# FY 2021 – 2026
# Capital Budget
# Capital Improvements Program

Commission Meeting

July 17, 2019

WSSC
Where Water Matters

# FY 2021 Capital Budget
## Strategic Priorities

Spending affordability and the Capital Improvements Program (CIP) support the following WSSC priorities:

- Improve Infrastructure
  - Achieve Industry-leading Reliability And Asset Integrity
- Wisely Spend Customer Dollars
  - Improve Operations And Maintenance Efficiency
  - Improve Fixed Asset Utilization
  - Improve Financial Process Efficiency

# FY 2021 Capital Budget
## CIP Review Process

- Staff draft document (June)
- Worksession with GM (July 2nd)
- Worksession with Counties (July 9th and 10th)
- Worksession with Commissioners (July 17th)
- Public Hearings (September 4th and 5th)
- Commission approval to transmit (September 18th)
- County Executive and Council review and approval (March through May 2020)
- Adopted CIP (June 2020)

# FY 2021 Capital Budget
## Capital Spending – Policy Guidelines

Attain goal of a sustainable and affordable CIP through:

- Key financial metrics to assess debt service levels while balancing rate and operating growth
  - New debt issuance and related debt service expense must stay within the following guidelines:
    - Debt service coverage: 1.10
    - Debt service as a percent of total expenditures: <40%
- Leveraging multi-year financial planning to establish capital planning expectations for resource capacity and affordability
  - Bond issuance limits ($400M/$350M) set over the capital planning period to smooth out demands
    - Eliminate front loading of projects in CIP years
    - Greater attention on project prioritization
    - Scale down project bond funding to align with affordability

# FY 2021 Capital Budget
## Capital Spending – Policy Guidelines

- Maintain adequate liquidity and fund balance reserves
  - Total operating expenditure growth cannot outpace total revenue growth. This includes the impact of debt service expense and PAYGO.
    - Days operating reserves-on-hand: 60-90 days
    - Ending fund balance as a percent of operating revenue: 10% minimum

| Metrics | CFO Guideline |
|---|---|
| **Debt Service Coverage:** | |
| Debt Service Coverage | **1.10** |
| Debt Service (P+I) as a Percentage Total Expenditures | **<40.0%** |
| **Liquidity and Reserves:** | |
| Operating Reserves Required - 10% | |
| Days Operating Reserves-on-Hand | **60-90** |
| Ending Fund Balance as a Percentage of Operating Revenue | **10.0%** |

WSSC Where Water Matters

# FY 2021 Capital Budget
## Motivating Concerns

- Momentum of Capital Budget
  - FY'10 Capital Budget of $371.1M has grown to $638.5M in FY'19
- Outstanding debt growth +132%, from $1.36B in FY'10 to $3.17B in FY'18
  - Higher borrowing costs due to interest rate risk
- Without more reductions, debt service as a % of total expenditures anticipated to exceed 40% threshold in FY'22
  - Restricts operating budget flexibility and program enhancements
  - Further refunding of outstanding debt is limited

# FY 2021 Capital Budget
## Motivating Concerns

- Customer affordability pressure with preliminary anticipated rate increases of 8.0% each year for the next six years
  - 0.8% of rate increase for additional or reinstated programs
  - 3.1% of rate increase to fund existing operations/debt service
  - 4.1% of rate increase to fund new bond issuance
  - Ready-to-Serve charges are being reviewed in light of current obligations
  - Fund balance and REDO phase-down and phase-out
  - Increased use of PAYGO and reduction to operating expenses

# FY 2021 Capital Budget
## Fiscally Responsible CIP

Results in:

- Maintaining our AAA credit rating
  - Adhering to financial metrics and guidelines
- An affordable CIP
  - Fits within rate increases as proposed
  - Aligns anticipated bond issuance limits over the six-year program
  - Keeps project funding in line with what is affordable
- Increased importance on prioritization of projects for inclusion, elimination, scale-down, or deferral
- Improved cost recovery for Infrastructure Investment Fee as other sources of funding phase-down/out
- Increased use of PAYGO to lower debt service expense and improve metric results - especially with rate risk (5% coupons)

