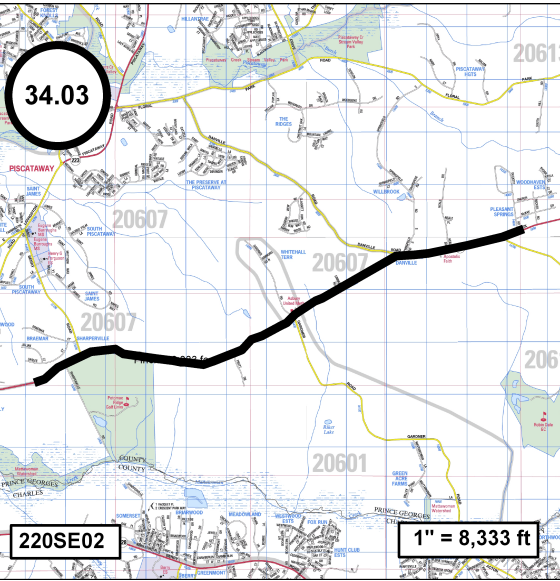
Date First in Program	FY 12
Date First Approved	FY 12
Initial Cost Estimate	173
Cost Estimate Last FY	30,240
Present Cost Estimate	23,253
Approved Request Last FY	13,365
Total Expense & Encumbrances	1,203
Approval Request Year 1	6,620

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	100%
Est Completion Date	FY 2021

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Branch Avenue Water Transmission Improvements

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-34.04		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Clinton & Vicinity PA 81A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	2,983	2,469	257	257	155	78	24				
Land	244	244									
Site Improvements & Utilities											
Construction	32,604	5,582	10,684	16,338	5,403	6,719	4,216				
Other	24,546		2,884	21,662	9,193	10,944	1,525				
Total	60,377	8,295	13,825	38,257	14,751	17,741	5,765				

C. Funding Schedule (000's)

SDC	60,377	8,295	13,825	38,257	14,751	17,741	5,765				
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of approximately 21,800 feet of 42-inch diameter water transmission main and 5,400 feet of 30-inch diameter water transmission main along Branch Avenue and Surratts Road in the Clinton area.

JUSTIFICATION
 The new water main will serve as a primary feed for the new Brandywine (formerly Clinton South)Tank. Clinton Zone WSF & Transmission Improvements Modeling and Master Plan Report, Gannett Fleming, Inc. (February 2012).

COST CHANGE
 Cost increase is due to the redesign of the Phase IV alignment.

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown in Block B above are a mix of bid value, design and planning level estimates and are expected to change as design progresses. The project is split into four phases. The first phase is comprised of approximately 1,200 feet of 42-inch pipe along Surratts Road and has been constructed by Prince George's County as part of the County Surratts/Brandywine road widening project. The second phase is approximately 3,300 feet of 30-inch main along Branch Avenue and will be constructed by the Maryland State Highway Administration (SHA) under the SHA MD5/Brandywine interchange improvement project. The third phase is to construct approximately 12,800 feet of 42-inch pipe and 2,100 feet of 30-inch pipe along Branch Avenue. The last phase is to construct the remaining 7,798 feet of pipe along Surratts Rd and the north section to tie-in to the existing 30-inch pipe on Woodyard/Piscataway/ Road. Both Phases III (BL5273B11) and IV (BL5273F11) will be bid and constructed by WSSC. No WSSC rate supported debt will be used for this project. Land costs are included in WSSC Project W-202.00.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process); Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; Prince George's County Department of Public Works and Transportation; Prince George's County Department of Permitting Inspection and Enforcement;
 Coordinating Projects: W-62.05-Clinton Zone Water Storage Facility Implementation;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$704	22
Other Project Costs		
Debt Service		
Total Cost	\$704	22
Impact on Water and Sewer Rate	\$0.01	22

F. Approval and Expenditure Data (000's)

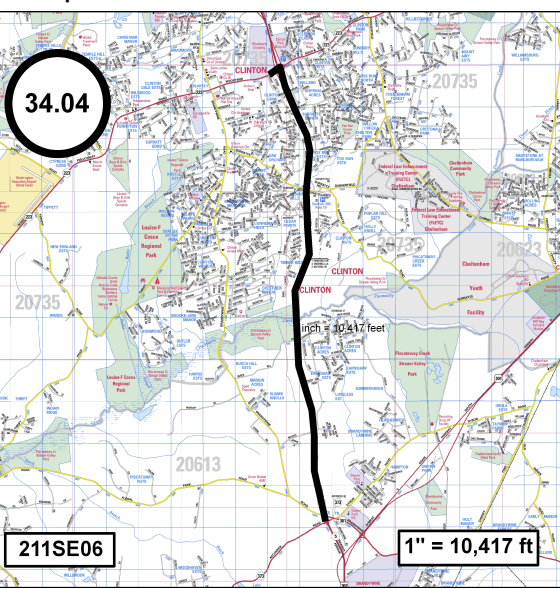
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	23,705
Cost Estimate Last FY	54,033
Present Cost Estimate	60,377
Approved Request Last FY	13,604
Total Expense & Encumbrances	8,295
Approval Request Year 1	14,751

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Construction
Percent Complete	30%
Est Completion Date	July 2020

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Marlboro Zone Reinforcement Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-34.05		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Clinton & Vicinity PA 81A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	725	380	105	240	240						
Land											
Site Improvements & Utilities											
Construction	3,000		600	2,400	2,400						
Other	501		105	396	396						
Total	4,226	380	810	3,036	3,036						

C. Funding Schedule (000's)

WSSC Bonds	4,226	380	810	3,036	3,036						
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of approximately 4,000 feet of 16-inch diameter water transmission main and a flow control valve along Old Marlboro Pike in the Clinton area.

JUSTIFICATION
 This new water main will provide system reliability and redundancy by connecting the 385B and 280A pressure zones.
 Clinton Zone WSF & Transmission Improvements Modeling and Master Plan Report, Gannett Fleming, Inc. (February 2012).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are planning level estimates and are expected to change as design progresses. Land costs are included in WSSC Project W-202.00.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process); Prince George's County Department of Environmental Resources; Prince George's County Department of Permitting Inspection and Enforcement; Prince George's County Government;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$104	20
Other Project Costs		
Debt Service	\$275	20
Total Cost	\$379	20
Impact on Water and Sewer Rate	\$0.01	20

F. Approval and Expenditure Data (000's)

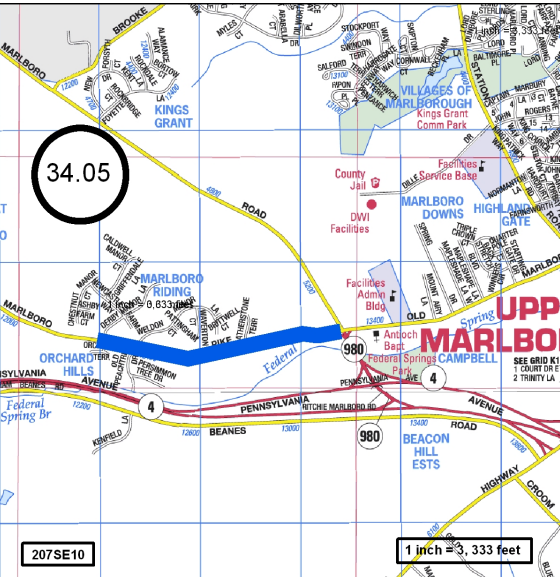
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	5,234
Cost Estimate Last FY	4,232
Present Cost Estimate	4,226
Approved Request Last FY	2,651
Total Expense & Encumbrances	380
Approval Request Year 1	3,036

G. Status Information

Land Status	Site Selected
Project Phase	Design
Percent Complete	80%
Est Completion Date	June 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Clinton Zone Water Storage Facility Implementation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-62.05		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Clinton & Vicinity PA 81A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	2,341	1,973	120	198	148	50					50
Land	114	114									
Site Improvements & Utilities											
Construction	11,850		1,700	5,800	5,300	500					4,350
Other	1,222		182	600	545	55					440
Total	15,527	2,087	2,002	6,598	5,993	605					4,840

C. Funding Schedule (000's)

SDC	15,527	2,087	2,002	6,598	5,993	605					4,840
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of approximately 4.0 million gallons (MG) of water storage to serve the Clinton area. The site selection phase of this project will include a Community Outreach Program. WSSC will construct a 2.0 MG water tank in the Brandywine area by FY'20. A future 2.0 MG water tank will be constructed in the Rosaryville area by FY'26 to meet the demands of the study area.

JUSTIFICATION
 Clinton Pressure Zone HG385B serves a large and growing area of Southern Prince George's County and currently has only one storage facility. Since storage facilities must be periodically removed from service for maintenance, having only one in a large zone creates operational problems. The Modeling and Master Plan Report indicates that there will be approximately 4.0 MG of storage deficit in Clinton Pressure Zone HG385B by the year 2040.

WSSC Memorandum dated May 9, 2005, from Timothy Hirrel, Unit Coordinator, to Craig Fricke, Planning Group Leader; 2006 Water Production Projections; 2005 Water Storage Volume Criteria; Clinton Zone WSF & Transmission Improvements Modeling and Master Plan Report, Gannett Fleming, Inc. (February 2012).

COST CHANGE
 Not applicable

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown are design level estimates and are expected to change once the project moves into construction. Estimated costs allocated for 'Beyond 6 Years' is for the future 2.0 MG water tank. No WSSC rate supported debt will be used for this project. Land costs are included in WSSC Project W-202.00.

COORDINATION
 Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Prince George's County Department of Environmental Resources; Federal Aviation Administration; Maryland Department of Natural Resources;
 Coordinating Projects: W-34.02-Old Branch Avenue Water Main; W-34.03-Water Transmission Improvements 385B Pressure Zone; W-34.04-Branch Avenue Water Transmission Improvements; W-34.05-Marlboro Zone Reinforcement Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service		
Total Cost		
Impact on Water and Sewer Rate		

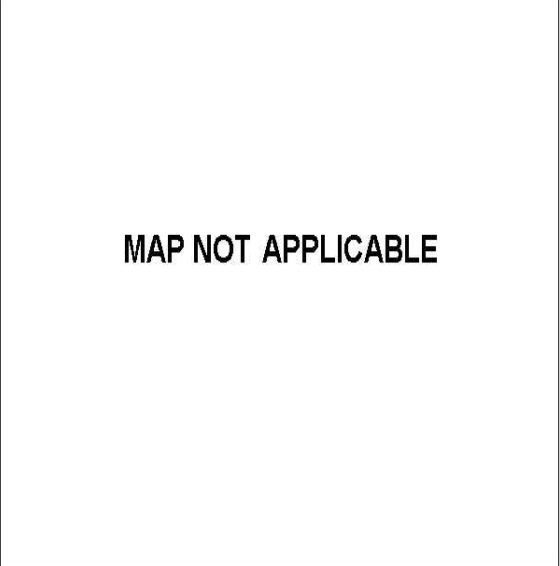
F. Approval and Expenditure Data (000's)

Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	7,993
Cost Estimate Last FY	15,482
Present Cost Estimate	15,527
Approved Request Last FY	4,920
Total Expense & Encumbrances	2,087
Approval Request Year 1	5,993

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	100%
Est Completion Date	See Block D
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	4.0 MG

H. Map



St. Barnabas Elevated Tank Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-65.10		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Prince George's High HG450A; Patuxent
Drainage Basins	
Planning Areas	Suitland-District Heights & Vicinity PA

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	1,335	1,086	169	80	80						
Land											
Site Improvements & Utilities											
Construction	8,864	3,260	5,300	304	304						
Other	585		547	38	38						
Total	10,784	4,346	6,016	422	422						

C. Funding Schedule (000's)

WSSC Bonds	5,392	2,173	3,008	211	211						
SDC	5,392	2,173	3,008	211	211						

D. Description & Justification

DESCRIPTION
 This project provides for the design and construction of approximately 2.5 million gallons (MG) of water storage to serve Prince George's High Pressure Zone HG450A and the demolition of the existing St. Barnabas elevated water storage tank.

JUSTIFICATION
 This project is necessary to provide storage capacity and address water quality issues in Prince George's High Pressure Zone HG450A. Specifically, the existing St. Barnabas and Camp Springs elevated tanks have low overflow elevations that impact water quality in the zone. Prince George's County High Zone Storage Study, Hazen & Sawyer (June 2012).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown in Block B are based on actual bid. The Prince George's County High Zone Storage Study recommended moving forward with design and construction of a new tank on the existing St. Barnabas site. The new tank will replace the existing St. Barnabas elevated tank. The study also recommended pursuing acquisition of an additional site for long-term water storage needs.

COORDINATION

Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Federal Aviation Administration;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$351	20
Total Cost	\$351	20
Impact on Water and Sewer Rate	\$0.01	20

F. Approval and Expenditure Data (000's)

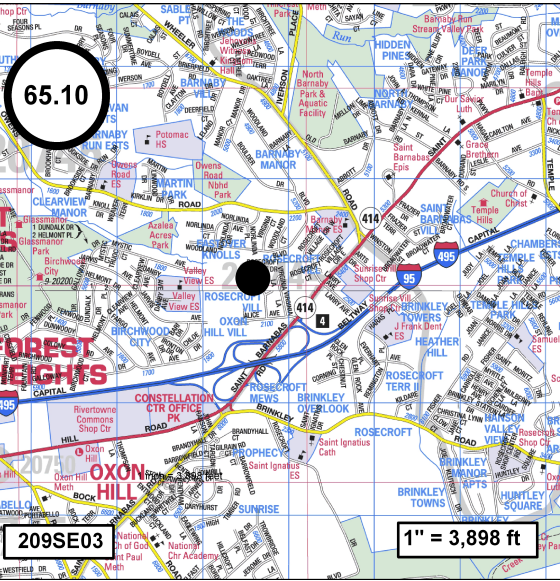
Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	7,274
Cost Estimate Last FY	11,382
Present Cost Estimate	10,784
Approved Request Last FY	4,724
Total Expense & Encumbrances	4,346
Approval Request Year 1	422

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Construction
Percent Complete	36%
Est Completion Date	August 2018

Growth	50%
System Improvement	50%
Environmental Regulation	
Population Served	
Capacity	2.5 MG

H. Map



Ritchie Marlboro Road Transmission Main & PRV

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-84.02		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Prince George's High HG450A; Southern
Drainage Basins	
Planning Areas	Westphalia & Vicinity PA 78;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	1,800	1,600	100	100	100						
Land	2	2									
Site Improvements & Utilities											
Construction	4,430	400	2,600	1,430	1,430						
Other	635		405	230	230						
Total	6,867	2,002	3,105	1,760	1,760						

C. Funding Schedule (000's)

SDC	6,867	2,002	3,105	1,760	1,760						
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of approximately 13,100 feet of 24-inch diameter main and a pressure reducing valve (PRV) to serve the Westphalia area. The water main will be constructed along Ritchie Marlboro Road from south of Westphalia Road to the Beltway.

JUSTIFICATION
 Prince George's County High Zone Water Main Alignment and Capacity Study, Chester Engineering (September 2012).

COST CHANGE
 Cost decreased based upon actual bid.

OTHER
 The project scope has remained the same. Expenditure and schedule projections shown above are based upon actual bid. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Water Management Administration; Maryland Department of Natural Resources; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$339	20
Other Project Costs		
Debt Service		
Total Cost	\$339	20
Impact on Water and Sewer Rate	\$0.01	20

F. Approval and Expenditure Data (000's)

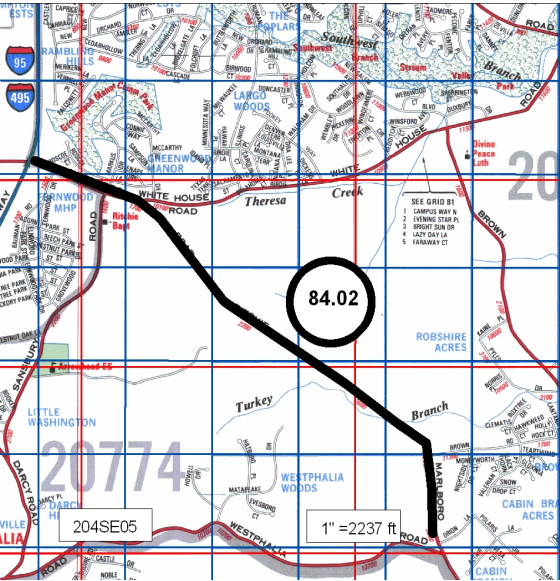
Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	2,496
Cost Estimate Last FY	12,799
Present Cost Estimate	6,867
Approved Request Last FY	5,676
Total Expense & Encumbrances	2,002
Approval Request Year 1	1,760

G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	70%
Est Completion Date	November 2018

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Smith Home Farms Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-84.03		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Southern 385B;
Drainage Basins	
Planning Areas	Westphalia & Vicinity PA 78;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	425	158	87	180	63	61	56				
Land											
Site Improvements & Utilities											
Construction	1,943	643	409	891	297	297	297				
Other	235		74	161	54	54	53				
Total	2,603	801	570	1,232	414	412	406				

C. Funding Schedule (000's)

Contribution/Other	2,603	801	570	1,232	414	412	406				
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D. Description & Justification

DESCRIPTION
This project provides for the planning, design, and construction of 7,600 feet of 16-inch diameter water main to serve the Smith Home Farms Subdivision.

JUSTIFICATION
Smith Home Farm Subdivision Hydraulic Planning Analysis (Amended March 2015).

COST CHANGE
Not applicable.

OTHER
The project scope has remained the same. Expenditure and schedule projections shown in Block B above are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
Coordinating Agencies: Maryland-National Capital Park & Planning Commission; (Westphalia Sector Plan); Prince George's County Government;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$197	22
Other Project Costs		
Debt Service		
Total Cost	\$197	22
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

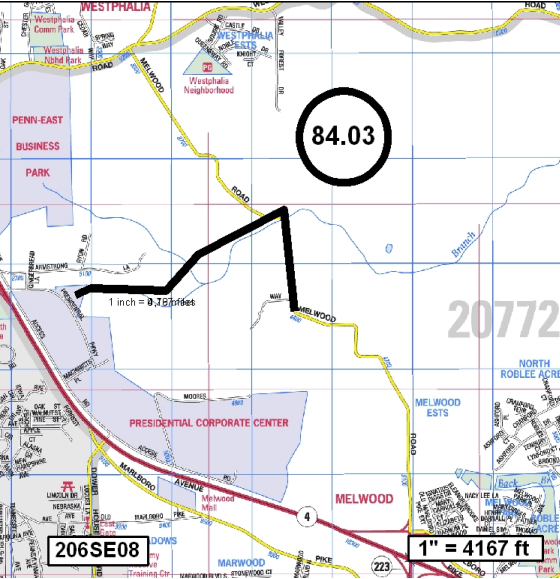
Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	1,600
Cost Estimate Last FY	2,549
Present Cost Estimate	2,603
Approved Request Last FY	409
Total Expense & Encumbrances	801
Approval Request Year 1	414

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	75%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Westphalia Town Center Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-84.04		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Westphalia & Vicinity PA 78;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	192	23	37	132	63	45	24				
Land											
Site Improvements & Utilities											
Construction	1,212	533		679	209	274	196				
Other	128		6	122	41	48	33				
Total	1,532	556	43	933	313	367	253				

C. Funding Schedule (000's)

Contribution/Other	1,532	556	43	933	313	367	253				
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D. Description & Justification

DESCRIPTION
This project provides for the planning, design, and construction of 4,700 feet of 16-inch diameter water main to serve Westphalia Town Center and vicinity.

JUSTIFICATION
Westphalia Town Center Hydraulic Planning Analysis (June 2009).

COST CHANGE
Not applicable.

OTHER
The project scope has remained the same. The expenditure and schedule projections shown in Block B above are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
Coordinating Agencies: Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Prince George's County Department of Permitting Inspection and Enforcement; Prince George's County Government;
Coordinating Projects: W-84.03-Smith Home Farms Water Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$122	22
Other Project Costs		
Debt Service		
Total Cost	\$122	22
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

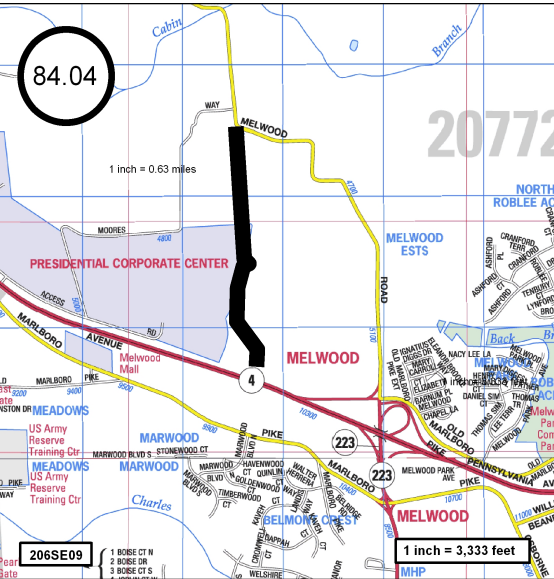
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	1,396
Cost Estimate Last FY	1,497
Present Cost Estimate	1,532
Approved Request Last FY	302
Total Expense & Encumbrances	556
Approval Request Year 1	313

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	40%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Prince George's County 450A Zone Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-84.05		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Prince George's High HG450A;
Drainage Basins	
Planning Areas	Prince George's County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	3,708	1,509	714	1,485	595	178	178	178	178	178	
Land											
Site Improvements & Utilities											
Construction	70,002			54,446		7,778	11,667	11,667	11,667	11,667	15,556
Other	10,830		107	8,390	89	1,193	1,777	1,777	1,777	1,777	2,333
Total	84,540	1,509	821	64,321	684	9,149	13,622	13,622	13,622	13,622	17,889

C. Funding Schedule (000's)

WSSC Bonds	84,540	1,509	821	64,321	684	9,149	13,622	13,622	13,622	13,622	17,889
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D. Description & Justification

DESCRIPTION
 This project provides for a capacity and alignment study, design, and construction of approximately 3.8 miles of new 48-inch diameter redundant transmission main for Prince George's High Pressure Zone HG450A. Portions of the transmission main that currently serve the HG450A and HG290B Pressure Zones will be out of service almost every year to meet the goals of the PCCP inspection program. A redundant transmission main is required to continue to provide service to our customers while the existing transmission main is planned to be out of service and to provide service in case the existing main fails.

JUSTIFICATION
 When portions of the existing main are out of service, the remaining mains lack sufficient capacity and pumping against these restrictions can cause high pressure that may result in pipe failure. The new transmission main may parallel or replace existing mains as determined by modeling. The new main should be a minimum of 30-inch diameter and will start where the existing 54-inch diameter main inside the beltway connects to an existing 30-inch diameter main just north of Pennsylvania Ave. and tie in to the new 30-inch diameter main to be constructed under WSSC project W-34.02-Old Branch Avenue Water Main.

COST CHANGE
 Cost estimate increased based on the final selected alignment and preliminary design estimate.

OTHER
 The project scope has remained the same. Expenditure and schedule projects shown above are preliminary design level estimates and are expected to change as the project moves through design. An alignment and capacity study has been performed and final alignment and pipeline diameter has been selected. The project is expected to move into final design phase in the next fiscal year. Land costs are included in WSSC Project W-202.00.

COORDINATION
 Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & Planning Commission; (Mandatory Referral Process); Prince George's County Department of Permitting Inspection and Enforcement; Maryland Department of Natural Resources; Prince George's County Department of Public Works and Transportation; National Park Service; Maryland Historical Trust; U.S. Army Corps of Engineers; Washington Metropolitan Area Transit Authority;
 Coordinating Projects: W-34.02-Old Branch Avenue Water Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$821	
Other Project Costs		
Debt Service	\$5,499	
Total Cost	\$6,320	
Impact on Water and Sewer Rate	\$0.13	

F. Approval and Expenditure Data (000's)

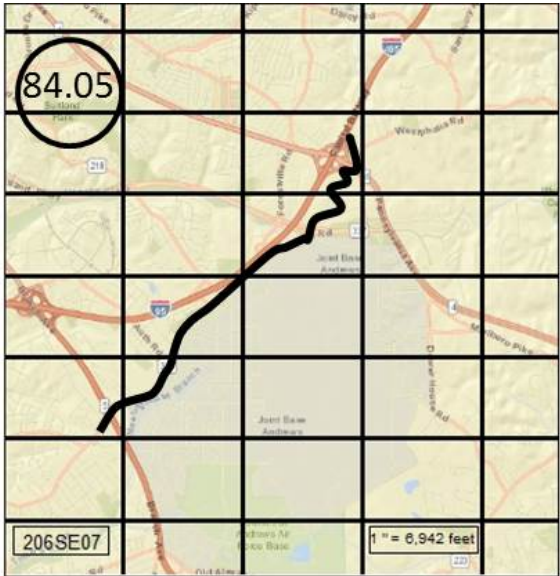
Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	374
Cost Estimate Last FY	40,308
Present Cost Estimate	84,540
Approved Request Last FY	1,609
Total Expense & Encumbrances	1,509
Approval Request Year 1	684

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	30%
Est Completion Date	FY 2025

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Konterra Town Center East Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-93.01		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	P.G. 415A;
Drainage Basins	Northeast Branch Branch 08;
Planning Areas	Northwestern Area PA 60;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	183	8	74	101	7	40	22	32			
Land											
Site Improvements & Utilities											
Construction	1,197	35	492	670	46	264	147	213			
Other	201		85	116	8	46	25	37			
Total	1,581	43	651	887	61	350	194	282			

C. Funding Schedule (000's)

Contribution/Other	1,581	43	651	887	61	350	194	282			
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 9,200 feet of 16-inch diameter water main to serve the Konterra Town Center East, located in the area bound by Interstate 95, the Intercounty Connector and Konterra Drive. The sleeve for the water main crossing the Intercounty Connector was built under WSSC Project S-28.18 Konterra Town Center East Sewer.