# FY 2021 Capital Budget

## CIP Spending Affordability – Need Based

**PROPOSED BUDGET 8.0% STRAIGHT WITH NO CAPITAL AFFORDABILITY/ NO PAYGO CAP/ LEVEL PRINCIPAL FY 2025/HOLD 40%**

| A | Financial Plan | FY 2020** Approved | FY 2021 Proposed | FY 2022 Projected | FY 2023 Projected | FY 2024 Projected | FY 2025 Projected | FY 2026 Projected | FY 2027 Outer-Year | FY 2028 Outer-Year | FY 2029 Outer-Year | FY 2030 Outer-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | **Affordability:** | | | | | | | | | | | |
| | Rate Increase | 5.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 8.0% | 5.0% | 5.0% | 5.0% | 5.0% |
| II | **Capital Demands:** | | | | | | | | | | | |
| | New Debt Issues | $384,910 | $409,922 | $503,092 | $484,744 | $399,775 | $352,972 | $354,483 | $344,713 | $344,713 | $344,713 | $344,713 |
| | PAYGO | $31,016 | $31,016 | $31,016 | $42,000 | $60,000 | $90,000 | $120,000 | $130,000 | $130,000 | $130,000 | $130,000 |
| | Total Funding for Bonded Projects | | $440,938 | $534,108 | $526,744 | $459,775 | $442,972 | $474,483 | $474,713 | $474,713 | $474,713 | $474,713 |
| | Capital Budget Recon/(Shortfall) | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| III | **Debt Service Coverage:** | | | | | | | | | | | |
| | Net Revenue | $306,429 | $336,872 | $376,476 | $420,268 | $468,614 | $521,914 | $580,599 | $613,926 | $649,499 | $687,390 | $727,731 |
| | Debt Service | $306,307 | $329,841 | $354,306 | $379,839 | $401,576 | $427,426 | $452,077 | $471,026 | $489,352 | $509,566 | $524,577 |
| | Net Revenue Strength | $122 | $7,032 | $22,171 | $40,429 | $67,038 | $94,487 | $128,522 | $142,900 | $160,147 | $177,824 | $203,154 |
| IV | **Liquidity and Reserves:** | | | | | | | | | | | |
| | Ending Fund Balance | $162,376 | $148,876 | $152,415 | $161,827 | $173,847 | $183,318 | $196,825 | $214,709 | $249,840 | $302,649 | $380,787 |
| | Net Increase/(Shortfall) | $0 | $0 | $10,539 | $15,412 | $17,020 | $9,472 | $13,506 | $17,884 | $35,131 | $52,808 | $78,138 |
| V | **Unspecified Reductions:** | | | | | | | | | | | |
| | Reductions | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |

| B | Metrics | CFO Guideline | FY 2020** Approved | FY 2021 Proposed | FY 2022 Projected | FY 2023 Projected | FY 2024 Projected | FY 2025 Projected | FY 2026 Projected | FY 2027 Outer-Year | FY 2028 Outer-Year | FY 2029 Outer-Year | FY 2030 Outer-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | **Debt Service Coverage:** | | | | | | | | | | | | |
| a | Debt Service Coverage | **1.10** | 1.00 | 1.02 | 1.06 | 1.11 | 1.17 | 1.22 | 1.28 | 1.30 | 1.33 | 1.35 | 1.39 |
| b | Debt Service (P+I) as a Percentage Total Expenditures | **<40.0%** | 38.2% | 39.1% | 39.9% | 40.3% | 40.1% | 39.6% | 39.2% | 39.1% | 39.3% | 39.6% | 39.6% |
| II | **Liquidity and Reserves:** | | | | | | | | | | | | |
| a | Operating Reserves Required - 10% | | $77,173 | $82,008 | $87,828 | $94,120 | $100,923 | $108,277 | $116,229 | $121,705 | $127,469 | $133,529 | $139,900 |
| b | Days Operating Reserves-on-Hand | **60-90** | 73.8 | 64.4 | 62.7 | 62.7 | 63.3 | 62.1 | 62.3 | 65.1 | 73.3 | 85.8 | 104.8 |
| c | Ending Fund Balance as a Percentage of Operating Revenue | **10.0%** | 21.0% | 18.2% | 17.4% | 17.2% | 17.2% | 16.9% | 16.9% | 17.6% | 19.6% | 22.7% | 27.2% |
| III | **Workforce** | **n/a** | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 |

# FY 2021 Capital Budget

## CIP Spending Affordability – Constrained

**PROPOSED BUDGET 7.2% FY 2021 WITH $400M/$350M CAPITAL AFFORDABILITY/ NO PAYGO CAP/ LEVEL PRINCIPAL FY 2025/HOLD 41% - BASE CASE**

| A | Financial Plan | FY 2020** Approved | FY 2021 Proposed | FY 2022 Projected | FY 2023 Projected | FY 2024 Projected | FY 2025 Projected | FY 2026 Projected | FY 2027 Outer-Year | FY 2028 Outer-Year | FY 2029 Outer-Year | FY 2030 Outer-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | **Affordability:** | | | | | | | | | | | |
| | Rate Increase | 5.0% | 7.2% | 6.0% | 6.0% | 5.5% | 5.0% | 5.0% | 5.0% | 5.0% | 5.0% | 5.0% |
| II | **Capital Demands:** | | | | | | | | | | | |
| | New Debt Issues | $384,910 | $409,922 | $432,080 | $368,673 | $350,042 | $350,019 | $350,019 | $350,019 | $350,019 | $350,019 | $350,019 |
| | PAYGO | $31,016 | $31,016 | $31,016 | $40,000 | $50,000 | $60,000 | $75,000 | $80,000 | $80,000 | $90,000 | $100,000 |
| | Total Funding for Bonded Projects | | $440,938 | $463,096 | $408,673 | $400,042 | $410,019 | $425,019 | $430,019 | $430,019 | $440,019 | $450,019 |
| | Capital Budget (Shortfall) v. No Constraint | $0 | $0 | ($71,012) | ($118,071) | ($59,733) | ($32,953) | ($49,464) | ($44,694) | ($44,694) | ($34,694) | ($24,694) |
| III | **Debt Service Coverage:** | | | | | | | | | | | |
| | Net Revenue | $306,429 | $337,084 | $367,795 | $400,781 | $432,250 | $461,680 | $492,899 | $526,001 | $561,090 | $598,275 | $637,674 |
| | Debt Service | $306,307 | $329,841 | $351,462 | $370,571 | $387,414 | $411,849 | $436,170 | $455,629 | $474,386 | $495,022 | $510,445 |
| | Net Revenue Strength | $122 | $7,243 | $16,333 | $30,210 | $44,836 | $49,831 | $56,729 | $70,372 | $86,704 | $103,254 | $127,229 |
| IV | **Liquidity and Reserves:** | | | | | | | | | | | |
| | Ending Fund Balance | $162,376 | $149,088 | $146,789 | $147,983 | $152,801 | $157,616 | $154,329 | $154,686 | $166,375 | $184,613 | $216,826 |
| | Net Increase/(Shortfall) | $0 | $212 | $4,701 | $7,193 | $9,818 | $4,815 | ($3,287) | $357 | $11,689 | $18,238 | $32,213 |
| V | **Unspecified Reductions:** | | | | | | | | | | | |
| | Reductions | $0 | $0 | $0 | $0 | ($5,000) | ($10,000) | ($10,000) | ($5,000) | $0 | $0 | $0 |