JUSTIFICATION
 Letter of Findings - Hydraulic Planning Analysis (August 29, 2013).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a Systems Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Prince George's County Government;
 Coordinating Projects: S-28.18-Konterra Town Center East Sewer Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$238	23
Other Project Costs		
Debt Service		
Total Cost	\$238	23
Impact on Water and Sewer Rate	\$0.01	23

F. Approval and Expenditure Data (000's)

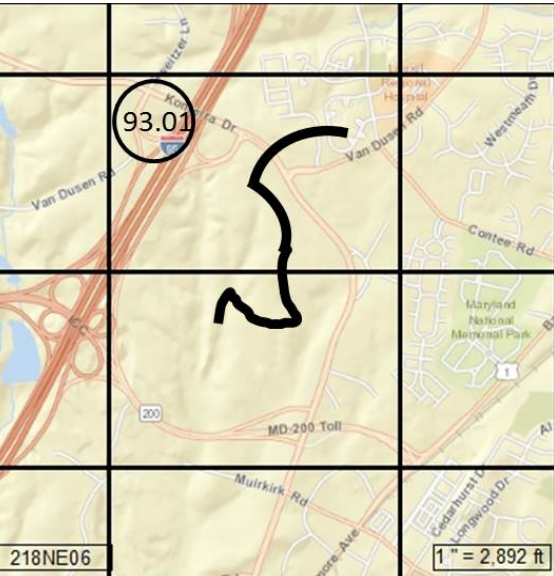
Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	610
Cost Estimate Last FY	1,593
Present Cost Estimate	1,581
Approved Request Last FY	61
Total Expense & Encumbrances	43
Approval Request Year 1	61

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	3%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Marlton Section 18 Water Main, Lake Marlton Avenue

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-105.01		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Rosaryville PA 82A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	394	29	1	364	44	64	64	64	64	64	
Land											
Site Improvements & Utilities											
Construction	1,854			1,854	309	309	309	309	309	309	
Other	333		0	333	53	56	56	56	56	56	
Total	2,581	29	1	2,551	406	429	429	429	429	429	

C. Funding Schedule (000's)

Contribution/Other	2,581	29	1	2,551	406	429	429	429	429	429	
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 5,400 feet of 16-inch diameter water main to provide service to East Marlton, Section 18, along Heathermore Boulevard and Lake Marlton Avenue.

JUSTIFICATION
 East Marlton Hydraulic Planning Analysis (February 2008).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditures and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a Systems Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$140	25
Other Project Costs		
Debt Service		
Total Cost	\$140	25
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

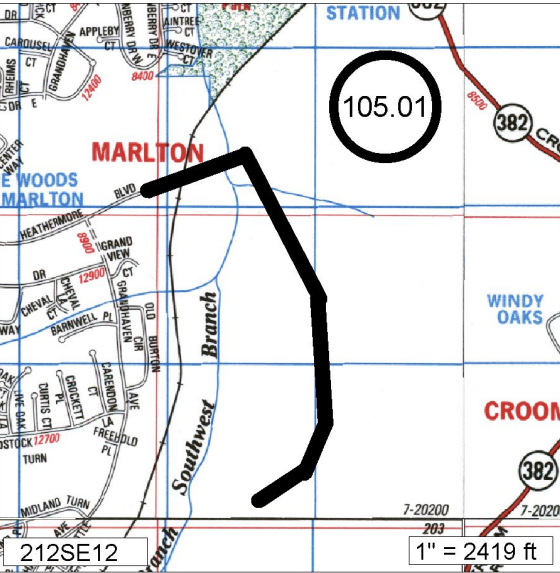
Date First in Program	FY 02
Date First Approved	FY 02
Initial Cost Estimate	398
Cost Estimate Last FY	2,480
Present Cost Estimate	2,581
Approved Request Last FY	386
Total Expense & Encumbrances	29
Approval Request Year 1	406

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	20%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Hillmeade Road Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-111.05		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Bowie HG350E;
Drainage Basins	
Planning Areas	Bowie & Vicinity PA 71A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	1,032	972	30	30	30						
Land	30	30									
Site Improvements & Utilities											
Construction	3,797		1,500	2,297	2,297						
Other	579		230	349	349						
Total	5,438	1,002	1,760	2,676	2,676						

C. Funding Schedule (000's)

SDC	5,438	1,002	1,760	2,676	2,676						
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D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides for the planning, design, and construction of approximately 7,300 feet of 24-inch diameter water main along Hillmeade Road from Lanham-Severn Road to an existing 24-inch diameter water main in Hillmeade Road at Daisy Lane.</p> <p>JUSTIFICATION</p> <p>The purpose of this project is to provide adequate pressure in response to growth in the Bowie area.</p> <p>Bowie-Glen Dale Water Storage Facility Plan, O'Brien & Gere Engineers, Inc. (October 1990); Water Resources Planning Section Memorandum dated May 31, 1996; M-NCP&PC Round 6 growth forecasts.</p> <p>COST CHANGE</p> <p>Not applicable.</p> <p>OTHER</p> <p>The project scope has remained the same. Expenditures and schedule projections shown in Block B are design level estimates and may change based upon site-specific conditions and actual bid. This project has been delayed due to outstanding permitting issues. No WSSC rate supported debt will be used for this project.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & Planning Commission; AMTRAK; Maryland Department of Natural Resources; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers;</p> <p>Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$189	20
Other Project Costs		
Debt Service		
Total Cost	\$189	20
Impact on Water and Sewer Rate		

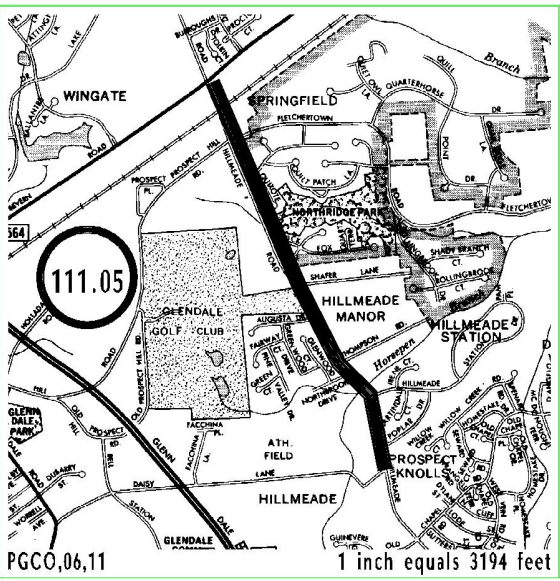
F. Approval and Expenditure Data (000's)

Date First in Program	FY 98
Date First Approved	FY 98
Initial Cost Estimate	1,898
Cost Estimate Last FY	5,698
Present Cost Estimate	5,438
Approved Request Last FY	3,114
Total Expense & Encumbrances	1,002
Approval Request Year 1	2,676

G. Status Information

Land Status	Land acquired
Project Phase	Design
Percent Complete	100%
Est Completion Date	December 2018
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



John Hanson Highway Water Main, Part 1

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-119.01		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Prince George's Main HG320A; Prince
Drainage Basins	
Planning Areas	Collington & Vicinity PA 74B; Largo-

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	1,100	900	120	80	80						
Land											
Site Improvements & Utilities											
Construction	11,600	4,625	6,500	475	475						
Other	1,270	553	662	55	55						
Total	13,970	6,078	7,282	610	610						

C. Funding Schedule (000's)

SDC	13,970	6,078	7,282	610	610						
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 9,300 feet of 36-inch diameter water main along John Hanson Highway and Martin Luther King Jr. Highway, from Whitfield Chapel Road to Folly Branch.

JUSTIFICATION
 This project will provide service to the growing area of Bowie and to the low pressure area north of Route 50, Prince George's Main Pressure Zone HG320A. This main will provide redundancy to existing and future developments in the Bowie area.
 General Plan; M-NCP&PC Round 6.2 growth projections; WSSC Memorandum dated April 7, 1997.

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. The expenditure and schedule projections shown in Block B above are based upon actual bid. The redundancy and water system reliability benefits of this project would be immediate. No WSSC rate supported debt will be used for this project.

COORDINATION

Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Prince George's County Department of Environmental Resources; Maryland Department of the Environment; U.S. Army Corps of Engineers; U.S. Fish and Wildlife Service; Maryland-National Capital Park & Planning Commission; Maryland Department of Natural Resources;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$241	20
Other Project Costs		
Debt Service		
Total Cost	\$241	20
Impact on Water and Sewer Rate	\$0.01	20

F. Approval and Expenditure Data (000's)

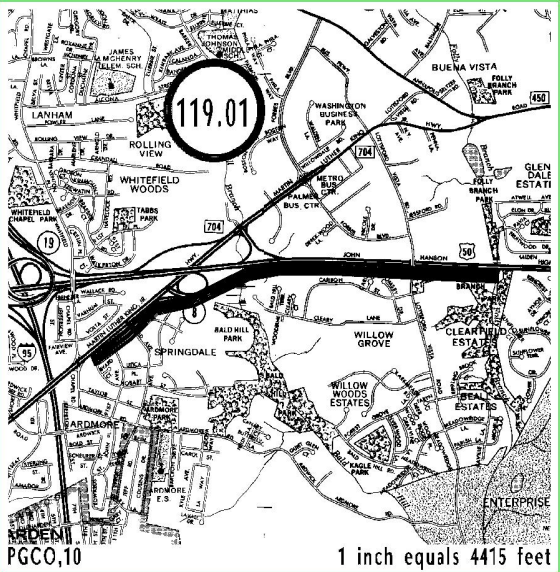
Date First in Program	FY 82
Date First Approved	FY 82
Initial Cost Estimate	675
Cost Estimate Last FY	14,500
Present Cost Estimate	13,970
Approved Request Last FY	6,600
Total Expense & Encumbrances	6,078
Approval Request Year 1	610

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	30%
Est Completion Date	FY 2019

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Villages of Timothy Water Main, Part 1

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-120.14		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Southern 385B;
Drainage Basins	
Planning Areas	Brandywine & Vicinity PA 85A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	156	54	80	22	22						
Land											
Site Improvements & Utilities											
Construction	781		390	391	391						
Other	132		70	62	62						
Total	1,069	54	540	475	475						

C. Funding Schedule (000's)

Contribution/Other	1,069	54	540	475	475						
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 3,800 feet of 16-inch water main to serve the Villages of Timothy project, Part 7.

JUSTIFICATION
 Villages of Timothy Hydraulic Planning Analysis (Amended April 2017).

COST CHANGE
 The expenditures and schedule have been updated based upon information provided by the developer.

OTHER
 The project scope has remained the same. The expenditure 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 rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Prince George's County Government;
 Coordinating Projects: W-120.15-Villages of Timothy Water Main, Part 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$26	20
Other Project Costs		
Debt Service		
Total Cost	\$26	20
Impact on Water and Sewer Rate		

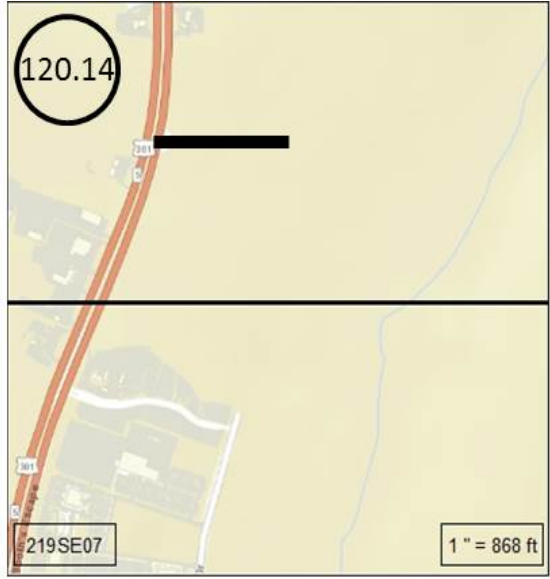
F. Approval and Expenditure Data (000's)

Date First in Program	FY 94
Date First Approved	FY 94
Initial Cost Estimate	176
Cost Estimate Last FY	277
Present Cost Estimate	1,069
Approved Request Last FY	28
Total Expense & Encumbrances	54
Approval Request Year 1	475

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	100%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Villages of Timothy Water Main, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-120.15		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Southern 385B;
Drainage Basins	
Planning Areas	Brandywine & Vicinity PA 85A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	49	18	25	6	6						
Land											
Site Improvements & Utilities											
Construction	247		123	124	124						
Other	41		22	19	19						
Total	337	18	170	149	149						

C. Funding Schedule (000's)

Contribution/Other	337	18	170	149	149						
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 1,250 feet of 16-inch water main to serve the Villages of Timothy project, Part 6.

JUSTIFICATION
 Villages of Timothy Hydraulic Planning Analysis (Amended April 2017).

COST CHANGE
 The expenditures and schedule have been updated based upon information provided by the developer.

OTHER
 The project scope has remained the same. The expenditure 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 rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Prince George's County Government;
 Coordinating Projects: W-120.14-Villages of Timothy Water Main, Part 1;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$70	20
Other Project Costs		
Debt Service		
Total Cost	\$70	20
Impact on Water and Sewer Rate		

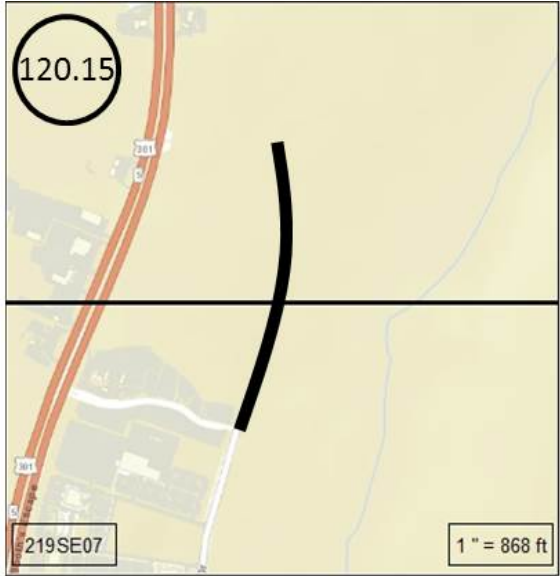
F. Approval and Expenditure Data (000's)

Date First in Program	FY 94
Date First Approved	FY 94
Initial Cost Estimate	159
Cost Estimate Last FY	688
Present Cost Estimate	337
Approved Request Last FY	64
Total Expense & Encumbrances	18
Approval Request Year 1	149

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	100%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Old Marlboro Pike Water Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-123.14		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Clinton HG385B;
Drainage Basins	
Planning Areas	Upper Marlboro & Vicinity PA 79;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	233	189	11	33	16	17					
Land											
Site Improvements & Utilities											
Construction	1,459	1,080	92	287	160	127					
Other	63		15	48	26	22					
Total	1,755	1,269	118	368	202	166					

C. Funding Schedule (000's)

Contribution/Other	1,755	1,269	118	368	202	166					
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D. Description & Justification

DESCRIPTION
 This project provides for the design and construction of approximately 9,000 feet of 16-inch diameter water main along Old Marlboro Pike and on-site at the applicant's property to serve the Addison Property development.

JUSTIFICATION
 Old Marlboro Pike Hydraulic Analysis (February 2003). Review of Project #DA3538Z03 for the Addison Property development. Based on Development Services and Planning Group studies, a 16-inch diameter water main was deemed necessary to provide service to the Addison Property development as well as to future development.

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditure and schedule projections shown in Block B above are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland State Department of Transportation; Prince George's County Department of Permitting Inspection and Enforcement; Prince George's County Department of Environmental Resources;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$233	21
Other Project Costs		
Debt Service		
Total Cost	\$233	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

Date First in Program	FY 04
Date First Approved	FY 04
Initial Cost Estimate	800
Cost Estimate Last FY	1,748
Present Cost Estimate	1,755
Approved Request Last FY	202
Total Expense & Encumbrances	1,269
Approval Request Year 1	202

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	80%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Oak Grove/Leeland Roads Water Main, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-123.20		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Prince George's Intermediate HG317A;
Drainage Basins	
Planning Areas	Mitchellville & Vicinity PA 74A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	2,392	2,322	60	10	10						
Land	12	12									
Site Improvements & Utilities											
Construction	11,808	7,308	4,300	200	200						
Other	456		436	20	20						
Total	14,668	9,642	4,796	230	230						

C. Funding Schedule (000's)

WSSC Bonds	7,334	4,821	2,398	115	115						
SDC	7,334	4,821	2,398	115	115						

D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of approximately 16,805 feet of 24-inch diameter water main along Oak Grove and Leeland Roads, and 1,240 feet of 16-inch diameter water main in Church Road in the Upper Marlboro Planning Area of Prince George's County.

JUSTIFICATION
 The Intermediate & Marlboro Zones Water Storage Facility siting study recommended the placement of 4 million gallons of storage at the Safeway Distribution Center near the intersection of Leeland Road and Route 301 in Prince George's County. Based upon the final site selection, a 24-inch diameter water main along Oak Grove and Leeland Roads will be needed to connect to the new storage facility and provide adequate hydraulic capacity to the Intermediate Pressure Zone HG317A distribution system. This project will also provide a second feed to the Beechtree development west of Route 301 and south of Leeland Road.
 Intermediate & Marlboro Zones Water Storage Facility (September 1999).

COST CHANGE
 Cost increased based upon actual bid for the B contract.

OTHER
 The project scope has remained the same. The expenditure and schedule projections in Block B above are based upon the actual bids for Contract A and Contract B. The project was bid under two separate contracts: Contract A is complete; Contract B was issued Notice to Proceed in February 2017. The B contract will be constructed with WSSC supplied ductile iron pipe.

COORDINATION
 Coordinating Agencies: Prince George's County Government; Maryland State Highway Administration;
 Coordinating Projects: W-147.00-Collington Elevated Water Storage Facility;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$467	20
Other Project Costs		
Debt Service	\$477	20
Total Cost	\$944	20
Impact on Water and Sewer Rate	\$0.02	20

F. Approval and Expenditure Data (000's)

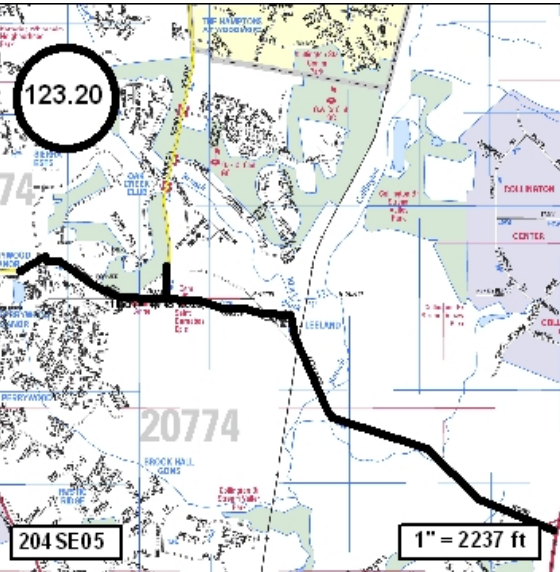
Date First in Program	FY 02
Date First Approved	FY 02
Initial Cost Estimate	4,117
Cost Estimate Last FY	14,444
Present Cost Estimate	14,668
Approved Request Last FY	2,322
Total Expense & Encumbrances	9,642
Approval Request Year 1	230

G. Status Information

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	90%
Est Completion Date	June 2019

Growth	50%
System Improvement	50%
Environmental Regulation	
Population Served	
Capacity	

H. Map



South Potomac Supply Improvement, Phase 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-137.03		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Rosecroft HG290A; Potomac 290B;
Drainage Basins	
Planning Areas	Henson Creek PA 76B; Henson Creek

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	4,030	30	1,250	2,750	1,500	312	250	250	250	188	
Land											
Site Improvements & Utilities											
Construction	48,000	0	0	48,000	0	3,000	12,000	12,000	12,000	9,000	
Other	2,602		63	2,539	75	166	613	613	613	459	
Total	54,632	30	1,313	53,289	1,575	3,478	12,863	12,863	12,863	9,647	

C. Funding Schedule (000's)

WSSC Bonds	36,054	20	866	35,168	1,039	2,295	8,489	8,489	8,489	6,367
SDC	18,578	10	447	18,121	536	1,183	4,374	4,374	4,374	3,280

D. Description & Justification

DESCRIPTION
 This project provides for the design and construction of 4.4 miles of 42-inch diameter ductile iron pipe and a new flow control valve vault to replace 3.5 miles of 42-inch diameter PCCP water transmission main in Henson Creek. The new main will be relocated out of Henson Creek and into the roadway along Palmer Road, Tucker Road, and Allentown Road. The project limits are between Indian Head Highway and Temple Hill Road. A parallel distribution main will be constructed to serve residential customers along Palmer, Tucker, and Allentown Roads. Also will include a 10-inch diameter water main replacement along Tucker Rd, an additional Valve, and 500 feet of 42-inch diameter PCCP pipe replacement in Rosecroft area.

JUSTIFICATION
 During design of the 42-inch PCCP transmission main replacement under CIP W-137.02, South Potomac Supply Improvement, Phase 1, WSSC and the Maryland Department of the Environment discussed extensive requirements for stream restoration of Henson Creek. At that time, WSSC staff identified up to 3.5 miles of pipe south of the project area that is exposed along eroding stretches of Henson Creek. An alignment study began under CIP W-137.03, South Potomac Supply Improvement, Phase 2, to evaluate possible relocation of the existing 42-inch PCCP main between Rosecroft Drive and Indian Head Highway. The 3.5 miles of PCCP main will be relocated out of Henson Creek and into a roadway alignment between Temple Hill Road and Indian Head Highway, for a total of 4.4 miles of new 42-inch ductile iron pipe. The transmission main will be relocated out of the 290B pressure zone and into the 450A pressure zone. Phase 2 includes the installation of a flow control valve between pressure zones 450A and 290B.

Concept Finalization Report, O'Brien & Gere Engineers Inc. (January 2014); Alignment Study - Final: Henson Creek 42-Inch Water Main Replacement, O'Brien & Gere Engineers Inc. (April 2017).

COST CHANGE

Costs increased due to the addition of a new 10-inch diameter water main replacement along Tucker Rd, an additional Valve, and 500 feet of 42-inch diameter PCCP pipe replacement in Rosecroft area.

OTHER

The project scope has remained the same. The alignment study for Phase 2 was completed in April 2017. Schedule and expenditure projections for Phase 2 are planning level estimates and may change based upon a final evaluation of the recommended alignment, restoration requirements, and other site-specific conditions. Land costs are included in WSSC Project W-202.00

COORDINATION

Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; Washington Gas Light Company;
 Coordinating Projects: W-84.05-Prince George's County 450A Zone Water Main; W-34.02-Old Branch Avenue Water Main; W-137.02-South Potomac Supply Improvement, Phase 1

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$602	25
Other Project Costs		
Debt Service	\$2,345	25
Total Cost	\$2,947	25
Impact on Water and Sewer Rate	\$0.06	25

F. Approval and Expenditure Data (000's)

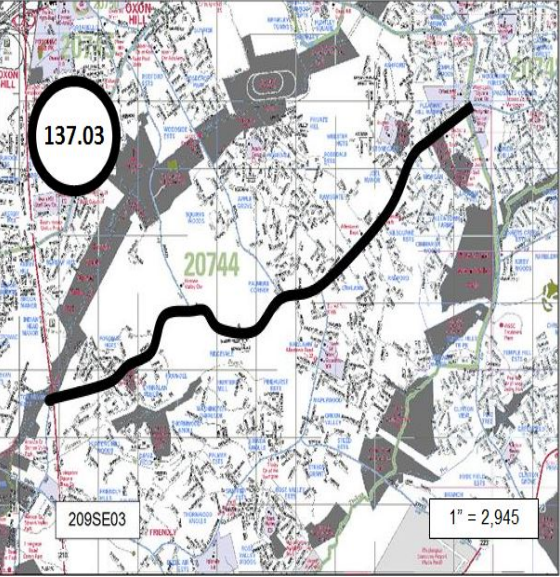
Date First in Program	FY 18
Date First Approved	FY 07
Initial Cost Estimate	53,374
Cost Estimate Last FY	53,374
Present Cost Estimate	54,632
Approved Request Last FY	1,024
Total Expense & Encumbrances	30
Approval Request Year 1	1,575

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	30%
Est Completion Date	FY 2024

Growth	34%
System Improvement	66%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Collington Elevated Water Storage Facility

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-147.00		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	Prince George's Intermediate HG317A;
Drainage Basins	
Planning Areas	Collington & Vicinity PA 74B;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	3,143	3,073	49	21	21						
Land	130	130									
Site Improvements & Utilities											
Construction	12,631	12,331	200	100	100						
Other	38		25	13	13						
Total	15,942	15,534	274	134	134						

C. Funding Schedule (000's)

WSSC Bonds	7,971	7,767	137	67	67						
SDC	7,971	7,767	137	67	67						

D. Description & Justification

DESCRIPTION
 This project provides for the site selection, planning, design, and construction of 4 million gallons (MG) of elevated storage to serve the Intermediate Zone. The site selection phase included a Community Outreach Program. A portion of the Safeway Distribution Facility property, at Leeland Road and Route 301, was acquired as the site for the new water storage tanks. This project also includes modifications at the existing Central Avenue Water Pumping Station to add an additional pump and upgrade an existing pump in order to optimize the utilization of the new Collington Tanks and provide redundancy in the affected zones.

JUSTIFICATION
 The Prince George's High Zone Facility Plan indicates there is a need to provide up to 4 MG of additional storage to the Intermediate Zone to meet demands to the year 2020. During the siting phase, this project determined the site and size of the new facility.
 Prince George's County High Zone Facility Plan (April 1996); Water Storage Volume Criteria Report (November 2005).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditure and schedule projections shown in Block B are based upon actual bid.