| B | Metrics | CFO Guideline | FY 2020** Approved | FY 2021 Proposed | FY 2022 Projected | FY 2023 Projected | FY 2024 Projected | FY 2025 Projected | FY 2026 Projected | FY 2027 Outer-Year | FY 2028 Outer-Year | FY 2029 Outer-Year | FY 2030 Outer-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | **Debt Service Coverage:** | | | | | | | | | | | | |
| a | Debt Service Coverage | **1.10** | 1.00 | 1.02 | 1.05 | 1.08 | 1.13 | 1.15 | 1.15 | 1.17 | 1.18 | 1.21 | 1.25 |
| b | Debt Service (P+I) as a Percentage Total Expenditures | **<40.0%** | 38.2% | 39.3% | 40.2% | 40.5% | 40.7% | 41.4% | 41.6% | 41.6% | 41.8% | 41.9% | 41.7% |
| II | **Liquidity and Reserves:** | | | | | | | | | | | | |
| a | Operating Reserves Required - 10% | | $77,173 | $81,494 | $85,880 | $90,535 | $95,082 | $99,471 | $104,085 | $108,937 | $114,038 | $119,400 | $125,039 |
| b | Days Operating Reserves-on-Hand | **60-90** | 73.8 | 64.9 | 61.3 | 59.0 | 58.6 | 57.8 | 53.7 | 51.6 | 53.6 | 57.1 | 64.7 |
| c | Ending Fund Balance as a Percentage of Operating Revenue | **10.0%** | 21.0% | 18.3% | 17.1% | 16.3% | 16.1% | 15.8% | 14.8% | 14.2% | 14.6% | 15.5% | 17.3% |
| III | **Workforce** | **n/a** | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 | 1,776 |

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# FY 2021 Capital Budget

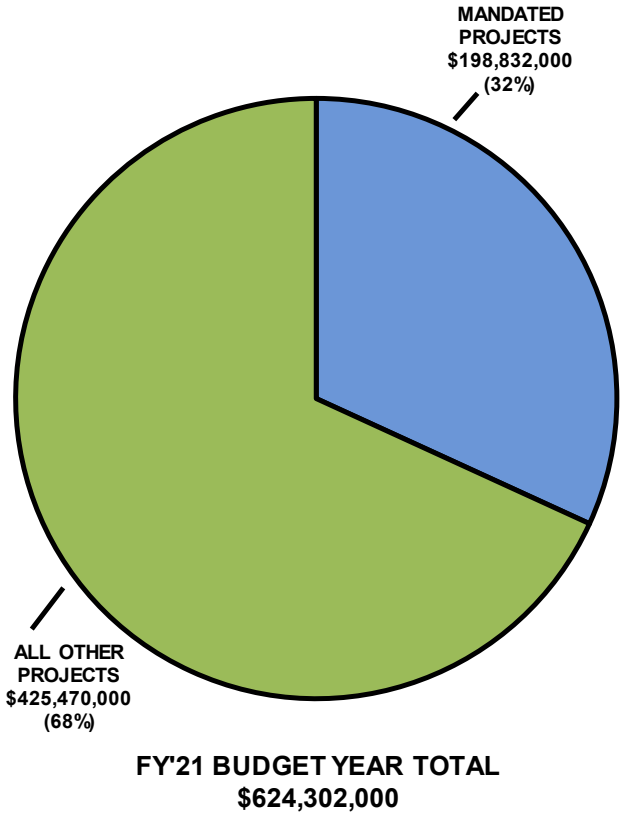
## Capital Reductions - Projects Impacted

| | Phase | FY'21 | FY'22 | FY'23 | FY'24 | FY'25 | FY'26 |
|---|---|---|---|---|---|---|---|
| **Combined Program Bond Fundable only** | | 571,876 | 655,222 | 641,715 | 557,113 | 500,931 | 536,156 |
| Less Mandated Projects | | (175,019) | (205,772) | (202,089) | (171,571) | (170,077) | (198,043) |
| Less Projects in Construction | | (161,384) | (174,055) | (143,995) | (106,965) | (77,572) | (76,086) |
| Remaining Projects Eligible to be cut | | 235,473 | 275,395 | 295,631 | 278,577 | 253,282 | 262,027 |
| **Target Reduction Amounts --->** | | - | (71,012) | (118,071) | (59,733) | (32,953) | (49,464) |
| **Prince George's County Project Cuts** | | | | | | | |
| W - 000012.02 - Prince George's County HG415 Zone Water Main | D-90 | 2,201 | 73 | - | - | - | - |
| W - 000034.02 - Old Branch Avenue Water Main | D-100 | 3,886 | 3,337 | - | - | - | - |
| W - 000034.05 - Marlboro Zone Reinforcement Main | D-98 | 1,235 | - | - | - | - | - |
| W - 000084.05 - Prince George's County 450A Zone Water Main | D-70 | 18,403 | 16,375 | 15,325 | 13,225 | 6,925 | 6,270 |
| W - 000137.03 - South Potomac Supply Improvement, Phase 2 | D-30 | 139 | 13,895 | 13,895 | 13,895 | - | - |
| S - 000077.20 - Parkway North Substation Replacement | D-11 | 1,357 | 138 | - | - | - | - |
| S - 000157.02 - Western Branch WRRF Process Train Improvements | D-0 | 880 | 880 | 3,465 | 3,465 | 3,465 | 1,894 |
| | | 28,101 | 34,698 | 32,685 | 30,585 | 10,390 | 8,164 |
| **Montgomery County Projects Cuts** | | | | | | | |
| S - 000094.13 - Damascus Town Center WWPS Replacement | P-5 | 456 | 2,031 | 3,590 | 167 | - | - |
| S - 000094.14 - Spring Gardens WWPS Replacement | P-5 | 233 | 693 | 1,731 | 678 | - | - |
| | | 689 | 2,724 | 5,321 | 845 | - | - |
| **Bi-County Projects & Program Cuts** | | | | | | | |
| W - 000073.22 - Potomac WFP Pre-Filter Chlorination & Air Scour Improvements | D-100 | 2,991 | - | - | - | - | - |
| W - 000073.32 - Potomac WFP Main Zone Pipeline | P-25 | 688 | 7,387 | 13,640 | 10,340 | 3,410 | - |
| W - 000161.01 - Large Diameter Water Pipe & Large Valve Rehabilitation Program | On-going | 58,139 | 67,803 | 76,426 | 79,120 | 81,045 | 83,675 |
| W - 000172.07 - Patuxent Raw Water Pipeline | D-98 | 9,570 | 6,160 | - | - | - | - |
| S - 000170.08 - Septage Discharge Facility Planning & Implementation | D-90 | 12,461 | 2,769 | - | 3,643 | 3,643 | - |
| W - 000001.00 - Water Reconstruction Program | On-going | 72,494 | 85,068 | 101,030 | 115,018 | 131,051 | 146,561 |
| A - 000101.04 - Laboratory Services Building Expansion | D-0 | 1,276 | 9,525 | 9,779 | - | - | - |
| A - 000102.00 - Engineering Support Program | On-going | 18,000 | 18,000 | 18,000 | 20,000 | 20,000 | 20,000 |
| A - 000103.00 - Energy Performance Program | On-going | 7,595 | 4,841 | 3,331 | 1,375 | - | - |
| W - 000105.00 - Water Storage Facility Rehabilitation Program | On-going | 1,650 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 |
| W - 000107.00 - Specialty Valve Vault Rehabilitation Program | On-going | 1,132 | 2,214 | 1,213 | 1,266 | 443 | 327 |
| A - 000109.00 - Advanced Metering Infrastructure | P-80 | 20,687 | 30,906 | 30,906 | 13,085 | - | - |
| | | 206,683 | 237,973 | 257,625 | 247,147 | 242,892 | 253,863 |
| **Required Reduction = 1.0% rate decrease:** | **119,261** | | | | | | |

# FY 2021 Capital Budget
## CIP, Information Only, Other Capital

- Six-year program cost $3.7 billion
  - Bond funded $3.3 billion (plus PAYGO of $186 million)
  - Mandated projects $1.3 billion (34%)
    - Blue Plains $443 million
    - Consent Decree $810 million
    - Other Regulatory & Agreement $16 million
- FY'21 Budget Year cost $624.3 million
  - Bond funded $540.9 million (plus PAYGO of $31.0 million)
  - Mandated projects $198.8 million (32%)

# FY 2021 Capital Budget
## Mandated Projects




In the FY'21 Capital Budget nearly one third (32%) of the planned spending is mandated by existing Multi-Jurisdiction agreements or by Consent Decrees.