COORDINATION
 Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; City of Bowie;
 Coordinating Projects: W-123.20-Oak Grove/Leeland Roads Water Main, Part 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$519	20
Total Cost	\$519	20
Impact on Water and Sewer Rate	\$0.01	20

F. Approval and Expenditure Data (000's)

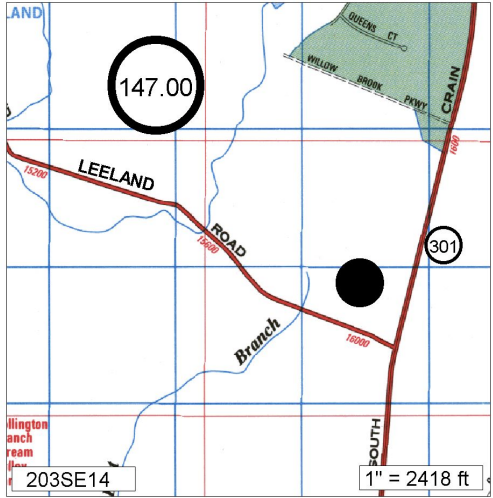
Date First in Program	FY 98
Date First Approved	FY 98
Initial Cost Estimate	12,536
Cost Estimate Last FY	17,022
Present Cost Estimate	15,942
Approved Request Last FY	134
Total Expense & Encumbrances	15,534
Approval Request Year 1	134

G. Status Information

Land Status	Land acquired
Project Phase	Construction
Percent Complete	95%
Est Completion Date	March 2018

Growth	50%
System Improvement	50%
Environmental Regulation	
Population Served	
Capacity	4.0 MG

H. Map



PROJECTS PENDING CLOSE-OUT
Prince George's Water Projects
(costs in thousands)

Project Number	Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'17	Estimated Expenditures FY'18	Remarks
	W-120.16	Villages of Timothy Water Main, Part 3	\$0	\$0	\$0	Project combined with W-120.14 & W-120.15.
	W-137.02	South Potomac Supply Improvement, Phase 1	17,390	16,790	600	Project completion expected in FY'18.
		TOTALS	\$17,390	\$16,790	\$600	

Section 6 - Prince George's County Sewer Projects

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

PRINCE GEORGE'S COUNTY SEWER PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 17	EST. EXPEND 18	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PDF PAGE NUM
						YR 1 19	YR 2 20	YR 3 21	YR 4 22	YR 5 23	YR 6 24		
S-27.08	Westphalia Town Center Sewer Main	850	207	460	183	124	47	12	0	0	0	0	6-3
S-28.18	Konterra Town Center East Sewer	7,211	5,189	0	2,022	513	385	0	0	642	482	0	6-4
S-43.02	Broad Creek WWPS Augmentation	182,490	143,172	17,325	21,993	15,225	6,768	0	0	0	0	0	6-5
S-57.92	Western Branch Facility Upgrade	56,419	50,905	2,128	3,386	3,150	236	0	0	0	0	0	6-6
S-68.01	Landover Mall Redevelopment	1,305	24	99	1,182	618	397	44	41	41	41	0	6-7
S-75.19	Brandywine Woods Wastewater Pumping Station	315	7	177	131	67	64	0	0	0	0	0	6-8
S-75.20	Brandywine Woods WWPS Force Main	123	15	41	67	67	0	0	0	0	0	0	6-9
S-75.21	Mattawoman WWTP Upgrades	19,449	0	5,911	12,958	4,049	2,783	1,928	1,897	1,897	404	580	6-10
S-77.20	Parkway North Substation Replacement	5,003	15	1,175	3,813	2,650	1,163	0	0	0	0	0	6-11
S-86.19	Karington Subdivision Sewer	672	102	210	360	181	179	0	0	0	0	0	6-12
S-96.14	Piscataway WWTP Facility Upgrades	143,294	8,241	4,290	130,763	31,115	39,591	24,810	24,278	10,969	0	0	6-13
S-131.05	Pleasant Valley Sewer Main, Part 2	877	43	199	635	393	165	77	0	0	0	0	6-14
S-131.07	Pleasant Valley Sewer Main, Part 1	1,750	98	464	1,188	970	218	0	0	0	0	0	6-15
S-131.10	Fort Washington Forest No. 1 WWPS Augmentation	4,775	2,558	342	1,875	1,275	600	0	0	0	0	0	6-16
	Projects Pending Close-Out	2,312	2,312	0	0	0	0	0	0	0	0	0	6-17
TOTAL PRINCE GEORGE'S COUNTY SEWER PROJECTS		426,845	212,888	32,821	180,556	60,397	52,596	26,871	26,216	13,549	927	580	

Prince George's County Sewer Projects
New Projects Listing
(costs in thousands)

Agency Number	Project Name	Total Project Cost	Budget Year Cost	Page Number
S-77.20	Parkway North Substation Replacement	\$5,003	\$2,650	6-11
	TOTALS	\$5,003	\$2,650	

Westphalia Town Center Sewer Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-27.08		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	Westphalia & Vicinity PA 78;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	88	22	32	34	19	10	5				
Land											
Site Improvements & Utilities											
Construction	678	185	368	125	89	31	5				
Other	84		60	24	16	6	2				
Total	850	207	460	183	124	47	12				

C. Funding Schedule (000's)

Contribution/Other	850	207	460	183	124	47	12				
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 4,550 feet of 15-inch, 18-inch, and 21-inch sanitary sewer main to serve the Westphalia Town Center.

JUSTIFICATION
 Westphalia Town Center Hydraulic Planning Analysis (June 2009).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditure and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Prince George's County Department of Environmental Resources; Prince George's County Department of Permitting Inspection and Enforcement; Local Community Civic Associations; (Interaction with state, county and regulatory staff)
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$79	22
Other Project Costs		
Debt Service		
Total Cost	\$79	22
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

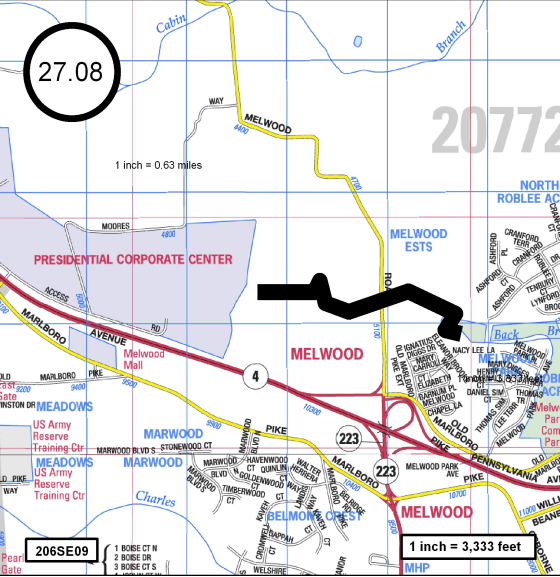
Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	378
Cost Estimate Last FY	828
Present Cost Estimate	850
Approved Request Last FY	122
Total Expense & Encumbrances	207
Approval Request Year 1	124

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	40%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	7,600
Capacity	3.2 MGD

H. Map



Konterra Town Center East Sewer

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-28.18		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Northeast Branch Branch 08;
Planning Areas	Northwestern Area PA 60;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	2,634	2,404		230	58	44			73	55	
Land											
Site Improvements & Utilities											
Construction	4,313	2,785		1,528	388	291			485	364	
Other	264			264	67	50			84	63	
Total	7,211	5,189		2,022	513	385			642	482	

C. Funding Schedule (000's)

Contribution/Other	7,211	5,189		2,022	513	385			642	482	
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 14,000 feet of 15-inch to 24-inch diameter sewer main, 240 feet of 24-inch diameter steel sleeve for a 16-inch diameter water main (W-93.01), and 240 feet of 48-inch diameter steel sleeve for a 24-inch diameter sewer. The project serves the Konterra Town Center East development which is located in the area bound by Interstate 95, the Intercounty Connector and Konterra Drive.

JUSTIFICATION
 Letter of Findings DA4623Z07 (August 29, 2013).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditure and schedule projections shown in Block B are based upon information provided by the developer. Design and construction will be performed by the developer under a System Extension Permit. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Prince George's County Government;
 Coordinating Projects: W-93.01-Konterra Town Center East Water Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$252	21
Other Project Costs		
Debt Service		
Total Cost	\$252	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	833
Cost Estimate Last FY	6,897
Present Cost Estimate	7,211
Approved Request Last FY	503
Total Expense & Encumbrances	5,189
Approval Request Year 1	513

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	40%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	11,300
Capacity	7.95 MGD

H. Map



Broad Creek WWPS Augmentation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-43.02		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Broad Creek 11;
Planning Areas	South Potomac Sector PA 80;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	30,624	27,378	1,500	1,746	1,500	246					
Land	227	227									
Site Improvements & Utilities											
Construction	149,767	115,567	15,000	19,200	13,000	6,200					
Other	1,872		825	1,047	725	322					
Total	182,490	143,172	17,325	21,993	15,225	6,768					

C. Funding Schedule (000's)

WSSC Bonds	31,023	24,339	2,945	3,739	2,588	1,151					
SDC	151,467	118,833	14,380	18,254	12,637	5,617					

D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides for modifications to the Broad Creek Wastewater Pumping Station and Force Main system for conveying Broad Creek sewerage basin flows to the Piscataway Wastewater Treatment Plant. The Broad Creek WWPS Facility Plan included assessments of engineering, economic, environmental and local community impacts, and recommended the construction of a 48-inch diameter force main and capacity enhancing modifications at the pumping station. At the Piscataway WWTP a concrete storage facility was constructed in the upper existing polishing pond allowing intermittent storage of excess sewage until flows at the plant allow treatment. Implementation of this alternative was approved by the Environmental Protection Agency and the Maryland Department of the Environment (MDE). Construction costs shown above also provide for an emergency generator in the event of power outages. The emergency generators have been installed.</p> <p>JUSTIFICATION</p> <p>This project stems from the following litigation: Section V (Remedial Measures), Article 10, Section B.8 (Pump Stations - Broad Creek), Sanitary Sewer Overflows (SSO) Consent Order Decree (Civil Action PJM-04-3679), Judge Messite, December 7, 2005.</p> <p>The following plans/studies have been completed: Broad Creek Flow Monitoring and I/I Analysis (1996); Broad Creek SSES (1996 to 1999); Broad Creek I/I Analysis and SSES Phase II (2001 to 2005); Broad Creek Facility Plan, Delon Hampton & Associates, Inc. (January 2007); FY2012 Broad Creek WWPS Asset Management Plan, GHD, Inc. (March 2011).</p> <p>COST CHANGE</p> <p>Costs were increased for inflation and to address issues with yard piping and vault construction due to potentially high ground water at the site.</p> <p>OTHER</p> <p>The project scope has remained the same. The expenditures and schedule projections shown in Block B reflect the latest available estimates. Construction is being performed under four (4) contracts to expedite project completion. The National Park Service Permits, previously delaying the project, were obtained in April 2016. The final contract is in the construction phase.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Maryland State Highway Administration; Prince George's County Government; Maryland-National Capital Park & Planning Commission; National Park Service; Maryland Department of the Environment; Maryland Department of Natural Resources; Prince George's County Department of Environmental Resources; U.S. Army Corps of Engineers; U.S. Environmental Protection Agency, Region III;</p> <p>Coordinating Projects: Not Applicable</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$467	21
Other Project Costs		
Debt Service	\$2,018	21
Total Cost	\$2,485	21
Impact on Water and Sewer Rate	\$0.06	21

F. Approval and Expenditure Data (000's)

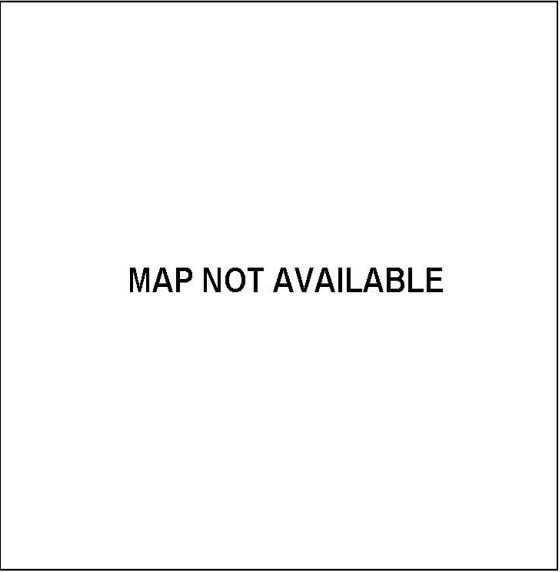
Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	80,850
Cost Estimate Last FY	175,971
Present Cost Estimate	182,490
Approved Request Last FY	17,805
Total Expense & Encumbrances	143,172
Approval Request Year 1	15,225

G. Status Information

Land Status	R/W acquired
Project Phase	Construction
Percent Complete	70%
Est Completion Date	FY 2020

Growth	83%
System Improvement	17%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Western Branch Facility Upgrade

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-57.92		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	Upper Marlboro & Vicinity PA 79;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	14,811	14,266	320	225	200	25					
Land											
Site Improvements & Utilities											
Construction	41,346	36,639	1,707	3,000	2,800	200					
Other	262		101	161	150	11					
Total	56,419	50,905	2,128	3,386	3,150	236					

C. Funding Schedule (000's)

WSSC Bonds	56,419	50,905	2,128	3,386	3,150	236					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of improvements at the Western Branch WWTP required to rehabilitate aging systems and to continue to meet all the terms of its NPDES discharge permit. Improvements include sludge thickener for waste activation, biosolids stabilization and storage facilities, a new scum removal system, raw sewage pump station upgrades, additional grit chambers, air blower replacements, HVAC, and electrical upgrades.

JUSTIFICATION
 The plant was originally designed in the 1970s. It is the only WSSC WWTP that does not utilize Biological Nitrogen Removal (BNR); instead, relying on the addition of methanol for nitrogen removal.
 Western Branch Facility Plan, Johnson, Mirmiran & Thompson (May 2005); ESP Project Number S-647.38, Western Branch WWTP Facility Plan; Western Branch Enhanced Nutrient Removal and Facility Upgrade Project - Evaluation Phase, Metcalf and Eddy (August 2007).

COST CHANGE
 Total project cost has increased based on the updated construction supervision cost estimate due to construction schedule delays.

OTHER
 The project scope has remained the same. Updated schedule and expenditure projections are shown in Block B. FY 19 and FY 20 cost projections are included as a placeholder for site restoration and projected system reliability and integration costs. The MDE construction permit was obtained in March 2011. The NTP was issued on October 31, 2011. This project is financed through a low interest loan from the MDE's Water Quality Administration State Revolving Loan Program.

COORDINATION
 Coordinating Agencies: Prince George's County Government; Maryland Department of the Environment; Prince George's County Department of Environmental Resources;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$3,670	21
Total Cost	\$3,670	21
Impact on Water and Sewer Rate	\$0.08	21

F. Approval and Expenditure Data (000's)

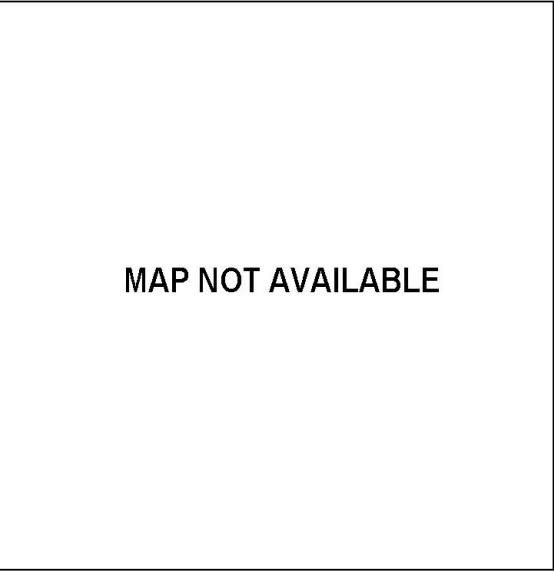
Date First in Program	FY 06
Date First Approved	FY 06
Initial Cost Estimate	6,325
Cost Estimate Last FY	53,950
Present Cost Estimate	56,419
Approved Request Last FY	1,995
Total Expense & Encumbrances	50,905
Approval Request Year 1	3,150

G. Status Information

Land Status	Not Applicable
Project Phase	Construction
Percent Complete	98%
Est Completion Date	FY 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	30.6 MGD

H. Map



Landover Mall Redevelopment

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-68.01		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Beaverdam Branch 3;
Planning Areas	Prince George's County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	227	24	35	168	76	46	13	11	11	11	
Land											
Site Improvements & Utilities											
Construction	911	0	51	860	461	299	25	25	25	25	
Other	167		13	154	81	52	6	5	5	5	
Total	1,305	24	99	1,182	618	397	44	41	41	41	

C. Funding Schedule (000's)

Contribution/Other	1,305	24	99	1,182	618	397	44	41	41	41
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D. Description & Justification

DESCRIPTION
 This project provides 2,500 feet of 27-inch, 300 feet of 24-inch, and 1,450 feet of 18-inch diameter sewer main to provide service for the Landover Mall Redevelopment.

JUSTIFICATION
 Hydraulic Planning Analysis (May 2009).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditures and schedule projections shown in Block B are based on information provided by the developer. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

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

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$74	25
Other Project Costs		
Debt Service		
Total Cost	\$74	25
Impact on Water and Sewer Rate		

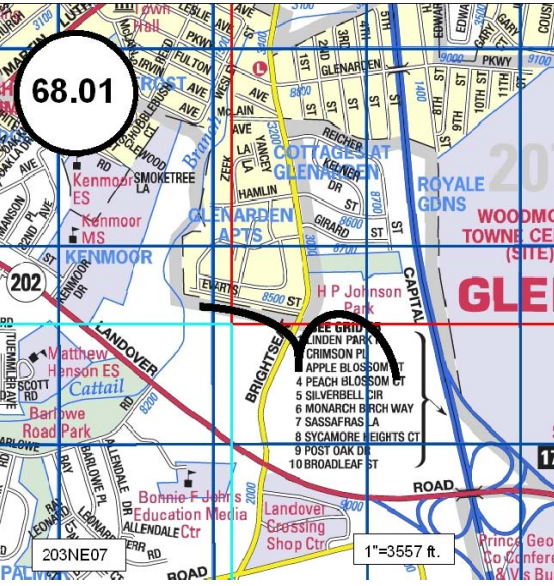
F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	1,108
Cost Estimate Last FY	1,278
Present Cost Estimate	1,305
Approved Request Last FY	605
Total Expense & Encumbrances	24
Approval Request Year 1	618

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	20%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	3,347
Capacity	5.63 MGD

H. Map



Brandywine Woods Wastewater Pumping Station

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-75.19		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Mattawoman 21;
Planning Areas	Cedarville & Vicinity PA 85B;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	58	7	26	25	14	11					
Land											
Site Improvements & Utilities											
Construction	217	0	128	89	44	45					
Other	40		23	17	9	8					
Total	315	7	177	131	67	64					

C. Funding Schedule (000's)

Contribution/Other	315	7	177	131	67	64					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of a new wastewater pumping station to provide service to the Brandywine Woods Property.

JUSTIFICATION
 Hydraulic Planning Analysis (March 2006).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditures and schedule projections shown in Block B are based on information provided by the developer. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Prince George's County Department of Permitting Inspection and Enforcement; Prince George's County Government;
 Coordinating Projects: S-75.20-Brandywine Woods WWPS Force Main;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service		
Total Cost		
Impact on Water and Sewer Rate		

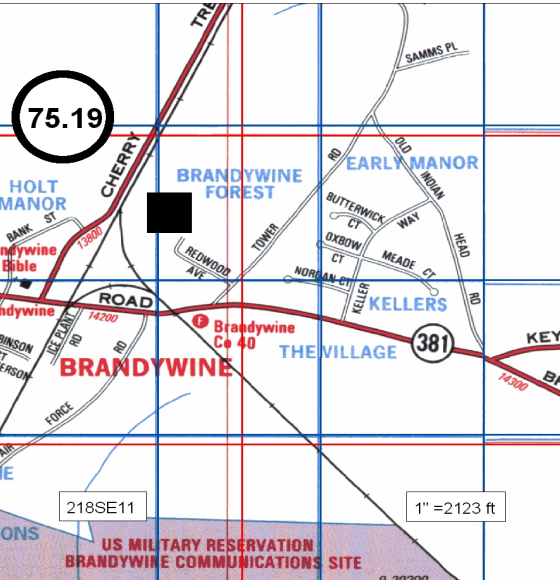
F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	247
Cost Estimate Last FY	308
Present Cost Estimate	315
Approved Request Last FY	65
Total Expense & Encumbrances	7
Approval Request Year 1	67

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	100%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	490
Capacity	0.28 MGD

H. Map



Brandywine Woods WWPS Force Main

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-75.20		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Mattawoman 21;
Planning Areas	Cedarville & Vicinity PA 85B;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	28	13	7	8	8	0					
Land											
Site Improvements & Utilities											
Construction	81	2	29	50	50	0					
Other	14		5	9	9	0					
Total	123	15	41	67	67	0					

C. Funding Schedule (000's)

Contribution/Other	123	15	41	67	67	0					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 1,600 feet of 4-inch diameter force main from the Brandywine Woods Wastewater Pumping Station to provide service to the Brandywine Woods Property.

JUSTIFICATION
 Hydraulic Planning Analysis (March 2006).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditures and schedule projections shown in Block B are based on information provided by the developer. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Prince George's County Department of Permitting Inspection and Enforcement; Prince George's County Government;
 Coordinating Projects: S-75.19-Brandywine Woods Wastewater Pumping Station;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$28	20
Other Project Costs		
Debt Service		
Total Cost	\$28	20
Impact on Water and Sewer Rate		

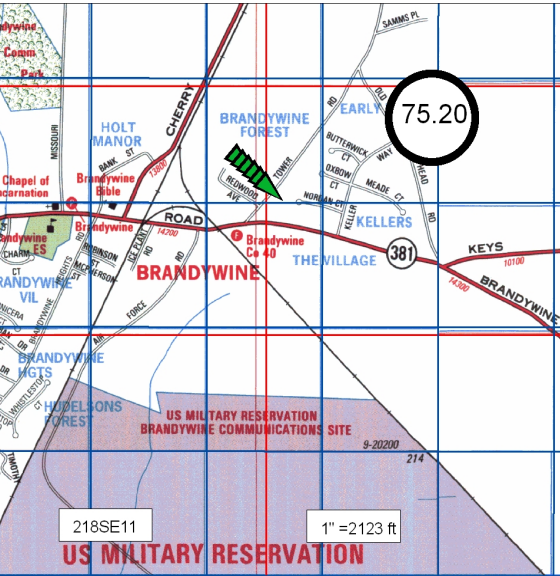
F. Approval and Expenditure Data (000's)

Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	100
Cost Estimate Last FY	121
Present Cost Estimate	123
Approved Request Last FY	38
Total Expense & Encumbrances	15
Approval Request Year 1	67

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	100%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	490
Capacity	0.28MGD

H. Map



Mattawoman WWTP Upgrades

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-75.21		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Mattawoman 21;
Planning Areas	Piscataway & Vicinity PA 84; Cedarville &

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	19,449		5,911	12,958	4,049	2,783	1,928	1,897	1,897	404	580
Other											
Total	19,449		5,911	12,958	4,049	2,783	1,928	1,897	1,897	404	580

C. Funding Schedule (000's)

WSSC Bonds	19,449		5,911	12,958	4,049	2,783	1,928	1,897	1,897	404	580
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D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides for the WSSC's share of the evaluation, design, and construction of capital projects to upgrade and repair Charles County's Mattawoman Interceptor and Wastewater Treatment Plant. Current projects include: Influent/Effluent Pump Station Upgrades, Plant Automation, Electrical System Replacement, In-Plant Water System Improvement, Flow Equalization Study, Clarifier and Thickener Upgrades, Belt Filter Press Replacement, SCADA System Upgrade and Effluent PS Force Main Improvements.</p> <p>JUSTIFICATION</p> <p>Prior evaluations of equipment and structural facilities concluded the need existed for various upgrade, repair, and replacement projects. A further thorough evaluation of the Head Works, Influent/Effluent Pumps, and Influent Wet Well was also deemed necessary in order to identify the specific scope of hydraulic, control, capacity, and safety upgrades to the Influent/Effluent Pump Station. Plant automation will improve the efficiency of operation and maintenance, thereby minimizing resource utilization and avoiding costs.</p> <p>Agreement dated October 22, 1980; Agreement Addendum No. 1 dated April 15, 2004.</p> <p>COST CHANGE</p> <p>The expenditure schedule reflects the latest information provided by Charles County. A new project has been added "Primary Clarifiers #1-4 Demolition" and the estimated costs for the Influent/Effluent Pump Station Evaluation and the MWWTP Clarifier and Thickener Repairs have increased.</p> <p>OTHER</p> <p>The project scope has remained the same. Under the terms of the 1980 Agreement with Charles County, the WSSC has the use of 3 MGD of the WWTP's capacity, and pays a proportionate share of the capital expenses. As new upgrade sub-projects are added, the associated costs will be added to this project. Beginning in FY 2007, the total plant capacity increased to 20 MGD, and WSSC's proportionate cost share decreased to 15% under the terms of Agreement Addendum No.1. This project is expected to continue indefinitely. Life to date expenditures for this project are approximately \$6 million.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Charles County Government; (Depts of Utilities, Planning & Growth Management, and Fiscal Services)</p> <p>Coordinating Projects: Not Applicable</p>
--

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$1,265	
Total Cost	\$1,265	
Impact on Water and Sewer Rate	\$0.03	

F. Approval and Expenditure Data (000's)

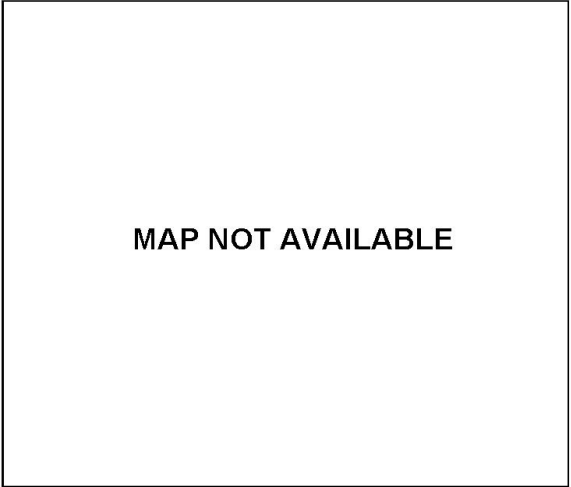
Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	760
Cost Estimate Last FY	16,156
Present Cost Estimate	19,449
Approved Request Last FY	3,633
Total Expense & Encumbrances	
Approval Request Year 1	4,049

G. Status Information

Land Status	Not Applicable
Project Phase	On-Going
Percent Complete	
Est Completion Date	On-Going

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	3 MGD for WSSC in Total Plant Capacity of 20 MGD

H. Map



Parkway North Substation Replacement

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-77.20		Add

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Parkway 17;
Planning Areas	South Laurel-Montpelier PA 62;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	642	15	195	432	300	132					
Land											
Site Improvements & Utilities											
Construction	3,710		830	2,880	2,000	880					
Other	651		150	501	350	151					
Total	5,003	15	1,175	3,813	2,650	1,163					

C. Funding Schedule (000's)

WSSC Bonds	5,003	15	1,175	3,813	2,650	1,163					
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D. Description & Justification

<p>DESCRIPTION This project provides for the planning, design and construction of electrical upgrades for the Parkway WWTP including the full replacement of the North Substation, Motor Control Cabinet #1 (MCC1) and a 480 volt substation. Temporary facilities must be provided to maintain operation of the treatment plant during construction.</p> <p>JUSTIFICATION Asset Management Program, CPNV #48, Business Case recommendation requires immediate replacement of electrical equipment to maintain level of services at the waste water treatment plant.</p> <p>COST CHANGE Not applicable.</p> <p>OTHER The present project scope was developed for the FY 2019 CIP and has a total estimated cost of \$5,003,000. The schedule and expenditure projections shown in Block B above are Order of Magnitude level estimates and may change based upon site conditions and design constraints. Preliminary planning work is currently underway under ESP project S-627.15, Parkway North Substation.</p> <p>COORDINATION Coordinating Agencies: Maryland Department of the Environment; Prince George's County Government; Prince George's County Department of Environmental Resources; Coordinating Projects:</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$325	21
Total Cost	\$325	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

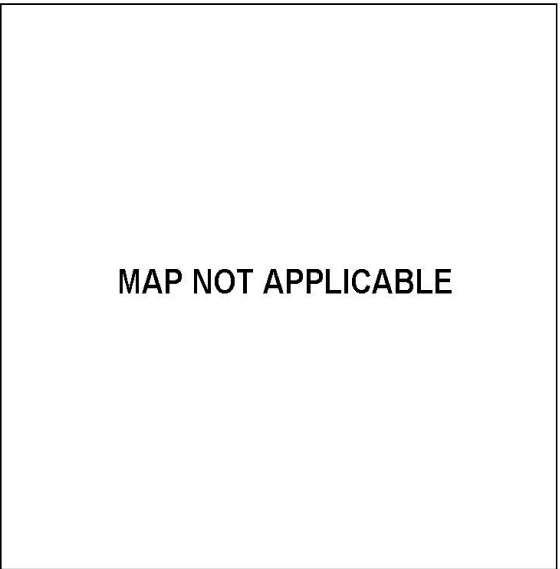
Date First in Program	FY19
Date First Approved	FY19
Initial Cost Estimate	5,003
Cost Estimate Last FY	
Present Cost Estimate	5,003
Approved Request Last FY	
Total Expense & Encumbrances	15
Approval Request Year 1	2,650

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Planning
Percent Complete	10%
Est Completion Date	March, 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Karington Subdivision Sewer

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-86.19		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	Mitchellville & Vicinity PA 74A;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	107	87	13	7	4	3					
Land											
Site Improvements & Utilities											
Construction	491	15	170	306	153	153					
Other	74		27	47	24	23					
Total	672	102	210	360	181	179					

C. Funding Schedule (000's)

Contribution/Other	672	102	210	360	181	179					
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D. Description & Justification

DESCRIPTION
This project provides for the planning, design, and construction of 970 feet of 15-inch and 20-inch diameter sewer main to serve the Karington Subdivision.

JUSTIFICATION
Karington Hydraulic Planning Analysis (May 2006).

COST CHANGE
Not applicable.

OTHER
The project scope has remained the same. The expenditures and schedule projections shown in Block B are based on information provided by the developer. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment;
Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$17	21
Other Project Costs		
Debt Service		
Total Cost	\$17	21
Impact on Water and Sewer Rate		

F. Approval and Expenditure Data (000's)

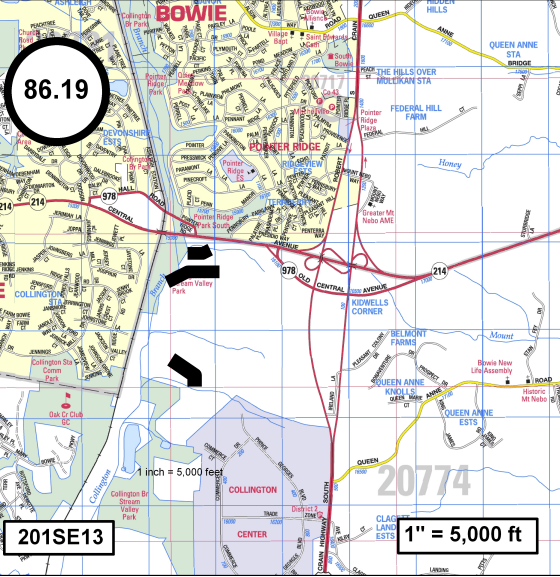
Date First in Program	FY 08
Date First Approved	FY 08
Initial Cost Estimate	801
Cost Estimate Last FY	655
Present Cost Estimate	672
Approved Request Last FY	176
Total Expense & Encumbrances	102
Approval Request Year 1	181

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	100%
Est Completion Date	Developer Dependent

Growth	100%
System Improvement	
Environmental Regulation	
Population Served	2,102
Capacity	1.7 to 2.87 MGD

H. Map



Piscataway WWTP Facility Upgrades

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-96.14		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Piscataway Creek 4;
Planning Areas	Accokeek PA 83;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	20,242	8,241	2,804	9,197	2,898	3,491	1,730	678	400		
Land											
Site Improvements & Utilities											
Construction	116,622		1,282	115,340	26,735	34,215	21,899	22,444	10,047		
Other	6,430		204	6,226	1,482	1,885	1,181	1,156	522		
Total	143,294	8,241	4,290	130,763	31,115	39,591	24,810	24,278	10,969		

C. Funding Schedule (000's)

WSSC Bonds	143,294	8,241	4,290	130,763	31,115	39,591	24,810	24,278	10,969		
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D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides for the planning, design, and construction of improvements at the Piscataway WWTP Facility required to prevent plant overflows or permit violations which can occur during significant rainfall events. The work will remove bottlenecks within the plant process trains, address the physical capacity of the system, and rehabilitate existing equipment that has reached its expected service life ensuring the ability of the plant to achieve its permit-required level of service.</p> <p>JUSTIFICATION</p> <p>In the Asset Management Plan the condition assessment process identified several areas of concern within the plant process trains that could potentially result in capacity or level of service failures during significant rainfall events. The Facility Plan provided a more detailed study that included the development of a plant-wide hydraulic and biological process model, CCTV inspection of buried piping, analysis of soil borings, and Level 3 Condition Assessment of electrical systems. Projects within the Facility Plan were justified and prioritized using WSSC's Asset Management Strategy guidelines, based on life cycle costs, business risk exposure, and needs prioritization.</p> <p>FY 2012 Piscataway WWTP Asset Management Plan, GHD, Inc. (March 2011); Piscataway WWTP Facility Plan, AECOM (January 2014); FY 2019 Wastewater Treatment System Asset Management Plan (December 2016).</p> <p>COST CHANGE</p> <p>Cost estimates have increased for the required Electrical upgrades, the Raw Wastewater Pumping Station, and Secondary Clarifiers. The Plant Utility Water Upgrade has been moved from this project to the Piscataway WWTP Bio-Energy Project.</p> <p>OTHER</p> <p>The project scope has remained the same. Expenditure and schedule projections shown in Block B represent estimates at the 70% design stage for most projects, and may change based upon site conditions and design constraints. The Office of Asset Management has determined the priority of the recommended projects.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Prince George's County Government; Maryland Department of the Environment; Prince George's County Department of Environmental Resources; U.S. Army Corps of Engineers; Maryland Department of Natural Resources;</p> <p>Coordinating Projects: S-43.02-Broad Creek WWPS Augmentation; S-170.08-Septage Discharge Facility Planning & Implementation; S-103.02-Piscataway WWTP Bio-Energy Project;</p>
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E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$9,321	24
Total Cost	\$9,321	24
Impact on Water and Sewer Rate	\$0.21	24

F. Approval and Expenditure Data (000's)

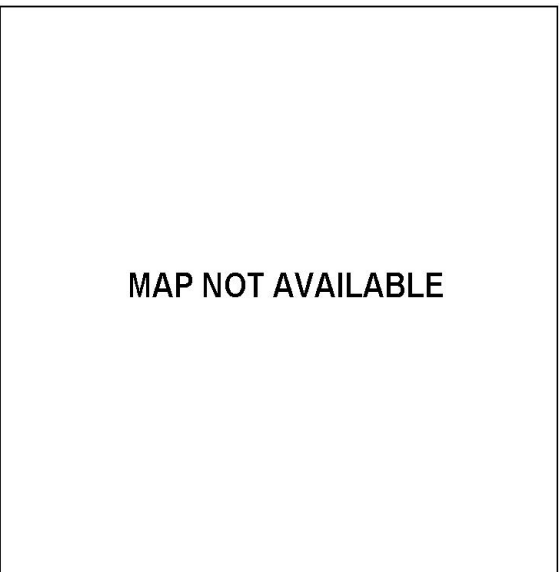
Date First in Program	FY 12
Date First Approved	FY 12
Initial Cost Estimate	66,396
Cost Estimate Last FY	118,156
Present Cost Estimate	143,294
Approved Request Last FY	6,993
Total Expense & Encumbrances	8,241
Approval Request Year 1	31,115

G. Status Information

Land Status	Not Applicable
Project Phase	Design
Percent Complete	70%
Est Completion Date	FY 2023

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	30 MGD

H. Map



Pleasant Valley Sewer Main, Part 2

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-131.05		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Piscataway Creek 4;
Planning Areas	Piscataway & Vicinity PA 84;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	171	43	59	69	52	10	7				
Land											
Site Improvements & Utilities											
Construction	597		114	483	290	133	60				
Other	109		26	83	51	22	10				
Total	877	43	199	635	393	165	77				

C. Funding Schedule (000's)

Contribution/Other	877	43	199	635	393	165	77				
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D. Description & Justification

<p>DESCRIPTION This project provides for the planning, design, and construction of 2,750 feet of 21-inch diameter sewer main to provide service to the Estates of Pleasant Valley and the Ridges III Subdivisions.</p> <p>JUSTIFICATION Estates of Pleasant Valley Hydraulic Planning Analysis (Amended March 2010).</p> <p>COST CHANGE Not applicable.</p> <p>OTHER The project scope has remained the same. Expenditure and schedule projections shown in Block B are based upon information provided by the developer. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.</p> <p>COORDINATION Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Maryland Department of the Environment; Prince George's County Department of Permitting Inspection and Enforcement; Coordinating Projects: S-131.07-Pleasant Valley Sewer Main, Part 1;</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$48	22
Other Project Costs		
Debt Service		
Total Cost	\$48	22
Impact on Water and Sewer Rate		

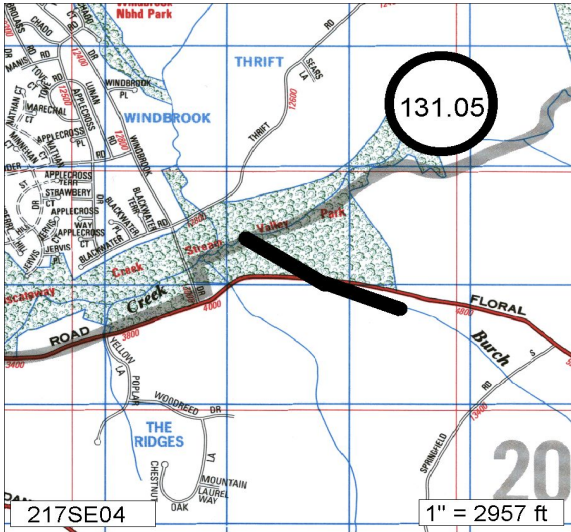
F. Approval and Expenditure Data (000's)

Date First in Program	FY 05
Date First Approved	FY 05
Initial Cost Estimate	586
Cost Estimate Last FY	849
Present Cost Estimate	877
Approved Request Last FY	385
Total Expense & Encumbrances	43
Approval Request Year 1	393

G. Status Information

Land Status	R/W acquired
Project Phase	Design
Percent Complete	60%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	2000
Capacity	3.5 MGD

H. Map



Pleasant Valley Sewer Main, Part 1

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-131.07		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Piscataway Creek 4;
Planning Areas	Accokeek PA 83;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	381	98	154	129	107	22					
Land											
Site Improvements & Utilities											
Construction	1,154		250	904	736	168					
Other	215		60	155	127	28					
Total	1,750	98	464	1,188	970	218					

C. Funding Schedule (000's)

Contribution/Other	1,750	98	464	1,188	970	218					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 10,000 feet of 15-inch and 18-inch diameter sewer main to serve The Estates at Pleasant Valley Subdivision.

JUSTIFICATION
 Estates of Pleasant Valley Hydraulic Planning Analysis (Amended March 2010).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditure and schedule projections shown in Block B are based upon information provided by the developer. The estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Potomac Electric Power Company; Prince George's County Government; Maryland-National Capital Park & Planning Commission;
 Coordinating Projects: S-131.05-Pleasant Valley Sewer Main, Part 2;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$174	21
Other Project Costs		
Debt Service		
Total Cost	\$174	21
Impact on Water and Sewer Rate		

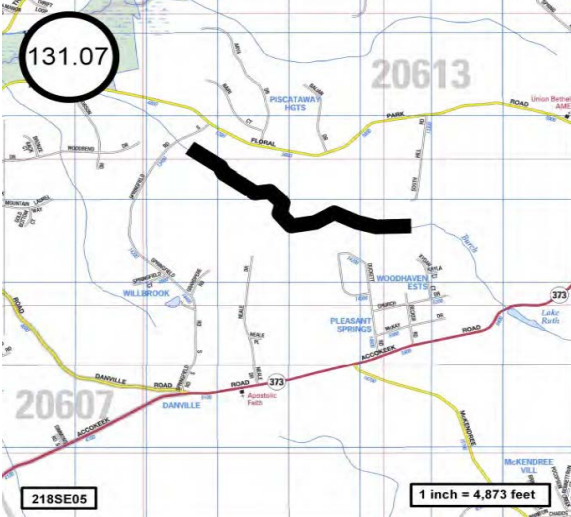
F. Approval and Expenditure Data (000's)

Date First in Program	FY 10
Date First Approved	FY 10
Initial Cost Estimate	1,303
Cost Estimate Last FY	1,670
Present Cost Estimate	1,750
Approved Request Last FY	951
Total Expense & Encumbrances	98
Approval Request Year 1	970

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	80%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	2,800
Capacity	1.7 to 2.2 MGD

H. Map



Fort Washington Forest No. 1 WWPS Augmentation

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-131.10		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Piscataway Creek 4;
Planning Areas	Piscataway & Vicinity PA 84;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	1,344	1,017	147	180	108	72					
Land											
Site Improvements & Utilities											
Construction	3,141	1,541	150	1,450	1,000	450					
Other	290		45	245	167	78					
Total	4,775	2,558	342	1,875	1,275	600					

C. Funding Schedule (000's)

WSSC Bonds	4,775	2,558	342	1,875	1,275	600					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of the rehabilitation work required for the Fort Washington Forest No.1 WWPS and to upsize a 900 foot segment of failing 4-inch diameter force main to an 8-inch diameter force main. The rehabilitation will more than double the pumping station's capacity. In addition, approximately 2,700 feet of downstream 8-inch diameter gravity sewer will be upsized to 12-inch diameter to accommodate the additional flow. At the Fort Washington Estates WWPS facility, improvements will be planned, designed and constructed to improve its reliability and the existing force main and downstream gravity sewer will be upsized to accommodate the additional flow.

JUSTIFICATION
 There have been additional overflows at both pumping stations since the original 2005 study. On January 22, 2013, the EPA approved a 180-Day Report, making Fort Washington Forest No. 1 part of the Consent Decree. On July 2, 2015, the 180-Day Report and Schedule for Corrective Measures at Fort Washington Estates WWPS was approved by the EPA. July 2005 Study by Ken Dixon, Planning Group, outlined work to be done on the Fort Washington Forest No. 1 WWPS and Fort Washington Estates WWPS.

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditure and schedule projections shown above may change based upon site conditions and actual bid for Fort Washington Estates WWPS. Planning began in March 2014 for the Fort Washington Estates WWPS with construction to start in FY 2018. Land costs are included in WSSC project S-203.00.

COORDINATION
 Coordinating Agencies: Prince George's County Government; Maryland-National Capital Park & Planning Commission; Prince George's County Department of Environmental Resources; U.S. Environmental Protection Agency, Region III; Maryland Department of the Environment;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$127	21
Other Project Costs		
Debt Service	\$311	21
Total Cost	\$438	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

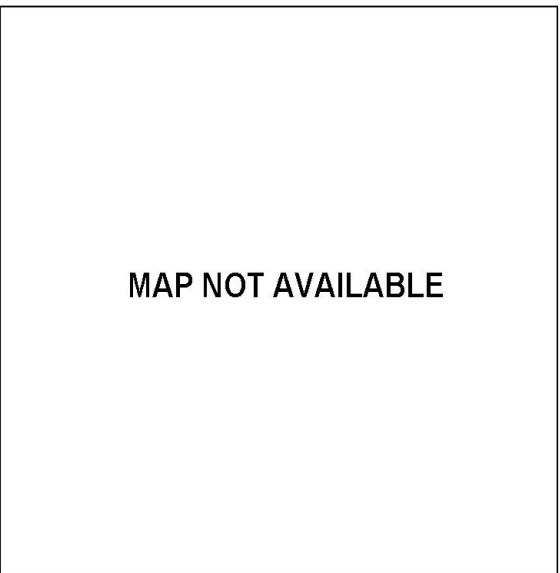
Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	1,454
Cost Estimate Last FY	4,887
Present Cost Estimate	4,775
Approved Request Last FY	1,470
Total Expense & Encumbrances	2,558
Approval Request Year 1	1,275

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	70%
Est Completion Date	March 2020

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	825
Capacity	0.7 MGD

H. Map



PROJECTS PENDING CLOSE-OUT
Prince George's Sewer Projects
(costs in thousands)

Project Number	Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'17	Estimated Expenditures FY'18	Remarks
	S-57.94	Western Branch WWTP Incinerator Emissions Control	\$2,312	\$2,312	\$0	Project no longer needed.
		TOTALS	\$2,312	\$2,312	\$0	

Section 7 - Information Only Projects

FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

INFORMATION ONLY PROJECTS

AGENCY NUMBER	PROJECT NAME	EST. TOTAL COST	EXPEND THRU 17	EST. EXPEND 18	TOTAL SIX YEARS	EXPENDITURE SCHEDULE						BEYOND SIX YEARS	PAGE NUM
						YR 1 19	YR 2 20	YR 3 21	YR 4 22	YR 5 23	YR 6 24		
W-1.00	Water Reconstruction Program	873,017	0	121,472	751,545	118,722	121,231	123,860	126,646	129,222	131,864	0	7-2
S-1.01	Sewer Reconstruction Program	486,081	0	63,029	423,052	64,684	68,863	70,241	71,646	73,078	74,540	0	7-3
A-102.00	Engineering Support Program	124,000	0	14,000	110,000	16,000	18,000	18,000	18,000	20,000	20,000	0	7-4
A-103.00	Energy Performance Program	33,398	0	18,189	15,209	9,134	6,075	0	0	0	0	0	7-5
A-105.00	Water Storage Facility Rehabilitation Program	56,000	0	8,000	48,000	8,000	8,000	8,000	8,000	8,000	8,000	0	7-7
A-107.00	Specialty Valve Vault Rehabilitation Program	37,136	25,071	4,879	5,823	1,442	1,124	928	910	892	527	1,363	7-8
A-109.00	Advanced Metering Infrastructure	93,930	875	7,089	85,966	27,694	27,694	27,694	2,884	0	0	0	7-9
A-145.01	Brighton Dam Operations & Maintenance Facility and Site Improvements	6,954	946	5,003	1,005	983	22	0	0	0	0	0	7-10
S-300.01	D'Arcy Park North Relief Sewer	892	90	259	543	274	269	0	0	0	0	0	7-11
	Projects Pending Close-Out	2,871	2,871	0	0	0	0	0	0	0	0	0	7-12
TOTAL INFORMATION ONLY PROJECTS		1,714,279	29,853	241,920	1,441,143	246,933	251,278	248,723	228,086	231,192	234,931	1,363	

Water Reconstruction Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
W-1.00		Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	142,409		19,137	123,272	19,387	19,891	20,466	20,721	21,176	21,631	
Land	0		0								
Site Improvements & Utilities											
Construction	629,677		86,843	542,834	85,835	87,553	89,313	91,529	93,358	95,246	
Other	100,931		15,492	85,439	13,500	13,787	14,081	14,396	14,688	14,987	
Total	873,017		121,472	751,545	118,722	121,231	123,860	126,646	129,222	131,864	

C. Funding Schedule (000's)

WSSC Bonds	873,017	121,472	751,545	118,722	121,231	123,860	126,646	129,222	131,864
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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'19 (including overhead) are as follows: design and construction of main replacement and associated water house connection renewals, 45 miles - \$103.0M; cathodic protection - \$1.0M; design and construction of large water service replacements - \$8.0M; emergency contracts at depots - \$6.7M. 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 2019 Enterprise Asset Management Plan, the number of miles of water main replacement was reduced from 55 miles to 45 miles per year. Flow studies, water system modeling, and field surveys are routinely conducted. Water Main Condition Assessment, 1915-1998; Analysis and Recommendations by the Water Main Reconstruction Work Group (June, 1999). FY2018 Buried Water Asset Systems Asset Management Plan, (December 2015) identifies the business risk exposure of the water distribution system. FY2019 Enterprise Asset Management Plan (May 2017)

COST CHANGE
 Overall program costs increased for inflation, to reflect higher construction unit costs due to requirements to fill or remove abandoned pipe, and to provide dedicated funding at each depot for emergency/urgent pipe replacements.

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'16 summarize the magnitude of the reconstruction effort: 1,722 miles rehabilitated or replaced; 176 large water service/meters replaced. It is anticipated water reconstruction activity will be a perpetual element of future work programs.

COORDINATION
 Coordinating Agencies: 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; Local Community Civic Associations;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$56,791	25
Total Cost	\$56,791	25
Impact on Water and Sewer Rate	\$1.25	25

F. Approval and Expenditure Data (000's)

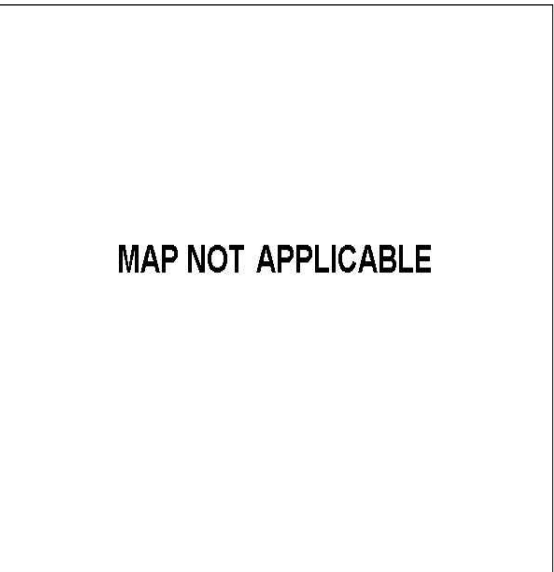
Date First in Program	
Date First Approved	
Initial Cost Estimate	
Cost Estimate Last FY	833,342
Present Cost Estimate	873,017
Approved Request Last FY	111,956
Total Expense & Encumbrances	
Approval Request Year 1	118,722

G. Status Information

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

Growth	
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Sewer Reconstruction Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-1.01		Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	106,635		13,666	92,969	14,262	15,124	15,427	15,735	16,050	16,371	
Land											
Site Improvements & Utilities											
Construction	330,838		43,060	287,778	43,954	46,853	47,790	48,746	49,720	50,715	
Other	48,608		6,303	42,305	6,468	6,886	7,024	7,165	7,308	7,454	
Total	486,081		63,029	423,052	64,684	68,863	70,241	71,646	73,078	74,540	

C. Funding Schedule (000's)

WSSC Bonds	486,081		63,029	423,052	64,684	68,863	70,241	71,646	73,078	74,540
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D. Description & Justification

DESCRIPTION
 This program funds a comprehensive sewer system rehabilitation program in residential areas. The main component of this program is the rehabilitation and/or repair of sewer mains less than 15-inches in diameter and sewer house connections. The program addresses infiltration and inflow control, exposed pipe problems, and future capacity needs for the basin. The rehabilitation and repair funded by this program includes the rehabilitation and repair recommended by comprehensive basin studies as well as that resulting from sewer systems evaluations, line blockage assessments, field surveys, and closed circuit TV inspections. This program does not include funding for any major capital projects (e.g. CIP size relief or replacement sewers) that may result from a comprehensive basin study. These are funded separately in the CIP. * EXPENDITURES FOR SEWER RECONSTRUCTION ARE EXPECTED TO CONTINUE INDEFINITELY.

JUSTIFICATION
 The work units and associated costs are based on our historical experience with regards to timing of design and construction work and availability of authorized contractors for proprietary rehabilitation techniques. The program's projected work units and expenditure levels for FY'18 (including overhead) are as follows: 20 miles of mainline construction - \$32.1M; 6 miles of lateral line construction and associated sewer house connection renewals - \$25.5M; emergency repairs - \$2.9M. Note: The specific mix and type of sewer reconstruction may vary in any given year depending on identified system defects.

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. WSSC FY2019 Buried WasteWater Asset Systems Asset Management Plan (December 2016).

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.

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. The Consent Decree between WSSC, Maryland Department of the Environment (MDE), and the EPA was entered into on December 7, 2005. WSSC 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'16 summarize the magnitude of this reconstruction effort: sewer main reconstruction, 442 miles; and sewer house connection renewals, 20,402. It is anticipated that sewer reconstruction activity will be a perpetual element of future work programs.