| Mandated Projects | FY'21 Amount |
|---|---|
| Consent Decrees | 135,674,000 |
| Blue Plains | 59,506,000 |
| Other Agreements | 3,652,000 |
| **Total** | **198,832,000** |

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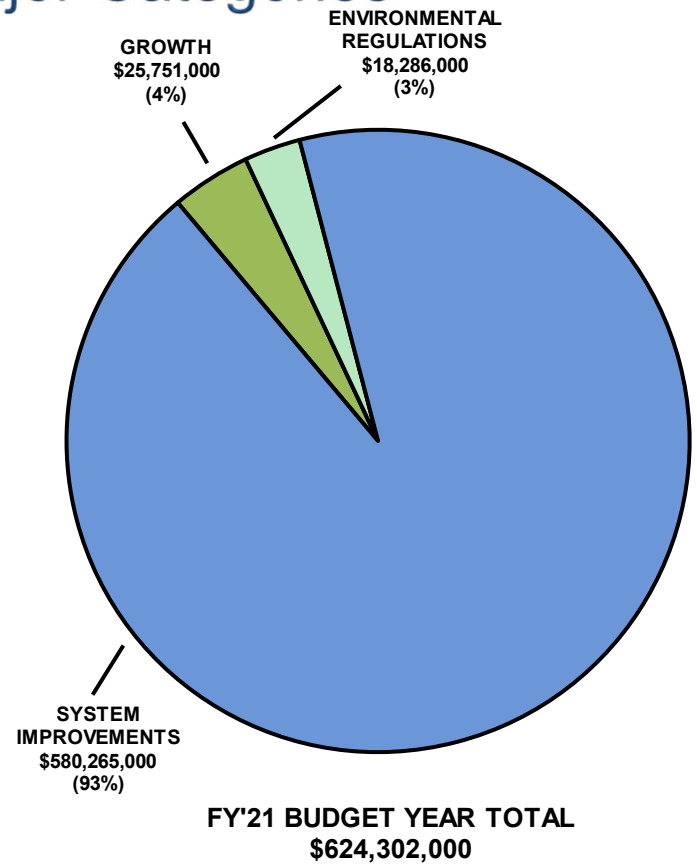
# FY 2021 Capital Budget

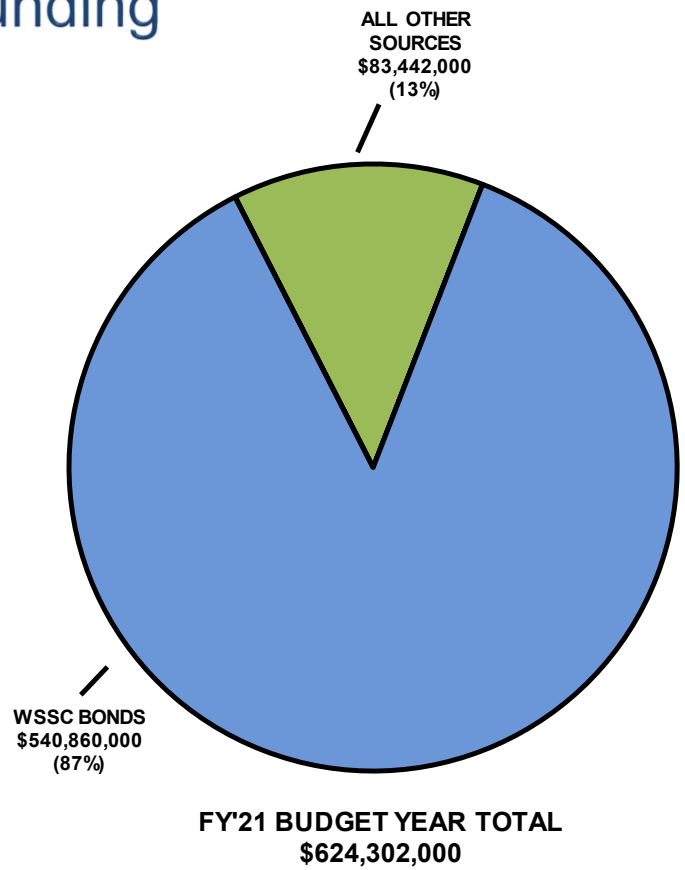
## Major Categories




Over 90% of the FY'21 Capital Budget is for reinvestment in our system infrastructure.