COORDINATION
 Coordinating Agencies: Maryland State Highway Administration; Montgomery County Department of Public Works and Transportation; Montgomery County Government; (including local municipalities where work is to be performed); Prince George's County Government; (including local municipalities where work is to be performed); Maryland Department of the Environment; (SSO Consent Decree Compliance); Prince George's County Department of Permitting Inspection and Enforcement; U.S. Environmental Protection Agency, Region III; (SSO Consent Decree Compliance); Local Community Civic Associations;

Coordinating Projects: S-170.09-Trunk Sewer Reconstruction Program;

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$2,297	25
Other Project Costs		
Debt Service	\$31,620	25
Total Cost	\$33,917	25
Impact on Water and Sewer Rate	\$0.78	25

F. Approval and Expenditure Data (000's)

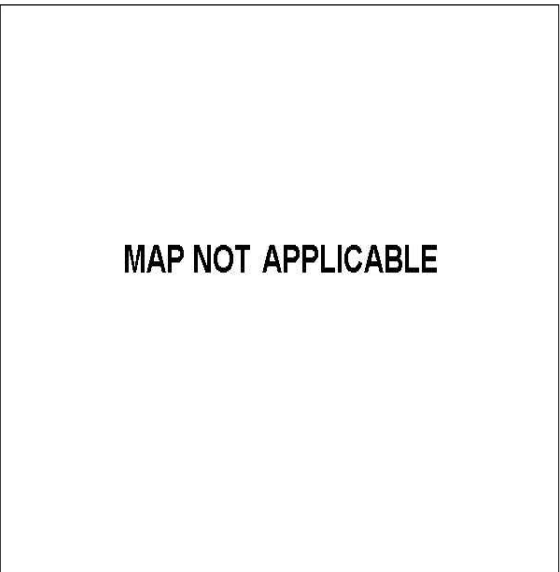
Date First in Program	
Date First Approved	
Initial Cost Estimate	
Cost Estimate Last FY	465,315
Present Cost Estimate	486,081
Approved Request Last FY	63,114
Total Expense & Encumbrances	
Approval Request Year 1	64,684

G. Status Information

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

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Engineering Support Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-102.00		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	124,000		14,000	110,000	16,000	18,000	18,000	18,000	20,000	20,000	
Other											
Total	124,000		14,000	110,000	16,000	18,000	18,000	18,000	20,000	20,000	

C. Funding Schedule (000's)

WSSC Bonds	124,000		14,000	110,000	16,000	18,000	18,000	18,000	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 the WSSC. EXPENDITURES FOR ENGINEERING SUPPORT ARE EXPECTED TO CONTINUE INDEFINITELY.

JUSTIFICATION
 ESP projects are identified primarily through the WSSC'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 the WSSC Six-Year Capital Improvements Program or projects to serve new development.

Asset Management Implementation Plan, Stearns & Wheler (April 2008).

COST CHANGE
 The cost schedule above no longer shows operating costs. All operating costs are now reflected in the appropriate organization budget. The annual capital funding level has been increased based upon higher projected needs for facilities requiring rehabilitation.

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		
Maintenance		
Other Project Costs		
Debt Service	\$8,066	25
Total Cost	\$8,066	25
Impact on Water and Sewer Rate	\$0.18	25

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	125,000
Present Cost Estimate	124,000
Approved Request Last FY	18,000
Total Expense & Encumbrances	
Approval Request Year 1	16,000

G. Status Information

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

Growth	
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Energy Performance Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-103.00		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	5,247		1,466	3,781	3,281	500					
Land											
Site Improvements & Utilities											
Construction	25,115		15,069	10,046	5,023	5,023					
Other	3,036		1,654	1,382	830	552					
Total	33,398		18,189	15,209	9,134	6,075					

C. Funding Schedule (000's)

WSSC Bonds	32,198	17,674	14,524	8,619	5,905					
Contribution/Other	1,200	515	685	515	170					

D. Description & Justification

DESCRIPTION

This program provides for the engineering audit, design, construction, and measurement and verification necessary to replace and upgrade energy consuming equipment and systems at major Commission facilities. All projects included in the program will provide a reduction in energy and energy-related costs (electricity, fuel oil, natural gas, or other fuel). The program will maintain or enhance existing operating conditions and reliability while continuing to meet all permit requirements and ensuring a continued commitment to environmental stewardship at WSSC sites. Energy conservation measures may include, but are not limited to, the replacement or upgrade of water and wastewater process equipment, aeration equipment, mixers, piping, valves and motors, sludge dewatering/thickening equipment, grit removal, effluent disinfection systems, wastewater pumps, water pump/valve/motor replacement and rebuild, pump instrumentation, flow metering, power measurement, incinerator upgrades, peak shaving and backup power generation systems, variable speed drives, HVAC equipment/systems, and lighting. A baseline is established for each energy conservation measure to identify energy usage and costs before the energy conservation measures (equipment upgrades) are implemented. After all construction is completed and accepted by the WSSC, the combined baseline for all energy conservation measures will be compared annually to the actual energy savings to quantify the savings. The program will be completed in multiple phases. Additional details on each phase are included in the "Justification" section below.

JUSTIFICATION

Phases I-A and I-B of the Energy Performance Program were awarded to Constellation Energy Projects and Services (CEPS) in March 2001. Phase I-A included detailed engineering audits, supply analysis, engineering, and planning of equipment and operations upgrades to develop an energy efficient and guaranteed savings program Commission-wide. The Phase II-A implementation project, awarded in December 2002 and completed in May 2006, included detailed design, construction, maintenance, savings monitoring, and energy/energy-related savings guarantee at the Western Branch, Parkway, Piscataway, and Damascus WWTPs and the RGH Office Building. The Phase II-B implementation project was awarded to CEPS in August 2006, and included detailed design, construction, maintenance, savings monitoring, and energy/energy-related savings guarantee for incinerator upgrades at the Western Branch WWTP, backup engine-generation system at the Seneca WWTP, and the addition of smaller, more efficient pumps at the Anacostia No. 2 WWPS to handle average dry daily flows. The construction of the Seneca and Anacostia components were completed in October 2008. Incinerator upgrades at the Western Branch WWTP were completed in January 2011. Projects included in Phases II-A and II-B were guaranteed by CEPS to reduce energy-related costs. The guaranteed reduction included annual avoided energy costs as well as operations and maintenance, chemicals, and biosolids disposal cost savings. CEPS was responsible to pay the WSSC for any yearly shortfall if the total guaranteed savings figure was not achieved. If the actual savings exceeded the guaranteed amount, then WSSC would have retained the savings on a yearly basis. The energy savings for projects completed under Phase II-A and II-B have surpassed the contract's guaranteed amount of \$1,000,000 per year.

Phase II-C, awarded in March 2004, included the supply of electricity generation and transmission for a period of 15 years. Phase II-C was amended in December 2006 to include 30% of generation from renewable wind power at a fixed price for a 10-year period under a Power Purchase Agreement (PPA), starting in 2008. Phase II-C, including the amendment for wind energy, did not involve any capital funds.

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$2,095	21
Total Cost	\$2,095	21
Impact on Water and Sewer Rate	\$0.05	21

F. Approval and Expenditure Data (000's)

Date First in Program	FY 03
Date First Approved	FY 03
Initial Cost Estimate	22,200
Cost Estimate Last FY	34,288
Present Cost Estimate	33,398
Approved Request Last FY	18,249
Total Expense & Encumbrances	
Approval Request Year 1	9,134

G. Status Information

Land Status	Public/Agency owned land
Project Phase	On-Going
Percent Complete	
Est Completion Date	(See "Specific Data" for details.)

Growth	
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map

MAP NOT APPLICABLE

Energy Performance Program

Phase I-D, awarded to Energy Systems Group (ESG) in March 2009, provided for instrumentation, pump replacement, pump rebuild, and valve and piping modifications at the Raw Water Pumping and Main Zone Pumping Stations located within the Potomac Water Filtration Plant (WFP). Following completion of an initial engineering analysis and additional pump tests, the Commission accepted ESG's Phase II-D proposal in December 2010 for the rehabilitation of 5 raw water (RW) pumps and 1 Main Zone (MZ) pump, reconditioning of electric motors for the 6 pumps, new instrumentation for all the RW, MZ, and High Zone (HZ) pumps, commissioning, training, energy savings guarantee, and measurement and verification of energy savings for 10 years. Phase II-D total program cost (over 10 years) will be 100% paid from guaranteed energy savings, avoid future capital expenditures, and improve plant reliability. Construction was completed in April 2013. PEPCO contributed \$465,000 in capital rebates over the two-year construction period as part of its Commercial & Industrial Energy Efficiency Program. The remaining pumps in the Main and High Zones Pumping Stations (as well as in the Raw Water Zone Pumping Station) are 30-50 years old and will have reached the end of their useful life in the next 5-10 years. New instrumentation included in Phase II-D (power monitors to measure amperage, voltage, power factor, kW, and discharge pressure transmitters for the RW pumps and differential pressure transmitters for the MZ and HZ pumps) will more accurately monitor and track pump efficiency, allowing WSSC to identify and prioritize the replacement of additional pumps, motors, and variable frequency drives based upon efficiency and reliability data.

Phase II-E provides for the supply of on-site generated photo-voltaic (PV) solar power at a rate competitive with conventional or "brown" power. A Solar PV Study completed in May 2010 concluded that the optimum form of constructing a Solar PV System at WSSC sites was through a Power Purchase Agreement (PPA), similar to WSSC's existing Wind Farm Agreement. PPA allows for tax benefits, shorter lead time, lower capital costs, and third party responsibility for operations, maintenance and repair. Under this arrangement, the WSSC negotiated a long-term (20 year) agreement with solar power provider Washington Gas Energy Systems to buy electricity at a fixed rate/kWh with a provision for annual escalation. Renewable Energy Credits (RECs) are transferred to the solar provider (as part of the fixed electricity price) to generate the revenue required for the solar provider to offer a low enough rate to the WSSC that would be competitive (lower than brown power). Under the agreement, the entire capital cost of the Solar PV System is the responsibility of the solar provider. The contract was awarded to Standard Solar and Washington Gas Energy Services in October 2012. Construction of the solar arrays at Seneca and Western Branch was completed in September 2013, and both solar sites became operational on October 1, 2013. Solar Phase 1 consisted of 2 MW each at Seneca and Western Branch WWTP; 21% of the total electric energy use at Seneca, and 12% of the total electric energy use at Western Branch. Solar Phase 2 is under review to add 2 MW at Seneca and 4 MW at two off-site locations, exported via aggregate net-energy metering, also via power purchase agreement.

The Phase I-F ESCO contract awarded in January 2014 provides for an engineering audit, feasibility, conceptual design and development of a comprehensive proposal for the programs and projects for energy efficient HVAC and lighting upgrades at field offices, upgrades to water distribution and wastewater pumps, and additional upgrades at water and wastewater treatment plants. Phase II-F will provide for the detailed design, construction, energy guarantee, maintenance, measurement and verification of energy efficiency programs and projects at various WSSC water and wastewater treatment facilities. The current Phase II-F proposal includes an Energy Conservation Measure for replacement of the Potomac WFP Main Zone Pump #1. Piscataway WWTP is recommended to receive new Train 1 & 2 aeration system blowers and diffusers, as well as new mixers. Parkway WWTP is recommended to receive new mixers. Additional proposed Energy Conservation Measures include lighting, building envelope upgrades, and HVAC controls tuning which have been recommended for WSSC's RGH Headquarters building and various field offices. Replacement of the Potomac WFP High Zone Pump drives No. 7 and 8 with variable frequency drives will be completed by WSSC outside of the Phase II-F contract. Previously included utility water pumps for Parkway WWTP and jockey blower for Damascus WWTP have been eliminated from consideration for Phase II-F. Eligible energy efficient rebates from BGE, Pepco and SMECO totaling approximately \$1.2 million and a \$1 million grant (pending final approval) from the Maryland Department of the Environment's Energy Water Infrastructure Program are expected to subsidize the construction cost of the project. It is anticipated that Phase II-F will be awarded in 2017.

Stearns & Wheeler, Western Branch Study BNR Modifications (Cyclical Aeration) (June 1996); Water Environment Federation, Energy Conservation for Wastewater Treatment Facilities (1997); EMA, WSSC Operations Branch Competitiveness Assessment (January 1997); EMA, WSSC Adopt Best Practices Report, Competitive Action Plan, TPO Work Team (June 1999); Stearns & Wheeler, Western Branch Aeration Study (July 2000); O'Brien & Gere Study, Potomac Filtration Plant Water Quality and Electric Reliability; Energy Information Administration (Department of Energy), Annual Energy Outlook 2002 with Projections to 2020 (December 2001); American Water Works Association Research Foundation, Best Practices for Energy Management; In-house Study (April 2002); The Khepra Group, Potomac Water Filtration Plant Pump Systems Evaluation (May 2008); Whitman, Requardt & Associates / Shah Associates, Solar Photovoltaic Concept Study for Potomac WFP and Western Branch WWTP (May 2010).

COST CHANGE

Not applicable.

OTHER

The project scope has remained the same. Estimated costs for annual maintenance, warranty, performance bond, and monitoring and verification (M&V) are included in the Operating Budget. The annual maintenance and M&V costs are estimated to continue for a period not exceeding 15 years. 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.

COORDINATION

Coordinating Agencies: Montgomery County Government; Prince George's County Government;
Coordinating Projects: W-73.19-Potomac WFP Outdoor Substation No. 2 Replacement; S-96.14-Piscataway WWTP Facility Upgrades;

Water Storage Facility Rehabilitation Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-105.00		Change

PDF Date	October 1, 2017
Date Revised	

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

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	56,000		8,000	48,000	8,000	8,000	8,000	8,000	8,000	8,000	
Other											
Total	56,000		8,000	48,000	8,000	8,000	8,000	8,000	8,000	8,000	

C. Funding Schedule (000's)

WSSC Bonds	56,000		8,000	48,000	8,000	8,000	8,000	8,000	8,000	8,000	
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D. Description & Justification

DESCRIPTION
 The Water Storage Facility Rehabilitation Program provides for the comprehensive rehabilitation of the Commission's 60 water storage facilities located throughout the WSSC service area holding 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. EXPENDITURES FOR WATER STORAGE REHABILITATION ARE EXPECTED TO CONTINUE INDEFINITELY.

JUSTIFICATION
 Currently, there are more than 21 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. It is expected that the old coatings will need to 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. Today's coating systems should extend the length of service between coatings from the current 10 years to somewhere between 15 to 20 years.

COST CHANGE
 Not applicable.

OTHER
 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'19 will address the following water storage facilities: Andrews, Bradley Hills, Brink, Greenbelt, North Woodside, Pointer Ridge and Wall Lane.

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		
Maintenance		
Other Project Costs		
Debt Service	\$3,643	25
Total Cost	\$3,643	25
Impact on Water and Sewer Rate	\$0.08	25

F. Approval and Expenditure Data (000's)

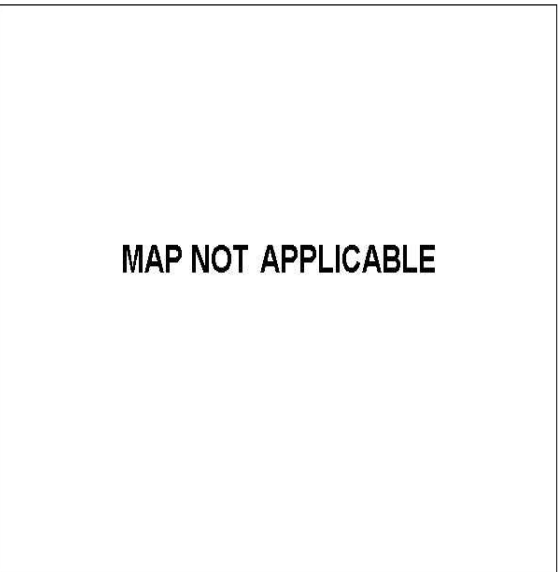
Date First in Program	FY 09
Date First Approved	FY 09
Initial Cost Estimate	
Cost Estimate Last FY	54,000
Present Cost Estimate	56,000
Approved Request Last FY	8,000
Total Expense & Encumbrances	
Approval Request Year 1	8,000

G. Status Information

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

Growth	
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Specialty Valve Vault Rehabilitation Program

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-107.00		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	8,515	6,814	394	1,148	381	195	143	177	159	93	159
Land											
Site Improvements & Utilities											
Construction	27,524	18,257	4,041	4,146	930	827	701	650	652	386	1,080
Other	1,097		444	529	131	102	84	83	81	48	124
Total	37,136	25,071	4,879	5,823	1,442	1,124	928	910	892	527	1,363

C. Funding Schedule (000's)

WSSC Bonds	37,136	25,071	4,879	5,823	1,442	1,124	928	910	892	527	1,363
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D. Description & Justification

<p>DESCRIPTION</p> <p>This program provides for the planning, design, and construction of improvements and replacement of specialty valves and their associated vaults, including pressure reducing valves, pressure relief valves, altitude and metering valves, throughout the water distribution system. The program includes valves ranging in size from 8-inches to 60-inches in diameter. The program will systematically evaluate the condition of individual installations, some of which were constructed as early as the 1930's, and upgrade or relocate the structures and equipment as necessary. This program will improve reliability and increase the efficiency of system operations.</p> <p>JUSTIFICATION</p> <p>The facilities included in this program are in need of rehabilitation due to factors such as: location within heavily traveled roadways, age deterioration, obsolescence and operational improvements. The Prince George's, Old Baltimore Ave, and Brinkley vaults are currently in construction.</p> <p>Candidate PRVs were originally identified in an October 26, 2005, memo from Jeff Asner to Karen Wright, and a subsequent May 7, 2007, memo from Karen Wright to Thomas Heikkinen. Originally, there were 23 candidate vaults within this Program as identified by the Systems Control Group; PRV Vault Rehabilitation Evaluation Study, EBA Engineering, Inc. (September 2010). Additional work has been added through 209B Business Case Report (January 2016).</p> <p>COST CHANGE</p> <p>The cost increase reflects the actual bids for work at the Prince George's, Old Baltimore Ave, Brinkley Relief and Brinkley PRV valve vaults.</p> <p>OTHER</p> <p>The project scope has remained the same; additional vaults may be added to or removed from the program based upon business case recommendations from the Asset Management Programs. The cost for vaults that may be permanently taken out of service or replaced under other future projects have been moved to funding beyond 6 years. The Prince George's, Old Baltimore Ave, and Brinkley vaults are currently in construction. Land and rights-of-way costs are included in WSSC Project W-202.00.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Maryland State Highway Administration; Maryland Water Management Administration; Montgomery County Government; Prince George's County Department of Permitting Inspection and Enforcement; Montgomery County Department of Public Works and Transportation; Prince George's County Government;</p> <p>Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$2,416	
Total Cost	\$2,416	
Impact on Water and Sewer Rate	\$0.05	

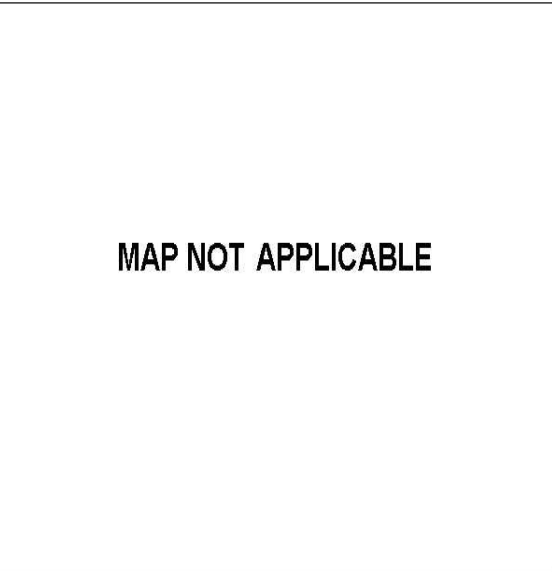
F. Approval and Expenditure Data (000's)

Date First in Program	FY 11
Date First Approved	FY 11
Initial Cost Estimate	17,560
Cost Estimate Last FY	35,495
Present Cost Estimate	37,136
Approved Request Last FY	1,898
Total Expense & Encumbrances	25,071
Approval Request Year 1	1,442

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	On-Going
Percent Complete	50%
Est Completion Date	On-Going
Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



Advanced Metering Infrastructure

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-109.00		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Bi-County;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision											
Land											
Site Improvements & Utilities											
Construction	93,930	875	7,089	85,966	27,694	27,694	27,694	2,884			
Other											
Total	93,930	875	7,089	85,966	27,694	27,694	27,694	2,884			

C. Funding Schedule (000's)

WSSC Bonds	93,930	875	7,089	85,966	27,694	27,694	27,694	2,884			
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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). All meters will receive new Meter Interface Units with internal antenna capable of obtaining and/or transmitting the meter register reading. All readings will be collected remotely by either a mobile system or a fixed network communications system.</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 and encoder registers 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>Costs 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; 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 and are expected to change based upon the latest technology available at the time the project is bid. The AMI project has been delayed until the replacement of the Commission's Customer Service Information System (CSIS) is completed. Pilot testing of the latest meter technology is underway.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Montgomery County Government; Prince George's County Government;</p> <p>Coordinating Projects: Not Applicable</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$6,110	23
Total Cost	\$6,110	23
Impact on Water and Sewer Rate	\$0.13	23

F. Approval and Expenditure Data (000's)

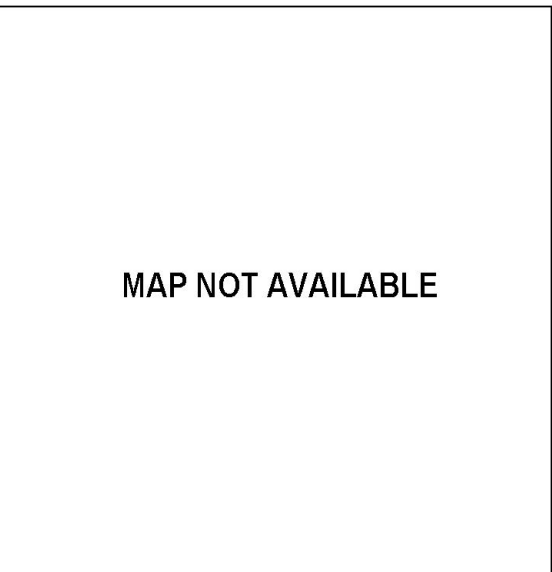
Date First in Program	FY 13
Date First Approved	FY 13
Initial Cost Estimate	86,000
Cost Estimate Last FY	92,105
Present Cost Estimate	93,930
Approved Request Last FY	6,950
Total Expense & Encumbrances	875
Approval Request Year 1	27,694

G. Status Information

Land Status	Not Applicable
Project Phase	Planning
Percent Complete	15%
Est Completion Date	FY 2022

Growth	
System Improvement	
Environmental Regulation	
Population Served	
Capacity	

H. Map



Brighton Dam Operations & Maintenance Facility and Site Improvements

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
A-145.01		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	
Planning Areas	Montgomery County PA;

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	1,328	928	350	50	50						
Land	18	18									
Site Improvements & Utilities											
Construction	4,824		4,000	824	804	20					
Other	784		653	131	129	2					
Total	6,954	946	5,003	1,005	983	22					

C. Funding Schedule (000's)

WSSC Bonds	6,954	946	5,003	1,005	983	22					
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D. Description & Justification

<p>DESCRIPTION</p> <p>This project provides for the replacement of two existing facilities with a new ADA compliant 4,100 square foot facility with office space for 14 employees. The project also includes a new parking configuration to facilitate visiting groups, relocation of existing fuel facilities and a new underground water storage tank to provide fire protection for the new facility and nearby residents. Green initiatives such as water reclamation and LEED building guidelines are also being considered in the design.</p> <p>JUSTIFICATION</p> <p>The Patuxent Watershed Unit stationed at Brighton Dam has been staffed in a double wide trailer since the early 1990's. The existing facilities have several problems including but not limited to: the presence of mold, ventilation deficiencies and structural issues. The existing visitor center is subject to insect infestation and inadequate compliance with ADA standards. Traffic flow at the facility is constricted and unsafe during peak demand periods. The fuel pump location is highly visible and is not secured. The current state of the existing facilities necessitates replacement. In addition to facility replacement, the project includes comprehensive site improvement work to address septic/well system capacities, site access and traffic/parking, and relocation of the existing fueling station to a more secure location within the premises.</p> <p>Memorandum from James Neustadt, Director of Communication to Gary Gumm, Chief Engineer, (July 28, 2011); Memorandum from Karen Wright, System Control Group Leader, to James Price, Chief of Plant Operations (May 12, 2012); Basis of Design Report, Mimar Architects (April, 2015).</p> <p>COST CHANGE</p> <p>Not applicable.</p> <p>OTHER</p> <p>The project scope remains the same. The expenditure and schedule projections shown in Block B above are design level estimates and may change based upon actual bid. The offices at Brighton Dam provide WSSC with high visibility for security of the dam, enhanced community engagement and education, efficient maintenance of the property and amenities, and rapid emergency response capabilities within the watershed. A study has confirmed the land is suitable for a new septic system utilizing Best Management Practices for Nitrogen removal and the adequacy of the existing well to meet occupancy and use demands.</p> <p>COORDINATION</p> <p>Coordinating Agencies: Montgomery County Department of Environmental Protection; Maryland Department of the Environment; Montgomery County Government; (Anticipates Mandatory Referral Submissions); Howard County Government;</p> <p>Coordinating Projects: W-139.02-Duckett & Brighton Dam Upgrades;</p>

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance		
Other Project Costs		
Debt Service	\$452	21
Total Cost	\$452	21
Impact on Water and Sewer Rate	\$0.01	21

F. Approval and Expenditure Data (000's)

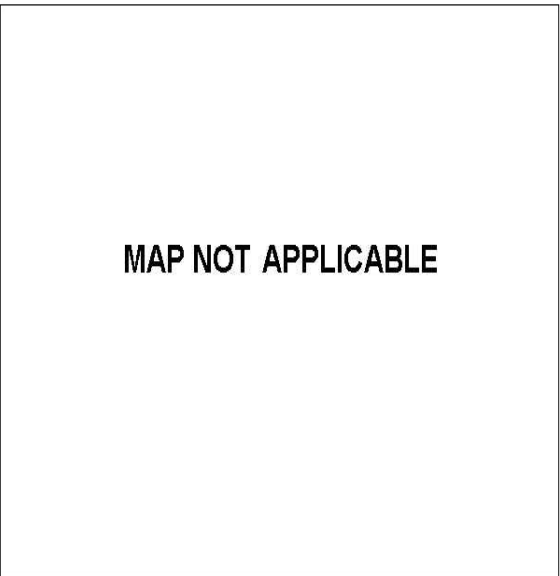
Date First in Program	FY 17
Date First Approved	FY 17
Initial Cost Estimate	6,448
Cost Estimate Last FY	6,752
Present Cost Estimate	6,954
Approved Request Last FY	3,594
Total Expense & Encumbrances	946
Approval Request Year 1	983

G. Status Information

Land Status	Public/Agency owned land
Project Phase	Design
Percent Complete	100%
Est Completion Date	April 2019

Growth	
System Improvement	100%
Environmental Regulation	
Population Served	
Capacity	

H. Map



D'Arcy Park North Relief Sewer

A. Identification and Coding Information		
Agency Number	Project Number	Update Code
S-300.01		Change

PDF Date	October 1, 2017
Date Revised	

Pressure Zones	
Drainage Basins	Western Branch 14;
Planning Areas	Suitland-District Heights & Vicinity PA

B. Expenditure Schedule (000's)

Cost Elements	Total	Thru FY'17	Estimate FY'18	Total 6 Years	Year 1 FY'19	Year 2 FY'20	Year 3 FY'21	Year 4 FY'22	Year 5 FY'23	Year 6 FY'24	Beyond 6 Years
Planning, Design & Supervision	271	90	93	88	46	42					
Land											
Site Improvements & Utilities											
Construction	516		132	384	192	192					
Other	105		34	71	36	35					
Total	892	90	259	543	274	269					

C. Funding Schedule (000's)

Contribution/Other	892	90	259	543	274	269					
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D. Description & Justification

DESCRIPTION
 This project provides for the planning, design, and construction of 1,110 feet of 12-inch diameter (non-SDC eligible) PVC relief sewer to provide service to D'Arcy Park North.