| Major Category | FY'21 Amount |
|---|---|
| System Improvements | 580,265,050 |
| Growth | 25,750,950 |
| Environmental | 18,286,000 |
| **Total** | **624,302,000** |

# FY 2021 Capital Budget
## Funding




**FY'21 BUDGET YEAR TOTAL**
**$624,302,000**

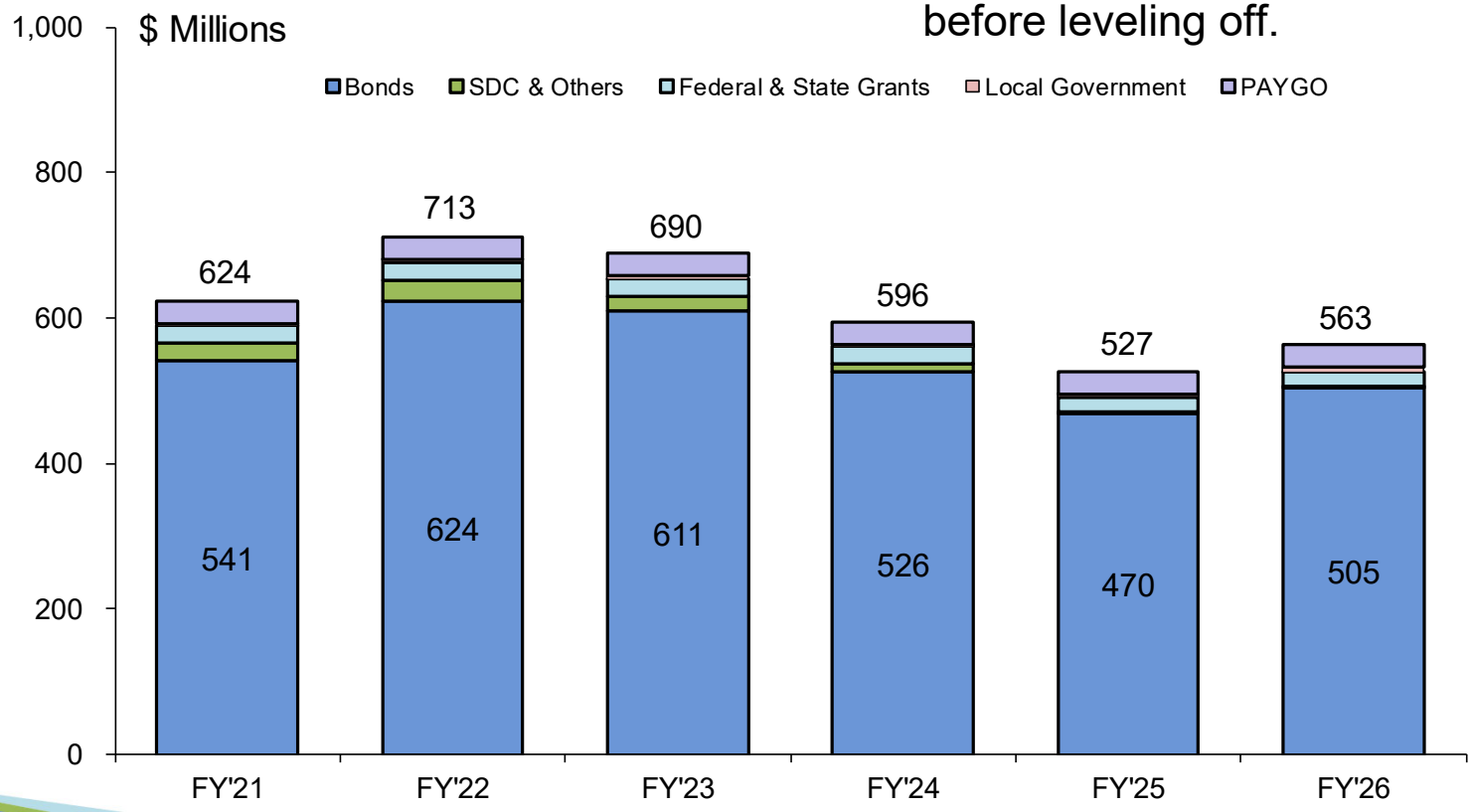
Nearly 90% of the FY'21 Capital Budget is funded through long-term debt.