JUSTIFICATION
 D'Arcy Park North Hydraulic Planning Analysis, (September 2008).

COST CHANGE
 Not applicable.

OTHER
 The project scope has remained the same. The expenditure and schedule projections shown in Block B are based upon information provided by the developer. Estimated completion date is developer dependent. This project is not eligible for SDC credits. No WSSC rate supported debt will be used for this project.

COORDINATION
 Coordinating Agencies: Prince George's County Government; Prince George's County Department of Environmental Resources; Local Community Civic Associations;
 Coordinating Projects: Not Applicable

E. Annual Operating Budget Impact (000's)

		FY of Impact
Staff		
Maintenance	\$19	21
Other Project Costs		
Debt Service		
Total Cost	\$19	21
Impact on Water and Sewer Rate		

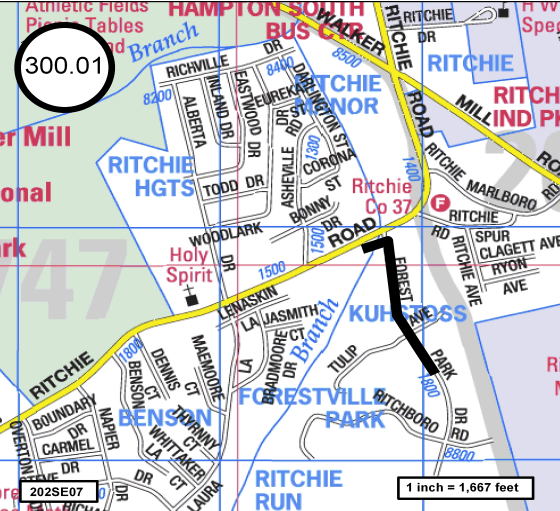
F. Approval and Expenditure Data (000's)

Date First in Program	FY 14
Date First Approved	FY 14
Initial Cost Estimate	824
Cost Estimate Last FY	874
Present Cost Estimate	892
Approved Request Last FY	268
Total Expense & Encumbrances	90
Approval Request Year 1	274

G. Status Information

Land Status	Land and R/W to be acquired
Project Phase	Design
Percent Complete	20%
Est Completion Date	Developer Dependent
Growth	100%
System Improvement	
Environmental Regulation	
Population Served	
Capacity	1.6 MGD

H. Map



PROJECTS PENDING CLOSE-OUT
Information Only Projects
(costs in thousands)

Project Number	Agency Number	Project Name	Estimated Total Cost	Expenditures Thru FY'17	Estimated Expenditures FY'18	Remarks
	A-104.00	Entrepreneurial Projects	\$2,871	\$0	\$0	Project terminated in FY'17
		TOTALS	\$2,871	\$0	\$0	

Appendices

RESOLUTION NO. 2017-2157
Adopted: June 21, 2017
Effective Date: July 1, 2017

WASHINGTON SUBURBAN SANITARY COMMISSION

SUBJECT: A RESOLUTION modifying the System Development Charge (SDC) to help finance the capital costs of expanding and augmenting water and sewerage systems to accommodate service to subscribers in the Washington Suburban Sanitary District (WSSD) and to provide a financing mechanism to aid the Washington Suburban Sanitary Commission (Commission) in paying for the capital projects thereof by providing methods and procedures by which the SDC is to be implemented and/or collected.

WHEREAS, the Maryland General Assembly enacted House Bill 883, Chapter 559, Laws of Maryland 1993, System Development Charge legislation during its 1993 Session, a bill which provides the enabling authority for the Montgomery and Prince George's County Councils to establish a fee which will be paid by applicants for new service; and

WHEREAS, the Maryland General Assembly enacted House Bill 832, Chapter 713, Laws of Maryland 1998, System Development Charge legislation during its 1998 Session, a bill which, among other things, alters the schedule for the payment of the System Development Charge to the Commission for certain properties; establishes a new maximum System Development Charge per fixture unit; allows for and limits the amount of certain exemptions; establishes a maximum System Development Charge based on the number of toilets per dwelling; authorizes a change in the maximum System Development Charge for certain residential units based on the number of toilets per dwelling; and

WHEREAS, the Maryland General Assembly enacted House Bill 636, Chapter 124, Laws of Maryland 2013, System Development Charge legislation during its 2013 session, a bill which allows partial exemptions to certain properties used primarily for recreational and educational programs and services to youth; and

WHEREAS, the Commission owns and operates various water treatment and sewage treatment disposal plants and facilities within the WSSD and utilizes and has an equity share in sewage treatment plants operated by other jurisdictions to treat sewage generated in portions of the WSSD; and

WHEREAS, it is necessary that the Commission, with the advice and consent of the local governing bodies within the WSSD, develop alternative funding to cover the costs of providing quality water and sewer service in the WSSD and to similarly accommodate new growth therein as authorized by the County Governments; and

RESOLUTION NO. 2017-2157

Adopted: June 21, 2017

Effective Date: July 1, 2017

WHEREAS, the System Development Charge is a component of the Commission's Fiscal Year 2018 capital and operating budgets prepared pursuant to §17-202, Division II of the Public Utilities Article, Annotated Code of Maryland; and

WHEREAS, the Commission last modified the System Development Charge effective July 1, 2016 by Commission Resolution No. 2016-2127; and

WHEREAS, for all of the foregoing reasons it is necessary or desirable to continue the imposition of a System Development Charge fee; and

WHEREAS, Chapter 713, 1998 Laws of Maryland provides that the Montgomery and Prince George's County Councils may adopt and the Commission may implement a System Development Charge not to exceed \$200.00 per fixture unit or, for residential properties with five or fewer toilets, not to exceed certain enumerated amounts based on the number of toilets per dwelling unit, effective July 1, 1998; and

WHEREAS, Chapter 713, 1998 Laws of Maryland further provides that on July 1, 1999 and each July 1 of each succeeding year, the maximum charge may be changed by an amount equal to the prior calendar year's change in the consumer price index published by the Bureau of Labor Statistics of the United States Department of Labor for urban wage earners and clerical workers for all items for the Washington, D.C. metropolitan area; and

WHEREAS, the consumer price index published by the Bureau of Labor Statistics of the United States Department of Labor for urban wage earners and clerical workers for all items for the Washington, D.C. metropolitan area increased 1.2% from November 2015 to November 2016; and

WHEREAS, the Commission recommends keeping the System Development Charge rates unchanged for FY'18. However, the Commission recommends increasing the maximum allowable charge by 1.2% from FY'17 limits in order to maintain future rate flexibility to address future potential growth funding gaps; and

WHEREAS, the County Councils of Prince George's County and Montgomery County have approved the modifications to the System Development Charge set forth below; and

WHEREAS, the Maryland General Assembly enacted HB 335, Chapter 563, Laws of Maryland 2017, that authorizes the County Councils of Prince George's County and Montgomery County to grant a system development charge exemption to property that is used primarily for child care or after-school care and primarily for programs and services for developmentally disabled individuals; and

RESOLUTION NO. 2017-2157

Adopted: June 21, 2017

Effective Date: July 1, 2017

WHEREAS, the County Councils of Prince George's County and Montgomery County may adopt resolutions that would further define those child care or after-school care and developmentally disabled programs that would qualify for the exemptions; and

WHEREAS, the Commission will adopt a fee schedule for the new exemptions under HB 335 after adoption of those council resolutions.

NOW, THEREFORE, BE IT RESOLVED THIS 21st day of June, 2017, that the Commission hereby adopts the approved System Development Charge fee schedule as set forth herein. For the purposes of this Resolution, the following definitions apply:

RESOLUTION NO. 2017-2157
Adopted: June 21, 2017
Effective Date: July 1, 2017

Definitions:

- 1) Apartment Unit means one of several single family residential units within one building that is not a “multi-unit dwelling.” An “apartment unit” must contain at least one full bath and kitchen, but not more than two toilets. An “apartment unit” typically includes, but is not limited to, an individual dwelling unit in a garden, medium or high-rise type residential building.
- 2) Biotechnology Research and Development or Manufacturing means any development as jointly defined and approved by the Montgomery and Prince George’s County Councils as eligible for a waived System Development Charge, more particularly described in Schedule C, attached.
- 3) Drainage Charge is the portion of the System Development Charge applicable to drainage fixture units for apartments and residential properties having five or fewer toilets.
- 4) Drainage Fixture Unit Value is a measure of the probable discharge into the drainage system by a particular plumbing fixture in terms of volume rate of discharge and duration of a single drainage operation and the time between successive operations.
- 5) Dwelling Unit means a single-family housing unit used as a residence, including trailers and mobile homes.
- 6) Elderly Housing means residential units as jointly defined and approved by the Montgomery and Prince George’s County Councils as eligible for a waived System Development Charge, more particularly described in Schedule D, attached.
- 7) Hookup means the joining of the on-site water and/or sewer line(s) to the Commission’s service connection or the installation of plumbing fixtures in a building served by the Commission’s water and/or sewer facilities.
- 8) Multi-Unit Dwelling means a building that will accommodate several housing units on a lateral basis; namely, semi-attached houses, row houses, or townhouses used as residences.
- 9) New Service means:
 - a) the first-time hook-up of a property to the Commission’s water and/or sewer system; or
 - b) a new connection or increased water meter size for a property previously or currently served by the Commission if the new connection or increased meter size is needed because of a change in the use of the property or an increase in demand for service at the property.
- 10) Non-Residential Unit is a structure not otherwise defined as a Residential Unit, generally commercial or industrial in nature. Examples may include shopping

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Effective Date: July 1, 2017

malls, non-residential townhouses, warehouses, industrial buildings, restaurants, schools, dormitories, hospitals, hotels, motels, nursing homes, office buildings, churches, theaters, and similar commercial or industrial buildings.

- 11) Property Used Primarily for Recreational and Educational Programs and Services to Youth means real property, owned in fee simple, by a Community Based Organization that is exempt from taxation under § 501(c)(3) of the Internal Revenue Code; and as more fully jointly defined and approved by the Montgomery and Prince George's County Councils as eligible for a System Development Charge exemption, more particularly described in Schedule F, attached.
- 12) Public Sponsored or Affordable Housing means units as jointly defined and approved by the Montgomery and Prince George's County Councils as eligible for a waived System Development Charge, more particularly described in Schedule A, attached.
- 13) Residential Unit means any housing unit defined in Paragraphs 1, 5, and 8 above used as a residence.
- 14) Revitalization means any development as jointly defined and approved by the Montgomery and Prince George's County Councils as eligible for a waived System Development Charge, more particularly described in Schedule B, attached.
- 15) System Development Charge means that charge imposed by the Commission pursuant to the provisions of §25-403, Division II of the Public Utilities Article, Annotated Code of Maryland. (Maximum allowable System Development Charge is the maximum charge authorized by law, but not necessarily imposed in a given year.)
- 16) Toilet is a water closet as set forth in the WSSC Plumbing and Fuel Gas Code; and
- 17) Water Supply Charge is the portion of the System Development Charge applicable to water supply fixture units for apartments and residential properties having five or fewer toilets; and
- 18) Water Supply Fixture Unit Value is a measure of the probable hydraulic demand on the water supply by a particular plumbing fixture in terms of volume rate of supply and duration of a single supply operation and the time between successive operations; and

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BE IT FURTHER RESOLVED, that the System Development Charge rates for FY'18 shall be as follows:

Property Type	FY'18 Charge	Maximum Allowable Charge
Apartment Unit		
Water	\$896	\$1,289
Sewer	1,140	1,643
1-2 Toilets / Residential		
Water	1,344	1,937
Sewer	1,710	2,461
3-4 Toilets / Residential		
Water	2,240	3,227
Sewer	2,850	4,105
5 Toilets / Residential		
Water	3,135	4,517
Sewer	3,991	5,749
6 or More Toilets / Residential*		
Water	88	128
Sewer	115	167
Non-Residential*		
Water	88	128
Sewer	115	167

*Per Fixture Unit

(The System Development Charge for non-residential properties and dwelling units or multi-unit dwellings with more than five toilets shall be based on the number of plumbing fixtures and the assigned values for those fixtures as set forth in the WSSC Plumbing and Fuel Gas Code.); and

BE IT FURTHER RESOLVED, that the System Development Charge, as established herein, shall be paid to the Commission at the time of application for plumbing permit to install fixtures or hookup(s) to the Commission's water and/or sewage system(s) except that an applicant for a plumbing permit for a residential unit may pay the System Development Charge in two payments as follows:

- 1) One-half at the time of Plumbing Permit Application;
- 2) The remaining one-half within 12 months after the first payment or prior to the transfer of title to the property, whichever occurs first.

At the time of the first payment, the applicant for the plumbing permit for a residential unit shall deposit with the Commission security for the second payment in an amount and form established and approved by the Commission; and

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BE IT FURTHER RESOLVED, that the fees established herein shall be in addition to, and not a substitution for, any other fees, rates, charges, or assessments allowed by law; and

BE IT FURTHER RESOLVED, that the System Development Charge shall be waived for any public sponsored or affordable housing as defined in Schedule A; and

BE IT FURTHER RESOLVED, that the System Development Charge shall, subject to the below provisions of this Resolution No. 2017-2157, be waived for Revitalization projects as defined in Schedule B; and

BE IT FURTHER RESOLVED, that the System Development Charge partial exemptions for Elderly Housing are established by Schedule E; and

BE IT FURTHER RESOLVED, that the System Development charge, subject to the below provisions of this Resolution No. 2017-2157, be waived, up to \$80,000, for Properties Used Primarily for Recreational and Educational Programs and Service to Youth as defined in Schedule F; and

BE IT FURTHER RESOLVED, that the System Development Charge partial exemptions for Biotechnology Research and Development or Manufacturing shall be \$18 per water supply fixture with an assigned fixture unit value of 1 and \$25 per drainage fixture with an assigned drainage fixture unit value of 1, or \$43 per combined fixture unit value; and

BE IT FURTHER RESOLVED, that the County Councils of Prince George's and Montgomery Counties may adopt implementing resolutions for System Development Charge partial exemptions for Biotechnology Research and Development or Manufacturing, Elderly Housing, and Property Used Primarily for Recreational and Educational Programs and Services to Youth as defined in Schedules C, D, and F and the System Development Charge full exemption for Revitalization as defined in Schedule B. The amount of the aforementioned full and partial exemptions authorized by this Resolution No. 2017-2157 for individual properties or projects may be limited by the provisions of the aforementioned Council resolutions. In addition, the aforementioned full and partial exemptions authorized by this Resolution No. 2017-2157, except those granted for affordable housing (as defined on Schedule A), shall not take effect unless and until the Council for the County in which the exempted project is located adopts the said implementing resolution; and

BE IT FURTHER RESOLVED, that nothing herein shall be construed as creating a contract between the Commission and the applicant for service, and that the providing of water and/or sewer service to an applicant's property shall be subject

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to intervention of other governmental authority; the duly adopted policies of Montgomery and Prince George's Counties, and the Commission's ability to otherwise provide such service; and

BE IT FURTHER RESOLVED, that Commission Resolution No. 2016-2127 adopted June 15, 2016 on the same subject matter be, and the same is hereby superseded by this Commission Resolution No. 2017-2157; and

BE IT FURTHER RESOLVED, that the System Development Charge established herein shall take effect on July 1, 2017.

A True Copy

Attest:

Sheila R. Finlayson, Esq., Corporate Secretary

SCHEDULE A

“Public sponsored or affordable housing” means:

- 1) any dwelling unit built or financed under a government program, regulation, or binding agreement that limits for at least 10 years the price or rent charged for the unit in order to make the unit affordable to households earning less than 80% of the area median income, adjusted for family size;
- 2) any Moderately Priced Dwelling Unit built under Chapter 25A of the Montgomery County Code or Subtitles 13 and 27 of the Prince George’s County Code;
- 3) any Productivity Housing Unit, as defined in Section 25B-17 (k) of the Montgomery County Code;
- 4) any unit in an Opportunity Housing Project built under Sections 56-28 through 56-32 of the Montgomery County Code or Subtitle 13, Division 8, of the Prince George’s County Code, which is reserved for occupancy only by persons with low or moderate incomes (as defined in applicable provisions of State and County Law);
- 5) any dwelling unit constructed pursuant to the Capturing Housing Opportunities in Communities Everywhere (CHOICE) Program in Prince George’s County which is reserved for occupancy only by persons with low or moderate incomes (as defined in applicable provisions of State and County Law).

SCHEDULE B

- 1) “Revitalization” a project any meeting any additional criteria that may be adopted by the respective county council or applicable municipal council that is located in:
 - a) any state-designated revitalization area as defined by the Maryland Department of Housing and Community Development (DHCD).
 - b) any state-designated enterprise zone as defined by the Maryland Department of Business and Economic Development (DBED).
 - c) any federally-designated economic development district as defined by the U.S. Department of Commerce, Economic Development Administration (EDA).
 - d) any federally-designated empowerment zone and developable sites as defined by the U.S. Department of Housing and Urban Development (HUD).
 - e) any Transit District Overlay Zone (T-D-O Zone) as defined by Subtitle 27, Part 10A, Division 1, of the Prince George’s County Code.
 - f) any Prince George’s County designated revitalization area as defined in Subtitle 10 of the Prince George’s County Code.
 - g) any state designated Neighborhood Business Development Program as defined in Subtitle 3, of Title 4, of the Housing and Community Development Article of the Annotated Code of Maryland.
 - h) any Montgomery County designated neighborhoods, as determined by the Montgomery County Executive and County Council, as a revitalization neighborhood for activities that will act to preserve, stabilize, and enhance the social, physical, and economic conditions of the neighborhood. Activities may include concentrated housing code inspections and enforcement, housing rehabilitation, social service programs, public infrastructure improvements, and private and/or public capital investment.
- 2) A property used for the production of alcoholic beverages.

SCHEDULE C

“Biotechnology Research and Development or Manufacturing” means:

Any activity that substantially involves research, development, or manufacturing of:

- a. Biologically-active molecules;
- b. Devices that employ or affect biological processes; or
- c. Devices and software for production or management of specific biological information.

SCHEDULE D

“Elderly Housing” include the following types of housing:

As defined in the Prince George’s County Zoning Ordinance:

Sec. 27-107.01. Definitions

(a) Terms in the Zoning Ordinance are defined as follows:

- (20.1) Assisted Living Facility**
- (54) Congregate Living Facility**
- (151.1) Mixed Retirement Development**

- Sec. 27-352.01 Elderly Housing (one-family attached dwellings)**
- Sec. 27-374 Medical / residential campus**
- Sec. 27-395 Planned retirement community**

OR

As defined in the Montgomery County Zoning Ordinance:

- Sec. 59-G-2.35 Housing and related facilities for elderly or handicapped persons**
- Sec. 59-G-2.35.1 Life Care (continuing care) facility**
- Sec. 59-C-7.4 Housing constructed in a planned retirement community zone**

OR

As defined in a municipal zoning ordinance in a municipality having separate zoning powers and that is found by the Director of the Department of Housing and Community Affairs to be equivalent to the definition for the county in which the municipality is located. The review of equivalency should be based upon age of occupants and the inclusion of assisted living dwelling units.

SCHEDULE E

Maximum “elderly housing” exemptions are as follows:

1.	Apartment unit	\$436.00
2.	Dwelling unit or housing unit within a multi-unit dwelling with one or two toilets	\$654.00
3.	Dwelling unit or housing unit within a multi-unit dwelling with three or four toilets	\$1,090.00
4.	Dwelling unit or housing unit with a multi-unit dwelling with five toilets	\$1,526.00
5.	For other housing that meets the elderly housing exemption criteria	Not more than \$43 per combined fixture unit value

SCHEDULE F

1. “Property Used Primarily for Recreational and Educational Programs and Services to Youth” means:

Real property, owned in fee simple, by a Community Based Organization, located within the Washington Suburban Sanitary District, which is used to advance the mission and purpose of providing recreational and educational program and services to youth in Prince George’s and/or Montgomery County.

2. “Community Based Organization” means:

A not-for-profit entity duly incorporated in or authorized to do business by the State of Maryland and in good standing under the laws of the State of Maryland, which has as its primary mission and purpose to provide recreational and educational programs and services to youth in Prince George’s and/or Montgomery County.

3. “Exempt From Taxation” means:

A not-for-profit, charitable or educational organization as determined by the Internal Revenue Service, under Section 501(c) (3) of the Internal Revenue Code.

**STANDARD PROCEDURES
OF THE
WASHINGTON SUBURBAN SANITARY COMMISSION**

ORIGINATOR	SP NUMBER	APPROVE BY/DATE	EFFECTIVE DATE	PAGE
Joseph P. McNerney Customer Affairs Bureau Director	CUS 98-01 Supersedes CUS 94-06 & CUS 93-02	COMMISSION <i>Mel Schwartz</i>	July 1, 1998	1 OF 7

SUBJECT: SYSTEM DEVELOPMENT CHARGE LEVY AND COLLECTION

PURPOSE

- 1.1 To document the levy, collection and deposit of the System Development Charge (SDC) in accordance with Article 29, §6-113 of the Annotated Code of Maryland and WSSC's Resolution No. 98-1555.
- 1.2 Define terms and phrases referencing SDC as commonly used in the issuance of plumbing permits.

DEFINITIONS

- 2.1 Apartment Unit means one of several single family housing units within one building and not specifically classified as a multi-unit dwelling, e.g., individual dwelling units in garden, medium and high-rise type residential buildings.
- 2.2 Base SDC Fee is the WSSC approved dollar charge for a plumbing fixture having a Drainage Fixture Unit Value and/or a Water Supply Fixture Unit Value of one for non-residential properties or residential units with more than five toilets. The Base SDC Fee for residential units with five or fewer toilets is the WSSC approved dollar charge based upon the unit's number of toilets
- 2.3 Drainage Fixture Unit Value is a measure of the probable discharge into the drainage system by a particular plumbing fixture in terms of volume rate of discharge and duration of a single drainage operation and the time period between successive operations.
- 2.4 Dwelling Unit means a single family housing unit used as a residence, including trailers and mobile homes.
- 2.5 Hookup means the joining of a property's on-site water and/or sewer line(s) to the Commission's service connection or the installation of plumbing fixtures in a building served by the Commission's water and/or sewer facilities.
- 2.6 Multi-Unit Dwelling means a building that will accommodate several housing units on a lateral basis; namely, semi-attached houses, row houses or townhouses used as residences.
- 2.7 New Service means:

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- (a) the first-time hook-up of a property to the Commission's water and/or sewer system; or
- (b) a new connection or increased water meter size for a property, previously or currently served by the Commission, if the new connection or increased meter size is needed because of a change in the use of the property or an increase in demand for service at the property.

2.8 Non-Residential Unit is a structure not otherwise defined as a Residential Unit, generally commercial or industrial in nature. Examples may include Shopping Malls, non-Residential Townhouses, Warehouses, Industrial Buildings, Restaurants, Schools, Dormitories, Hospitals, Hotels, Motels, Nursing Homes, Office Buildings, Churches, Theaters and similar commercial or industrial buildings.

2.9 Plumbing Permit is the approved instrument, resulting from an application filed by a Registered Master Plumber, which allows for hookup of fixtures or onsite piping to the Commission's water and/or sewer systems.

2.10 Property means an improvement(s) or building(s) on a lot or parcel of land containing plumbing fixtures described in terms of Drainage Fixture Unit Values or Water Supply Fixture Unit Values.

2.11 Public Sponsored and Affordable Housing means:

- (1) any dwelling unit built or financed under a government program, regulation, or binding agreement that limits for at least 10 years the price or rent charged for the unit in order to make the unit affordable to households earning less than 80% of the area median income, adjusted for family size;
- (2) any Moderately Priced Dwelling Unit built under Chapter 25A of the Montgomery County Code or Subtitles 13 and 27 of the Prince George's County Code;
- (3) any Productivity Housing Unit, as defined in Section 25B-17(m) of the Montgomery County Code;
- (4) any unit in an Opportunity Housing Project built under Sections 56-28 through 56-33 of the Montgomery County Code or Subtitle 13, Division 8, of the Prince George's County Code, which is reserved for occupancy only by persons with low or moderate incomes (as defined in applicable provisions of State and County Law);
- (5) any dwelling unit constructed pursuant to the Capturing Housing Opportunities in Communities Everywhere (CHOICE) Program in Prince George's County which is reserved for occupancy only by persons with low or moderate incomes (as defined in applicable provisions of State and County Law).

2.12 Residential Unit means any housing unit defined in Paragraphs 2.1, 2.4, and 2.5 above used as a residence.

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- 2.13 Residential Applicant means a builder on whose behalf a Registered Master Plumber applies for and receives from the Commission plumbing permits for construction of new residential units.
- 2.14 SDC Sewer Charge is the product of a fixture's Drainage Fixture Unit Value and its associated Base SDC Fee for non-residential properties or dwelling and multi-unit housing units with more than five toilets. For residential properties with five or fewer toilets, the SDC Sewer Charge is the Commission approved drainage portion of the Base SDC Fee.
- 2.15 SDC Water Charge is the product of a fixture's Water Supply Fixture Unit Value and its associated Base SDC Fee for non-residential properties or dwelling and multi-unit housing units with more than five toilets. For residential properties with five or fewer toilets, the SDC Water Charge is the Commission approved water supply portion of the Base SDC Fee.
- 2.16 Sub-District Charge means that charge established by the Commission pursuant to the provisions of §6-103, Article 29, Annotated Code of Maryland.
- 2.17 Toilet means a water closet, as set forth in the WSSD Plumbing and Gasfitting Regulations.
- 2.18 Water Supply Fixture Unit Value is a measure of the probable hydraulic demand on the water supply by a particular plumbing fixture in terms of volume rate of supply and duration of a single supply operation and the time period between successive operations.

GENERAL

- 3.1 SDC is a fee established pursuant to provisions of Article 29, § 6-113 of the Annotated Code of Maryland, to help finance the capital cost of upgrading existing plants and facilities as well as the construction of new capital projects attributable to the addition of new service.
- 3.2 The Base SDC Fee level is established by Commission Resolution representing a formal adoption of the fee level mutually agreed upon by the Montgomery and Prince George's County Councils.
- 3.3 The SDC fee for a non-residential property or a dwelling unit or housing unit within multi-unit dwelling with more than five toilets is determined by the type and number of fixtures, existing and/or proposed, for which hookup to the WSSC's water and/or sewerage system(s) is proposed. The SDC levy is the sum of SDC Water Charges and SDC Sewer Charges, prevailing at the time of application for hook-up, which are associated with the individual fixtures proposed for hook-up.
- 3.4 The SDC fee for a residential unit with five or fewer toilets is determined by the number of toilets, existing and/or proposed, for which hookup to the WSSC's water and/or sewerage system(s) is proposed. The SDC levy is the sum

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WSSC STANDARD PROCEDURES

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of SDC Water Charges and SDC Sewer Charges, prevailing at the time of application for hook-up, which are associated with the number of toilets proposed for hookup.

- 3.5 Except as provided by Section 3.9, a property's calculated SDC fee is payable in full and shall accompany the application for plumbing permit for hookup of a property's fixtures to the WSSC system. Any "credit" pursuant to WSSC Standard Procedure CUS 94-03, entitled *SDC DEVELOPER CREDITS AND REIMBURSEMENTS*, may be substituted as payment, on a dollar for dollar basis, as therein described. Collected SDC fees shall be deposited in established revenue accounts and reconciled through the Service Applications & Records Section's remittance-processing system.
- 3.6 When a request is made to add a fixture(s) to a plumbing permit which has been issued under a previous SDC rate structure and which has not received final inspection approval, the additional SDC shall be calculated and collected based upon the fixture unit rate in effect at the time of request, except that the total SDC for a residential unit permit with five or less toilets shall not exceed the current Base SDC fee for such a unit.
- 3.7 When an application is made to add a toilet(s) to an existing dwelling or housing unit within an existing multi-unit dwelling, the resulting permit may be subject to a SDC fee only if the unit was previously assessed a SDC fee or an increase is required in the size of the unit's connection or meter. In either situation, a SDC fee will be actually assessed only if the number of toilets is being increased from one toilet based rate category to the next. For housing units with five or fewer toilets, the SDC fee assessed will be equal to the difference in the SDC base charge currently applicable to the number of existing toilets and that applicable to the total number of existing and proposed toilets. The SDC fee assessed for existing housing units with more than five toilets is the sum of the SDC Base fees at the current SDC rate structure for all added fixtures.
- 3.8 When an application is made to add fixtures to a Non-residential Unit, the resulting permit may be subject to a SDC fee only if the unit was previously assessed a SDC fee or an increase is required in the size of the unit's connection or meter. In either situation, the SDC fee assessed is the sum of the SDC Base fees at the current SDC rate structure for all added fixtures.
- 3.9 A residential applicant who elects to delay paying a portion of the system development charge shall pay one half the charge at the time of filing application for plumbing permit. The remaining one half of the system development charge for each residential unit shall be paid to the Commission within 12 months after the first payment or prior to the transfer of title to the property, whichever occurs first. A residential applicant must provide security for the remaining one half of the system development charge at the time of filing the plumbing permit application in one of the following forms:

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will be afforded for rough-in piping or fixtures removed prior to inspection. SDC credit under this paragraph may only be obtained by submitting the original Master Plumber's copy of the approved Postcard Permit document at the time of application for hook-up of the replacement or remodeled structure. Credit obtained under this provision may only be used toward the remodeling of the existing structure or the redevelopment of a property from which the original fixtures were removed.

EXEMPTIONS

- 4.1 Additional fixtures installed in a structure or building are exempt from the levy of an SDC fee only if inspection of the initial hookup of the building or structure's plumbing to the WSSC's system(s) was approved under a permit issued as a result of an application filed before July 19, 1993, and the change in fixtures does not require an increase in the property's connection(s) or meter size.
- 4.2 The hook-up of a residential unit which is certified by Montgomery or Prince George's County as being a Public Sponsored or Affordable Housing Unit, as defined by Commission Resolution No. 98-1555, shall be exempted from any SDC fee.
- 4.3 The initial hook-up of a residential unit to the Commission's water and/or sewerage system will be exempted from the levy of any SDC fee if the unit existed and was served by a private well and/or septic system on or before July 16, 1993, and the applicable WSSC water or sewer main was in service or its construction was the subject of "Formal Notice To Proceed" (to the WSSC contractor) on or before the same July 16, 1993.

REFUNDS

- 5.1 In the event a permit to install plumbing fixtures expires or is canceled pursuant to provisions of Section 206.2 of the Plumbing and Gasfitting Regulations, all SDC fees paid in association with the application for plumbing permit to hook-up may be refunded, provided Code Enforcement Section's inspection records confirm that no work covered by the permit has been accomplished. Such refunds will be made to the original SDC payer at the time of application.
- 5.2 SDC payments for fixtures represented on an application, but not installed, may be refunded to the original payer provided a written request for refund is filed with the Service Applications & Records Section prior to a request for final inspection. Upon confirmation by the Code Enforcement Section that the fixtures or related rough-in work referenced in the written request have not been installed, the fixtures will be deleted from the permit database record and SDC refund action will be initiated.
- 5.3 The reimbursement of SDC payments to comply with credit requirements set forth in Article 29, §6-113.(e) of the Annotated Code of Maryland shall be

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accomplished as specified by WSSC Standard Procedure CUS 94-03, entitled SDC CREDITS AND REIMBURSEMENT.

- 5.4 A request for full or partial refund of previously remitted SDC which has been denied may be appealed under provisions of Article 29, §6-111 of the Annotated Code of Maryland.

AUTHORITY CLAUSE

The General Counsel certifies that the statutory authority for adoption of this Standard Procedure is Article 29, §§ 6-113 and 9-101 of the Annotated Code of Maryland.

Distribution List

MASTER VOLUME LIST:

General Manager's Office
Internal Audit Office
Secretary's Office
Human Resources Division

Other Distribution:

Commissioner's Office
Administration Branch
Operations Branch
General Counsel's Office
Budget and Financial Planning Office
Construction Bureau
Customer Affairs Bureau
Finance Bureau
Customer Services Division
Financial Operations Division
Regulatory Compliance Division
Code Enforcement Section
General Accounting Section
Service Applications & Records Section

APPENDIX "A"

FINANCIAL GUARANTY BOND

Plumbing Permit Number _____

Bond Number _____

Date Bond Executed _____

KNOW ALL MEN BY THESE PRESENTS:

That _____
(here insert the legal name of the Applicant)

(here insert the address of the Applicant)

as Principal, hereinafter called "Applicant", and

(here insert the legal name of the Surety)

(here insert the address of the Surety)

as Surety, hereinafter called "Surety", are held and firmly bound unto the WASHINGTON SUBURBAN SANITARY COMMISSION, Laurel, Maryland, a public and governmental corporate agency of the State of Maryland, as Obligee, hereinafter called the "Commission", in the amount of

_____ dollars (\$ _____), being 50

percent of the System Development Charge of the herein-mentioned application, for the payment whereof Applicant and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, the Applicant has applied for a plumbing permit to install fixtures or hookup a residential property to the Commission's water and/or sewerage system(s) under Plumbing Permit No. _____ and has promised to pay the full system development charge within 12

months of the date of the application or prior to the transfer of title to the property, whichever occurs first.

NOW, THEREFORE, the condition of this obligation is such that if the Applicant shall promptly and faithfully pay the system development charge in a timely manner, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Commission.

Whenever Applicant shall be, and declared by Commission to be, in default in payment of the system development charge, the Commission having performed Commission's obligations thereunder, the Surety shall promptly pay the amount owed by the Applicant to the Commission.

Any suit under this bond must be instituted before the expiration of eighteen (18) months from the date payment is due. No right of action shall accrue on this bond to or for the use of any person or corporation other than the Commission or its successors and assigns.

The bond is executed in two (2) counterparts, each of which shall, without proof or accounting for the other counterpart, be deemed an original thereof.

Signed and sealed this _____ day of _____,

ATTEST:

Applicant Name

By: _____

(Title)

(Surety Name)

By: _____

(Title)

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed, or caused to be executed by their duly authorized officials, this performance bond in (_____) copies each of which shall be deemed an original on the date first above written. (The following is applicable if applicant is corporation or incorporated joint venture.)

A Corporation _____

By: _____

(Title)

Date: _____

Attest: _____

Secretary of Corporation

Certificate as to Corporation (Corporate Seal)

I, _____, certify that I am Secretary of the Corporation named as Applicant herein, that _____ who signed this Performance Bond on behalf of the Applicant was then

_____ of said Corporation; that I know his signature thereto is genuine; that the Bond was duly signed and sealed in behalf of said Corporation by authority of its governing body, and is within the scope of its corporate powers.

Secretary of Corporation

(The following is applicable if Applicant is individual, partnership or unincorporated joint venture.)

Signed and Sealed in the full names of all partners and all members of Joint Ventures.

(Print) Name (Signature)

 Address

(Print) Name (Signature)

 Address

(Seal)

(Print) Name (Signature)

 Address

(Seal)

(Print) Name (Signature)

 Address

STANDARD PROCEDURES OF THE WASHINGTON SUBURBAN SANITARY COMMISSION

ORIGINATOR & POSITION	SP NUMBER	APPROVE BY/DATE	EFFECTIVE DATE	PAGE
Richard Shagogue, Team Chief Engineering & Construction Team	ENG 04-01 Supercedes CUS 94-03	<i>Secretary Morris</i> <i>Acting Cop Secretary</i> Commissioners March 10, 2004	March 24, 2004	1 OF 8

SUBJECT:
SDC APPLICANT CREDITS AND REIMBURSEMENTS

PURPOSE

- 1.0 Define procedures for the issuance of a System Development Charge (SDC) Credit earned through private design and construction to serve the Applicant's property. These procedures pertain only to either an approved Capital Improvement Program (CIP) Project or a project that provides only local service, is 2,000 feet or less in length, is either a sewer main 15 inches or greater in diameter, or water main 16 inches or greater in diameter and is built to avoid unnecessary and uneconomical duplication when a major project is constructed.
- 1.1 Describe how the SDC Credit due an Applicant will be determined.
- 1.2 Describe when SDC credit and reimbursement will occur.

DEFINITIONS

- 2.0 Systems Development Charge (SDC) - A fee paid to the WSSC at the time of application for a plumbing permit intended to cover the cost of building CIP Projects needed to accommodate growth.
- 2.1 Applicant - Any firm, corporation, partnership, joint venture, municipality, agency, person or persons whom WSSC has authorized to design and construct a Qualified Project eligible for SDC credit or whom WSSC has required to provide eligible private funding of the Commission's costs to design and construct such a Project.
- 2.2 System Extension Permit (SEP) - A permit/agreement made between the WSSC and an Applicant pursuant to the "Development Services Process Manual" adopted by the Commission, effective July 1, 2000, and subsequent adopted revisions. **A qualified project built under a System Extension Permit issued without a signed accompanying SDC Credit Agreement is not eligible for SDC applicant credits or reimbursement.**
- 2.3 Memorandum of Understanding (MOU) - An agreement made pursuant to provisions of Standard Procedure # PD-93-06 entitled "Procedure for Developing a Memorandum of

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WSSC STANDARD PROCEDURES

Understanding for the Construction of WSSC Systems by Others" between the WSSC and an Applicant which covers the Applicant's design and construction of a CIP Project and which identifies the estimated total Applicant costs eligible for SDC credit and/or reimbursement. **A qualified project built without a signed MOU is not eligible for SDC applicant credits or reimbursement.**

- 2.4 **Qualified Project** - Any CIP facility, CIP line, sewer main 15 inches or greater, or water main 16 inches or greater in diameter necessary to serve the Applicant's property, which is designed and constructed by and at the sole expense of an Applicant pursuant to an MOU or SEP or other agreement. Also, any CIP project which is constructed by WSSC that the Applicant is required to provide eligible private funding of WSSC design and construction costs.
- 2.5 **Qualified Properties** - The specific properties located within the geographic area which WSSC identifies as served by the Qualified Project, as defined in Section 3.2.
- 2.6 **Eligible Private Funding** - Payment required by and made to WSSC by an Applicant to cover WSSC costs to design and construct a CIP Project needed to accommodate growth.
- 2.7 **SDC Credit** - A dollar value which is credited to an Applicant against SDC payable in connection with Qualified Properties and which equals the total eligible costs as defined in Section 3.6 incurred by the Applicant in the Applicant's design and construction of a Qualified Project or the amount of eligible private funding made by the Applicant to cover WSSC costs to design and construct a Qualified Project. An Applicant who designs a Qualified Project must also construct that Project in order to be eligible to receive SDC Credits.
- 2.8 **SDC Credit Agreement** - An agreement that summarizes the eligible costs considered for SDC Credit (as described in Section 3.6). The SDC Credit Agreement is appended to an SEP. The credit agreement is included in the MOU as Attachment A.
- 2.9 **SDC Ledger** - The record of SDC credit authorized for an Applicant and the amount(s) of SDC credit issued or reimbursed to the Applicant for fixtures covered by plumbing permits obtained in the course of developing Qualified Properties associated with a Qualified Project.
- 2.10 **Credit Voucher** - The document (Attachment "B"), executed by the Applicant, which serves as the instrument to obtain SDC credit associated with an application for permit to install plumbing fixtures. Each Credit Voucher may apply only to a single application for plumbing permit and shall:
- identify the Qualified Project from which credit is derived; and
 - specify the Qualified Property for which the credit is requested; and
 - be signed by the Applicant or its authorized agent, be duly notarized; and
 - show the amount to be credited in lieu of SDC payment
- 2.11 **Qualified Project Scope** - The specific scope of the qualified project. For pipelines built under an SEP, the specific scope will be included with the SDC Credit Agreement, and

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WSSC STANDARD PROCEDURES

will include pipeline lengths and diameters, valves, vaults and any other appurtenant structures. For facility projects, the specific scope of work will be included with the MOU.

PROCEDURES

- 3.0 An Applicant shall declare a desire to design and construct a Qualified Project eligible for SDC credit either as an element of its request for a Hydraulic Planning Analysis filed with the Development Services Group or in a written response to the Letter of Findings prepared by the Development Services Group. For projects that were previously authorized, but have not yet been issued an SEP or MOU, the Applicant may request an authorization amendment to allow the Applicant to design and construct a Qualified Project eligible for SDC credit.
- 3.1 The Applicant agrees to pay WSSC all review fees normally due WSSC. Letters of credit are not acceptable in lieu of fees.
- 3.2 When an Applicant has requested that it be permitted to design and construct a CIP Project, the Development Services Group shall prepare a map during its hydraulic planning analysis that identifies the Qualified Properties to be served by the CIP Project which the Applicant has requested to design and construct. SDC Credit will only be issued to properties within the geographic boundaries identified in the map as Qualified Properties. A copy of the prepared map will be sent to the Applicant.
- 3.3 If WSSC either authorizes the Applicant to design and construct a Qualified Project or requires eligible private funding from the Applicant of WSSC's design and construction costs, then the properties identified as served by the Project will receive credit and/or be subject to SDC Payments which may be reimbursed to the Applicant up to the total eligible amount. The Permit Services Unit will establish an Applicant's SDC Ledger following either 1) execution of a MOU or SEP covering Applicant design and construction of the Qualified Project or 2) WSSC receipt of eligible private funding of the Qualified Project from the Applicant. Prior to establishing the Applicant's SDC Ledger, the Permit Services Unit requires a map identifying all Qualified Properties to be served by the Qualified Project from the Development Services Group. **Please note that for pipeline jobs, the Applicant will not receive SDC credit or reimbursement unless the SDC credit agreement is signed before the SEP is issued.**
- 3.4 The SDC Ledger will reflect the total amount of SDC credit/reimbursement that the Applicant is eligible to receive. If the Applicant is designing and constructing the Qualified Project, the Ledger will initially reflect the Applicant's SDC credit based upon the estimated total eligible costs agreed upon in the MOU or SEP. The Applicant's initial Ledger credit amount will be adjusted to reflect the actual total eligible costs for the Qualified Project, as determined by the WSSC's Internal Audit Manager (as discussed in Sections 3.5, 3.6, 3.7, 3.8 and 3.12), after the Qualified Project has been accepted and placed in service by WSSC. If WSSC is designing and constructing a Qualified Project, the Ledger will reflect the total amount of eligible private funding received from the Applicant.
- 3.5 SDC credits may not exceed 50% of the estimated total eligible project cost (not to

WSSC STANDARD PROCEDURES

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include contingency for increase in scope items (see Section 3.8)) until such time as final audit is completed and the actual total eligible project cost is determined. Once the actual total eligible project cost is determined, SDC credits are available up to the eligible project cost and quarterly refunds (based upon SDC collected for qualified properties) will commence. Prior to the final audit, the Credit Voucher is the only method of reimbursement to the Applicant.

Following WSSC receipt of eligible private funding, SDC credits against the ledger amount may be granted. However in the SDC credits toward the private funding may not exceed 50% of the total estimated project cost.

- 3.6 When an Applicant is designing and constructing a Qualified Project, SDC Credit is the total eligible Project cost incurred and paid by the Applicant. The SDC Credit is subject to the general guidelines that (1) eligible costs will be the types of costs that WSSC would have incurred had WSSC designed and constructed the Qualified Project, and (2) the SDC Credit will not exceed the maximum amount mutually agreed upon in the SDC Credit Agreement. Eligible costs must be directly allocable to the Qualified Project. Examples include, but are not limited to

Engineering Costs: design, reprographics, survey (topo), soil borings, As-built drawing preparation, and bonding fees.

Permits Costs: Costs for permits that WSSC would have had to acquire had WSSC built the project.

WSSC Fees for Pipelines: Fees for extra WSSC reviews or re-testing will be considered only if non-eligible portions of the job do not require extra reviews or re-testing. Unless mentioned otherwise, fees will be allocated to the Qualified Project based on estimated costs and overall water and sewer project cost for the project number.

WSSC Fees for Facilities: All WSSC direct costs and overhead associated with the qualified project as stated in the MOU.

Construction Costs: Contractors bid price, survey (stake out), Geotech (compaction testing), off-site restoration, and construction management.

Interest Costs: Interest costs for funds used during design and construction, at an average interest rate not to exceed the rate paid by WSSC on short-term construction notes outstanding during the period beginning with the date of WSSC signature on the SEP or MOU agreement and ending when the Qualified Project is substantially complete.

Off-Property Rights of Way: Acquisition costs are eligible up to amount appraised by WSSC for purchase of off-Applicant's property right-of-way and construction strips, plus up to 25 percent of the appraised amount for direct costs associated with purchase of off-site rights-of-way and construction strips.

- 3.7 Examples of costs that are not eligible include, but are not limited to

Area wide planning not directly related to the Qualified Project;

Attorneys fees

WSSC STANDARD PROCEDURES

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- The WSSC Hydraulic Review Fee
 - Costs for negotiation of SDC Credit Agreement or MOU;
 - Bonus payments or acceleration costs paid to the contractor for completion of construction;
 - Third party inspection costs for facility projects;
 - Applicant's overhead costs not directly attributable to the Qualified Project;
 - Costs outside the scope of the Qualified Project;
 - Permit costs associated with a development rather than the Qualified Project;
 - Site acquisition costs beyond what WSSC would have paid;
 - Facilities capital cost of money;
 - Fines and penalties;
 - Maintenance Costs;
 - Maintenance Bond Costs that are beyond both two years after substantial completion and beyond one year after release of service or final acceptance.
 - Grading of rights of way;
 - Sediment control for grading;
 - Clearing and grubbing for public rights-of-way in which the Qualified Project will be installed;
 - Federal and state income taxes;
 - Administrative or Management Fees not directly associated with the Qualified Project, and
 - Personal injury compensation or damages.
- 3.8 The maximum SDC reimbursement shall not exceed 110 percent of the contractor bid price plus other eligible costs.
- 3.9 The SDC Credit Agreement will not provide payment to the Applicant for costs the Applicant did not incur or for costs reimbursed to the Applicant from other sources. The SDC Credit Agreement will not provide any premiums for expedited work.
- 3.10 Prior to SDC Credit Agreement or MOU approval, the WSSC project manager for the project is responsible to have components of the SDC Credit Agreement or MOU

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WSSC STANDARD PROCEDURES

reviewed by other offices. The Contract Technical Services Unit should review the Applicant's construction costs using a copy of the signed plans. Internal Audit is to review any item that the WSSC project manager proposes which is contrary to items 3.6 or 3.7. Other appropriate WSSC offices should be consulted such as the Land Acquisition Unit for additional land acquisition costs and the Planning Group for planning costs.

- 3.11 For Qualified Projects, the SEP or MOU agreements should indicate that the Maintenance Bond should remain in effect at least two years beyond the date of substantial completion for SEP projects or at least one year beyond the date of final acceptance for MOU projects. The Applicant will submit a written request for audit to WSSC's Internal Audit Manager, after the Qualified Project built by the Applicant has been released for service (pipelines) or finally accepted (facilities). Along with the request, the Applicant must submit an itemized listing of eligible Qualified Project costs, incurred and paid, supporting the total amount of SDC Credit claimed. **It should be emphasized that the Applicant should retain all the contracts, invoices and payments for WSSC Internal Audit to inspect and review to determine the SDC credits.**
- 3.12 In compliance with Article 29 § 6-113(e)(4), of the Annotated Code of Maryland, WSSC's Internal Audit Manager shall review and approve the costs incurred by the Applicant. The Internal Audit Manager will strive to initiate the audit within 90 days of the Applicant's request, if the request includes the required itemized cost listing. The Internal Audit Report will be the formal document that communicates the final results of the audit to WSSC and the Applicant. When an audit is complete, prior to the final Internal Audit Report, the Internal Audit Manager will issue to the Applicant an unsigned DISCUSSION DRAFT to allow the Applicant an opportunity to discuss with Internal Audit any concerns the Applicant has with the proposed SDC Credit. Subsequently, the Internal Audit Manager will issue to the Applicant its final Report on the SDC Credit to be provided the Applicant.
- 3.13 SDC credits against an Applicant's SDC Credit balance will be issued by WSSC upon receipt of a complete and fully executed Credit Voucher submitted at the time of plumbing permit application. The application must be made in connection with a Qualified Property served by the Qualified Project (being) built by the Applicant. Also, the amount specified in the Credit Voucher shall not exceed the calculated SDC for plumbing fixtures covered by the permit application. Credit Vouchers reflecting and specifying an amount in excess of calculated SDC for the requested permit will not be accepted. The plumbing permit will be issued after verification that a sufficient credit balance remains to cover the Credit Voucher Amount. Insofar as possible, Credit Vouchers will be considered on a "first come-first served" basis. For a plumbing permit application accompanied by a Credit Voucher for which an Applicant's credit balance has been exhausted, the credit voucher and the associated application will be returned to the applicant. WSSC is not responsible for managing or assisting the Applicant in managing the issuance of Credit Vouchers. Managing the issuance of Credit Vouchers is not an eligible cost for reimbursement.
- 3.14 In the event an issued Plumbing Permit expires or is cancelled by the owner or

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WSSC STANDARD PROCEDURES

- plumber, no SDC reimbursement to the Applicant will be approved for that permit. In such cases, any Credit Voucher will be voided and the credit amount added to the Applicant's outstanding Ledger balance.
- 3.15 In conformance with Section 3.18, SDC payments received in association with applications for plumbing permits for Qualified Properties will be identified as eligible for reimbursement (after the Internal Audit Report has been completed - see Section 3.12) to the Applicant who has constructed the Qualified Projects serving those Qualified Properties.
 - 3.16 For those situations where more than one Qualified Project serves a Qualified Property, SDC reimbursement payments shall be made in proportional shares to the Applicants who have built or funded the Qualified Projects. A proportional share is calculated based upon a Qualified Project's actual eligible costs or funding expressed as a percentage of the sum of all actual eligible costs and/or funding of Qualified Projects serving the Qualified Property.
 - 3.17 At the conclusion of each calendar quarter, the Permit Services Unit will determine the total SDC receipts eligible for reimbursement made for each previously identified Qualified Property. Only those SDC receipts filed in association with plumbing permits under which all covered work has received an approved final inspection are eligible for reimbursement.
 - 3.18 Based upon the quarterly reconciliation, the Permit Services Unit will prepare and forward to the Accounting Group a Payment Request to be made to the appropriate Applicant in an amount equal to the sum of qualifying SDC receipts not yet reimbursed, and a memorandum recommending reimbursement of SDC receipts and identifying the maximum amount recoverable. The memorandum shall be accompanied by a statement detailing eligible plumbing permits.
 - 3.19 Following review of the recommended reimbursement, the Accounting Group will forward the Payment Request and supporting documentation to the Disbursements Group which will issue payment to the Applicant.
 - 3.20 When an Applicant has designed and constructed a Qualified Project, the sum of SDC Credits and Reimbursements pursuant to this procedure will be made only to the maximum determined by the Internal Audit Report and only to the Applicant identified in the MOU or SEP.
 - 3.21 The Applicant may issue credit vouchers to multiple builders to facilitate construction of residential or non-residential structures within the Qualified Property and reimbursement of Qualified Project costs. If the Applicant wishes to transfer its right and title to any remaining SDC credit from a Qualified Project, the Applicant shall notify the Permit Services Unit of the requested transfer. Such notification shall be in writing and shall identify the single entity to receive the entire remaining balance of SDC credit from a Qualified Project. The Permit Services Unit will acknowledge the credit transfer and forward the written request for inclusion in the Qualified Project's MOU or SEP as an amendment. Thereafter, all Qualified Property SDC credits or reimbursements will be issued to the last designated entity in the MOU or SEP as amended.
 - 3.22 Notwithstanding any other provision of this Procedure, SDC Credit or reimbursements

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WSSC STANDARD PROCEDURES

for costs identified in Section 3.3 of this Procedure are limited to SDC transactions for Qualified Properties served by the Qualified Project within a twenty-year period, or until the sum of credits and reimbursements equals the total approved SDC Credit. The twenty-year period will commence for SEP, MOU, or eligible funding projects on the day of release for service. At the conclusion of the twenty-year period, the Permit Services Unit will close the SDC Reimbursement Ledger and will provide written notification of exhaustion or termination of the SDC Credit to the last designated recipient.

AUTHORITY

The General Counsel certifies that this Standard Procedure was adopted pursuant to the authority of Sections 6-113 and 9-101 of Article 29 of the Annotated Code of Maryland.

Distribution List:

MASTER VOLUME LIST:

General Manager's Office
Internal Audit Office
Secretary's Office
Human Resources Group

Other Distribution:

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Engineering and Construction Team
Public Communications
Internal Audit
Customer Care Team
Rate Stabilization and Debt Reduction Team
General Counsel's Office
Development Services Group
Project Delivery Group
Regulatory Services Group
Planning Group
Systems Inspection Group
Customer Relations Group
Permit Services Unit
Accounting Group
Budget Group
Disbursements Group

ATTACHMENT A

SDC CREDITS ESTIMATE

ESTIMATED AMOUNT

Design

Permits

Administration

Interest

WSSC's Fees

Construction Costs

TOTAL ESTIMATED ELIGIBLE COSTS

ATTACHMENT B
WASHINGTON SUBURBAN
SANITARY COMMISSION

System Development Charge
Credit Voucher

I, _____ hereby affirm under penalty of perjury that I am the Developer
(name printed)
or its authorized agent, entitled to an SDC credit pursuant to an approved System Extension
Permit or Memorandum of Understanding for _____, a Qualified
Project. Pursuant to the current

(WSSC Contract No. & C.I.P.No.)

WSSC Standard Operating Procedure, I hereby request that \$ _____ be charged against the
remaining eligible SDC credit balance for the specified Qualified Project. The above credit
amount shall be applied against SDC due in connection with an application for plumbing permit
to install fixtures in an improvement on property described as: _____
_____ which is a "Qualified Property" served by the above named
"Qualified Project."

I agree to indemnify and hold harmless the Washington Suburban Sanitary Commission to whom
this request is presented and its agents and employees, from and against all claims, damages,
losses and expenses, including reasonable attorneys' fees, arising out of or by reason of
complying with this request.

(Developer's Signature)

Subscribed and sworn to before me this _____ day of _____, 20__.

(Notary Public)

(Name Printed)

My Commission Expires _____

STANDARD PROCEDURES
OF
THE WASHINGTON SUBURBAN SANITARY COMMISSION

ORIGINATOR	DEPT. & NUMBER	APPROVED BY/DATE	EFFECTIVE DATE	PAGE 1
Water Resources Planning Section	PD 93-01	<i>Cortez A. White</i> Cortez A. White General Manager	July 1, 1993	of 3

SUBJECT
PROCEDURE FOR DETERMINING PERCENT GROWTH FOR CIP PROJECTS

I. PURPOSE AND APPLICABILITY

The purpose of this procedure is to establish a method for determining what proportion of certain WSSC CIP projects is for growth. This procedure applies after June 30, 1993: 1) to projects which are added to the CIP; and 2) to any revisions of projects already programmed which change the amount of system capacity added by the projects.

II. PROCEDURE AND METHODOLOGY

The Water Resources Planning Section will determine the percent growth for all applicable CIP Projects using the following methodology.

The method involves the following three steps:

Step 1. Test for 100% Growth

If flows/demands remained at June 1993 levels, would a project still be required?

No ==> Growth = 100%
Yes ==> Continue to Step 2

Step 2. Test for 0% Growth

Does the project improve or replace components of an existing facility without increasing the capacity of any of the components?

Yes ==> Growth = 0%
No ==> Continue to Step 3

Step 3. Determine Percent Growth

1. Identify system capacity added by the project.
2. Identify and subtract June 30, 1993 capacity deficit, if any.
3. Divide result by total project design capacity.

Notes:

1. For most water and wastewater facilities, there is a straight-forward relationship between demand, capacity requirements, and facility size. For water transmission mains, however, the relationship is more complicated. There are many factors other than size which must be considered to determine capacity. These factors include length, the size and number of interconnections and the allowable energy differential between the points connected by the transmission system. Capacity analysis of a transmission network normally requires computer modeling. Previous water system analyses will be used to the extent they are applicable; however, where no previous analysis exists, computer modeling will be required.
2. If an existing facility with available system capacity is being replaced by a new project which increases total system capacity, the available capacity in the existing facility is lost or wasted. In such cases, existing available capacity will be treated as a negative deficit in Step 3, part 2.

Examples:

1. An existing sewer has a safe capacity of 20 mgd. The June 30, 1993 peak flow is 17 mgd. A proposed parallel sewer will add 10 mgd of capacity for growth. Since the existing sewer can handle the June 30, 1993 flows the project is 100% for growth. (Step 1)
2. An existing sewer has a safe capacity of 20 mgd; its maximum capacity before overflow is 27 mgd. The June 30, 1993 peak flow is 21 mgd. A proposed parallel sewer will add 10 mgd of capacity for growth. Since the existing sewer can handle the June 30, 1993 flows, the project is 100% for growth. (Step 1)
3. An existing pumping station has 1 mgd of capacity. The June 30, 1993 flow is 0.8 mgd. A proposed replacement pumping station will have a total capacity of 1.5 mgd. The existing pumping station is old, and a rehab project would be needed if the new pumping station were not built. Therefore, the station is not 100% for growth. (Step 1) It adds capacity, so it is not 0% growth. (Step 2) The percent for growth is calculated as follows: $0.5 \text{ mgd [the capacity added by the new pumping station] plus } 0.2 \text{ mgd [the amount of lost available capacity] divided by } 1.5 \text{ mgd [the total capacity of the new pumping station]} = 47\%$. (Step 3)

WSSC STANDARD PROCEDURES

DEPT. & NUMBER: FD 93-01

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4. An existing pumping station in good condition has 1 mgd of capacity. The June 30, 1993 flow is 0.8 mgd. A proposed replacement pumping station, located downstream to increase the service area, will have a total capacity of 1.5 mgd. The proposed pumping station is 100% for growth. (Step 1)
5. A pressure zone has a 1 mg storage deficit based on June 30, 1993 demands. When we finally get agreement to build a 3 mg tank in the zone, the deficit has risen to 2 mg. The tank is 66.7% for growth. [3 mg added - 1 mg deficit]/3 mg total capacity = 67.7%. (Step 3)

DISTRIBUTION:

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Bureau of Maintenance
Bureau of Operations
MBE Officer

WASHINGTON SUBURBAN SANITARY COMMISSION
 PROPOSED FYS 2019 - 2024 CIP
 SDC ELIGIBLE PROJECTS
 SUMMARY
 (In Thousands)

PROGRAM NAME	TOTAL COST	FY 2017	FY 2018	TOTAL 6 YEARS	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	BEYOND 6 YEARS
MONTGOMERY COUNTY WATER PROJECTS											
Total Project Costs *	\$13,359	\$4,120	\$5,662	\$3,577	\$2,604	\$554	\$419	\$0	\$0	\$0	\$0
SDC Eligible Costs	\$13,359	\$4,120	\$5,662	\$3,577	\$2,604	\$554	\$419	\$0	\$0	\$0	\$0
BI-COUNTY WATER PROJECTS											
Total Project Costs *	\$3,695	\$0	\$777	\$2,918	\$1,300	\$1,570	\$18	\$10	\$10	\$10	\$0
SDC Eligible Costs	\$614	\$0	\$405	\$209	\$209	\$0	\$0	\$0	\$0	\$0	\$0
PRINCE GEORGE'S COUNTY WATER PROJECTS											
Total Project Costs *	\$257,156	\$55,801	\$51,494	\$145,021	\$43,611	\$36,638	\$27,830	\$13,574	\$13,292	\$10,076	\$4,840
SDC Eligible Costs	\$188,282	\$39,614	\$44,986	\$98,842	\$38,769	\$29,998	\$16,480	\$5,084	\$4,802	\$3,709	\$4,840
TOTAL WATER PROJECT COSTS	\$274,210	\$59,921	\$57,933	\$151,516	\$47,515	\$38,762	\$28,267	\$13,584	\$13,302	\$10,086	\$4,840
TOTAL WATER SDC ELIGIBLE COSTS	\$202,255	\$43,734	\$51,053	\$102,628	\$41,582	\$30,552	\$16,899	\$5,084	\$4,802	\$3,709	\$4,840
MONTGOMERY COUNTY SEWERAGE PROJECTS											
Total Project Costs *	\$30,324	\$1,559	\$2,951	\$25,814	\$12,537	\$10,317	\$2,960	\$0	\$0	\$0	\$0
SDC Eligible Costs	\$30,324	\$1,559	\$2,951	\$25,814	\$12,537	\$10,317	\$2,960	\$0	\$0	\$0	\$0
BI-COUNTY SEWERAGE PROJECTS											
Total Project Costs *	\$490	\$0	\$320	\$170	\$95	\$15	\$15	\$15	\$15	\$15	\$0
SDC Eligible Costs	\$262	\$0	\$180	\$82	\$47	\$7	\$7	\$7	\$7	\$7	\$0
PRINCE GEORGE'S COUNTY SEWERAGE PROJECTS											
Total Project Costs *	\$195,593	\$148,857	\$18,975	\$27,761	\$18,158	\$8,223	\$133	\$41	\$683	\$523	\$0
SDC Eligible Costs	\$164,570	\$124,518	\$16,030	\$24,022	\$15,570	\$7,072	\$133	\$41	\$683	\$523	\$0
TOTAL SEWERAGE PROJECT COSTS	\$226,407	\$150,416	\$22,246	\$53,745	\$30,790	\$18,555	\$3,108	\$56	\$698	\$538	\$0
TOTAL SEWERAGE SDC ELIGIBLE COSTS	\$195,156	\$126,077	\$19,161	\$49,918	\$28,154	\$17,396	\$3,100	\$48	\$690	\$530	\$0
TOTAL PROJECT COSTS	\$500,617	\$210,337	\$80,179	\$205,261	\$78,305	\$57,317	\$31,375	\$13,640	\$14,000	\$10,624	\$4,840
TOTAL SDC ELIGIBLE COSTS	\$397,411	\$169,811	\$70,214	\$152,546	\$69,736	\$47,948	\$19,999	\$5,132	\$5,492	\$4,239	\$4,840

* Total Project Costs – This is the total cost for all projects needed to support growth. SDC Eligible Costs – That portion of Total Project Costs specifically for growth. (i.e. if a project supports 50% Growth and 50% System Improvements, SDC Eligible Costs refer only to the 50% Growth portion).

WASHINGTON SUBURBAN SANITARY COMMISSION
 PROPOSED FY'S 2019 - 2024 CIP
 SDC ELIGIBLE PROJECTS
 (In Thousands)

<u>PROJECT NUMBER</u>	<u>PROJECT NAME</u>	<u>TOTAL COST</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>TOTAL 6 YEARS</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>BEYOND 6 YEARS</u>
<u>WATER PROJECTS</u>												
<u>BI-COUNTY PROJECTS</u>												
W-202.00	LAND & RIGHTS-OF-WAY ACQUISITION - BI-COUNTY WATER	3,695	0	777	2,918	1,300	1,570	18	10	10	10	0
	TOTAL GROWTH COSTS	614	0	405	209	209	0	0	0	0	0	0
SUBTOTAL BI-COUNTY WATER PROJECTS		\$3,695	\$0	\$777	\$2,918	\$1,300	\$1,570	\$18	\$10	\$10	\$10	\$0
SUBTOTAL BI-COUNTY SDC ELIGIBLE COSTS		\$614	\$0	\$405	\$209	\$209	\$0	\$0	\$0	\$0	\$0	\$0
<u>MONTGOMERY COUNTY PROJECTS</u>												
W-46.15	CLARKSBURG ELEVATED WATER STORAGE FACILITY	7,594	2,081	3,649	1,864	1,864		0	0	0	0	0
	TOTAL GROWTH COSTS	7,594	2,081	3,649	1,864	1,864	0	0	0	0	0	0
W-46.24	CLARKSBURG AREA STAGE 3 WATER MAIN, PART 4	3,969	2,039	437	1,493	581	493	419	0	0	0	0
	TOTAL GROWTH COSTS	3,969	2,039	437	1,493	581	493	419	0	0	0	0
W-46.25	CLARKSBURG AREA STAGE 3 WATER MAIN, PART 5	1,796	0	1,576	220	159	61	0	0	0	0	0
	TOTAL GROWTH COSTS	1,796	0	1,576	220	159	61	0	0	0	0	0
SUBTOTAL MONTGOMERY COUNTY WATER PROJECTS		\$13,359	\$4,120	\$5,662	\$3,577	\$2,604	\$554	\$419	\$0	\$0	\$0	\$0
SUBTOTAL MONTGOMERY COUNTY SDC ELIGIBLE COSTS		\$13,359	\$4,120	\$5,662	\$3,577	\$2,604	\$554	\$419	\$0	\$0	\$0	\$0
<u>PRINCE GEORGE'S COUNTY PROJECTS</u>												
W-34.02	OLD BRANCH AVENUE WATER MAIN	\$24,240	\$2,812	\$198	21,230	\$6,820	\$8,690	\$5,720	\$0	\$0	\$0	\$0
	TOTAL GROWTH COSTS	12,120	1,406	99	10,615	3,410	4,345	2,860	0	0	0	0
W-34.03	WATER TRANSMISSION IMPROVEMENTS 385B PRESSURE ZONE	23,253	1,203	8,830	13,220	6,620	4,400	2,200	0	0	0	0
	TOTAL GROWTH COSTS	23,253	1,203	8,830	13,220	6,620	4,400	2,200	0	0	0	0
W-34.04	BRANCH AVENUE WATER TRANSMISSION IMPROVEMENTS	60,377	8,295	13,825	38,257	14,751	17,741	5,765	0	0	0	0
	TOTAL GROWTH COSTS	60,377	8,295	13,825	38,257	14,751	17,741	5,765	0	0	0	0

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<u>PROJECT NUMBER</u>	<u>PROJECT NAME</u>	<u>TOTAL COST</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>TOTAL 6 YEARS</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>BEYOND 6 YEARS</u>
<u>PRINCE GEORGE'S COUNTY PROJECTS (CONTINUED)</u>												
W-62.05	CLINTON ZONE WATER STORAGE FACILITY IMPLEMENTATION	\$15,527	\$2,087	\$2,002	6,598	\$5,993	\$605	\$0	\$0	\$0	\$0	\$4,840
	TOTAL GROWTH COSTS	15,527	2,087	2,002	6,598	5,993	605	0	0	0	0	4,840
W-65.10	ST. BARNABAS ELEVATED TANK REPLACEMENT	10,784	4,346	6,016	422	422	0	0	0	0	0	0
	TOTAL GROWTH COSTS	5,392	2,173	3,008	211	211	0	0	0	0	0	0
W-84.02	RITCHIE MARLBORO ROAD TRANSMISSION MAIN & PRV	6,867	2,002	3,105	1,760	1,760	0	0	0	0	0	0
	TOTAL GROWTH COSTS	6,867	2,002	3,105	1,760	1,760	0	0	0	0	0	0
W-84.03	SMITH HOME FARMS WATER MAIN	2,603	801	570	1,232	414	412	406	0	0	0	0
	TOTAL GROWTH COSTS	2,603	801	570	1,232	414	412	406	0	0	0	0
W-84.04	WESTPHALIA TOWN CENTER WATER MAIN	1,532	556	43	933	313	367	253	0	0	0	0
	TOTAL GROWTH COSTS	1,532	556	43	933	313	367	253	0	0	0	0
W-93.01	KONTERRA TOWN CENTER EAST WATER MAIN	1,581	43	651	887	61	350	194	282	0	0	0
	TOTAL GROWTH COSTS	1,581	43	651	887	61	350	194	282	0	0	0
W-105.01	MARLTON SECTION 18 WATER MAIN, LAKE MARLTON AVENUE	2,581	29	1	2,551	406	429	429	429	429	429	0
	TOTAL GROWTH COSTS	2,581	29	1	2,551	406	429	429	429	429	429	0
W-111.05	HILLMEADE ROAD WATER MAIN	5,438	1,002	1,760	2,676	2,676	0	0	0	0	0	0
	TOTAL GROWTH COSTS	5,438	1,002	1,760	2,676	2,676	0	0	0	0	0	0
W-119.01	JOHN HANSON HIGHWAY WATER MAIN, PART 1	13,970	6,078	7,282	610	610	0	0	0	0	0	0
	TOTAL GROWTH COSTS	13,970	6,078	7,282	610	610	0	0	0	0	0	0
W-120.14	VILLAGES OF TIMOTHY WATER MAIN, PART 1	1,069	54	540	475	475	0	0	0	0	0	0
	TOTAL GROWTH COSTS	1,069	54	540	475	475	0	0	0	0	0	0
W-120.15	VILLAGES OF TIMOTHY WATER MAIN, PART 2	337	18	170	149	149	0	0	0	0	0	0
	TOTAL GROWTH COSTS	337	18	170	149	149	0	0	0	0	0	0

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<u>PROJECT NUMBER</u>	<u>PROJECT NAME</u>	<u>TOTAL COST</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>TOTAL 6 YEARS</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>BEYOND 6 YEARS</u>
<u>PRINCE GEORGE'S COUNTY PROJECTS (CONTINUED)</u>												
W-123.14	OLD MARLBORO PIKE WATER MAIN	1,755	1,269	118	368	202	166	0	0	0	0	0
	TOTAL GROWTH COSTS	1,755	1,269	118	368	202	166	0	0	0	0	0
W-123.20	OAK GROVE/LEELAND ROADS WATER MAIN, PART 2	\$14,668	\$9,642	\$4,796	\$230	\$230	\$0	\$0	\$0	\$0	\$0	\$0
	TOTAL GROWTH COSTS	7,334	4,821	2,398	115	115	0	0	0	0	0	0
W-137.03	SOUTH POTOMAC SUPPLY IMPROVEMENT, PHASE 2	54,632	30	1,313	53,289	1,575	3,478	12,863	12,863	12,863	9,647	0
	TOTAL GROWTH COSTS	18,575	10	447	18,118	536	1,183	4,373	4,373	4,373	3,280	0
W-147.00	COLLINGTON ELEVATED WATER STORAGE FACILITY	15,942	15,534	274	134	134		0	0	0	0	0
	TOTAL GROWTH COSTS	7,971	7,767	137	67	67	0	0	0	0	0	0
SUBTOTAL PRINCE GEORGE'S COUNTY WATER PROJECTS		\$257,156	\$55,801	\$51,494	\$145,021	\$43,611	\$36,638	\$27,830	\$13,574	\$13,292	\$10,076	\$4,840
SUBTOTAL PRINCE GEORGE'S COUNTY SDC ELIGIBLE COSTS		\$188,282	\$39,614	\$44,986	\$98,842	\$38,769	\$29,998	\$16,480	\$5,084	\$4,802	\$3,709	\$4,840
TOTAL WATER PROJECTS COSTS		\$274,210	\$59,921	\$57,933	151,516	\$47,515	\$38,762	\$28,267	\$13,584	\$13,302	\$10,086	\$4,840
TOTAL WATER SDC ELIGIBLE COSTS		\$202,255	\$43,734	\$51,053	102,628	\$41,582	\$30,552	\$16,899	\$5,084	\$4,802	\$3,709	\$4,840

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 (In Thousands)

<u>PROJECT NUMBER</u>	<u>PROJECT NAME</u>	<u>TOTAL COST</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>TOTAL 6 YEARS</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>BEYOND 6 YEARS</u>
<u>SEWERAGE PROJECTS</u>												
<u>BI-COUNTY PROJECTS</u>												
S-203.00	LAND & RIGHTS-OF-WAY ACQUISITION - BI-COUNTY SEWER	\$490	\$0	\$320	\$170	\$95	\$15	\$15	\$15	\$15	\$15	\$0
	TOTAL GROWTH COSTS	262	0	180	82	47	7	7	7	7	7	0
SUBTOTAL BI-COUNTY SEWERAGE PROJECTS		\$490	\$0	\$320	\$170	\$95	\$15	\$15	\$15	\$15	\$15	\$0
SUBTOTAL BI-COUNTY SDC ELIGIBLE COSTS		\$262	\$0	\$180	\$82	\$47	\$7	\$7	\$7	\$7	\$7	\$0
<u>MONTGOMERY COUNTY PROJECTS</u>												
S-84.47	CLARKSBURG TRIANGLE OUTFALL SEWER, PART 2	2,644	1,185	739	720	619	101	0	0	0	0	0
	TOTAL GROWTH COSTS	2,644	1,185	739	720	619	101	0	0	0	0	0
S-84.60	CABIN BRANCH WASTEWATER PUMPING STATION	3,084	28	270	2,786	1,393	1,393	0	0	0	0	0
	TOTAL GROWTH COSTS	3,084	28	270	2,786	1,393	1,393	0	0	0	0	0
S-84.61	CABIN BRANCH WWPS FORCE MAIN	449	10	60	379	179	180	20	0	0	0	0
	TOTAL GROWTH COSTS	449	10	60	379	179	180	20	0	0	0	0
S-84.67	MILESTONE CENTER SEWER MAIN	514	0	0	514	492	22	0	0	0	0	0
	TOTAL GROWTH COSTS	514	0	0	514	492	22	0	0	0	0	0
S-84.68	CLARKSBURG WASTEWATER PUMPING STATION	3,450	97	261	3,092	1,311	1,552	229	0	0	0	0
	TOTAL GROWTH COSTS	3,450	97	261	3,092	1,311	1,552	229	0	0	0	0
S-84.69	CLARKSBURG WWPS FORCE MAIN	1,840	0	963	877	877	0	0	0	0	0	0
	TOTAL GROWTH COSTS	1,840	0	963	877	877	0	0	0	0	0	0
S-85.21	SHADY GROVE STATION SEWER AUGMENTATION	2,465	125	324	2,016	1,209	807	0	0	0	0	0
	TOTAL GROWTH COSTS	2,465	125	324	2,016	1,209	807	0	0	0	0	0
S-103.16	CABIN JOHN TRUNK SEWER RELIEF	\$15,878	\$114	\$334	\$15,430	\$6,457	\$6,262	\$2,711	\$0	\$0	\$0	\$0
	TOTAL GROWTH COSTS	15,878	114	334	15,430	6,457	6,262	2,711	0	0	0	0
SUBTOTAL MONTGOMERY COUNTY SEWERAGE PROJECTS		\$30,324	\$1,559	\$2,951	\$25,814	\$12,537	\$10,317	\$2,960	\$0	\$0	\$0	\$0
SUBTOTAL MONTGOMERY COUNTY SDC ELIGIBLE COSTS		\$30,324	\$1,559	\$2,951	\$25,814	\$12,537	\$10,317	\$2,960	\$0	\$0	\$0	\$0

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<u>PROJECT NUMBER</u>	<u>PROJECT NAME</u>	<u>TOTAL COST</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>TOTAL 6 YEARS</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>BEYOND 6 YEARS</u>
PRINCE GEORGE'S COUNTY PROJECTS												
S-27.08	WESTPHALIA TOWN CENTER SEWER MAIN	\$850	\$207	\$460	\$183	\$124	\$47	\$12	\$0	\$0	\$0	\$0
	TOTAL GROWTH COSTS	850	207	460	\$183	124	47	12	0	0	0	0
S-28.18	KONTERRA TOWN CENTER EAST SEWER	7,211	5,189	0	2,022	513	385	0	0	642	482	0
	TOTAL GROWTH COSTS	7,211	5,189	0	2,022	513	385	0	0	642	482	0
S-43.02	BROAD CREEK WWPS AUGMENTATION	182,490	143,172	17,325	21,993	15,225	6,768	0	0	0	0	0
	TOTAL GROWTH COSTS	151,467	118,833	14,380	18,254	12,637	5,617	0	0	0	0	0
S-68.01	LANDOVER MALL REDEVELOPMENT	1,305	24	99	1,182	618	397	44	41	41	41	0
	TOTAL GROWTH COSTS	1,305	24	99	1,182	618	397	44	41	41	41	0
S-75.19	BRANDYWINE WOODS WASTEWATER PUMPING STATION	315	7	177	131	67	64	0	0	0	0	0
	TOTAL GROWTH COSTS	315	7	177	131	67	64	0	0	0	0	0
S-75.20	BRANDYWINE WOODS WWPS FORCE MAIN	123	15	41	67	67	0	0	0	0	0	0
	TOTAL GROWTH COSTS	123	15	41	67	67	0	0	0	0	0	0
S-86.19	KARINGTON SUBDIVISION SEWER	672	102	210	360	181	179	0	0	0	0	0
	TOTAL GROWTH COSTS	672	102	210	360	181	179	0	0	0	0	0
S-131.05	PLEASANT VALLEY SEWER MAIN, PART 2	877	43	199	635	393	165	77	0	0	0	0
	TOTAL GROWTH COSTS	877	43	199	635	393	165	77	0	0	0	0
S-131.07	PLEASANT VALLEY SEWER MAIN, PART 1	\$1,750	\$98	\$464	\$1,188	\$970	\$218	\$0	\$0	\$0	\$0	\$0
	TOTAL GROWTH COSTS	1,750	98	464	1,188	970	218	0	0	0	0	0
SUBTOTAL PRINCE GEORGE'S COUNTY SEWERAGE PROJECTS		\$195,593	\$148,857	\$18,975	\$27,761	\$18,158	\$8,223	\$133	\$41	\$683	\$523	\$0
SUBTOTAL PRINCE GEORGE'S COUNTY SDC ELIGIBLE COSTS		\$164,570	\$124,518	\$16,030	\$24,022	\$15,570	\$7,072	\$133	\$41	\$683	\$523	\$0
TOTAL SEWERAGE PROJECTS COSTS		\$226,407	\$150,416	\$22,246	\$53,745	\$30,790	\$18,555	\$3,108	\$56	\$698	\$538	\$0
TOTAL SEWERAGE SDC ELIGIBLE COSTS		\$195,156	\$126,077	\$19,161	\$49,918	\$28,154	\$17,396	\$3,100	\$48	\$690	\$530	\$0
TOTAL PROJECT COSTS		\$500,617	\$210,337	\$80,179	205,261	\$78,305	\$57,317	\$31,375	\$13,640	\$14,000	\$10,624	\$4,840
TOTAL SDC ELIGIBLE COSTS		\$397,411	\$169,811	\$70,214	152,546	\$69,736	\$47,948	\$19,999	\$5,132	\$5,492	\$4,239	\$4,840