| Funding Source | FY'21 Amount |
|---|---|
| Federal & State Grants | 23,000,000 |
| SDC & Others | 25,750,600 |
| Local Government Contributions | 3,675,000 |
| WSSC Bonds | 540,860,400 |
| PAYGO | 31,016,000 |
| **Total** | **624,302,000** |

# FY 2021 Capital Budget

## Funding Projections

Projected Bond debt peaks in FY'22 & FY'23 before leveling off.



# FY 2021 Capital Budget
## Operating Budget Impacts – Need Based

| | FY'21 | FY'22 | FY'23 | FY'24 | FY'25 | FY'26 |
|---|---|---|---|---|---|---|
| **Net Bond Amount*** | 409,922,000 | 503,092,000 | 484,744,000 | 399,775,000 | 352,972,000 | 354,483,000 |
| | | | | | | |
| **Increase in Debt Service** | 26,666,000 | 32,727,000 | 31,533,000 | 26,006,000 | 28,826,000 | 28,949,000 |
| | | | | | | |
| **Rate Impact** | 4.1% | 4.7% | 4.1% | 3.2% | 3.2% | 3.0% |
| | | | | | | |
| | *The Net Bond Amount assumes completion factors and PAYGO amounts. | | | | | |
| | *The Increase in Debt Service assumes one principal payment and two interest payments. | | | | | |

# FY 2021 Capital Budget
## Highlighted Projects

### Sewer Reconstruction Program

(S-1.01; page 7-4)

- Nearly 5,000 miles of sewer main and associated sewer house connections
- Rehabilitate 20 miles per year
- Consent Decree: all 131.4 miles released for construction; 131.0 completed
- Funding via MDE low-interest loans and Bay grants
- FY'21 program 20 miles sewer mains; 6 miles lateral lines and house connections
- FY'21 budget $ 55.5 million

# FY 2021 Capital Budget
## Highlighted Projects

### Water Reconstruction Program

(W-1.00; page 7-3)

- Over 4,500 miles of water main and associated water house connections
- Rehabilitated on average more than 50 miles per year over past 10 years
- Investing in new technology and tools to develop a more efficient and effective program
- FY'21 program 25 miles
- FY'21 budget $72.5 million

# FY 2021 Capital Budget
## Highlighted Projects

Large Diameter Water Pipe & Valve Program

(W-161.01; page 3-9)

- Program scope: over 1,000 miles of water pipe and over 1400 large water valves
- Over 100 miles of PCCP pipe inspected and monitored 24/7; avoided 25 imminent pipe failures
- Over 8,000 pipe joints repaired; 700 pipe segments repaired/replaced
- Over 1,200 valves inspected and repaired as needed
- FY'21 budget $58.1 million

# FY 2021 Capital Budget
## Highlighted Projects

Trunk Sewer Reconstruction Program

(S-170.09; page 4-11)

- Inspection and evaluation of all 24 sewer basins complete (over 1300 miles inspected)
- Comprehensive rehabilitation of sewer pipes in Environmentally Sensitive Areas currently underway to reduce infiltration and inflow
- Replacement of pipe; relining of pipe; pipeline protection; and, rehabilitation of manholes and force mains
- Over 155 of 156 miles released for construction; 121.8 miles completed
- Sanitary Sewer Overflow Consent Decree deadline extended to 2022
- FY'21 budget $69.5 million

# FY 2021 Capital Budget
## Highlighted Projects

### Potomac Water Filtration Plant

The Potomac plant produced an average of 123 million gallons of water per day (mgd)

Consent Decree Program (W-73.33, page 3-7)

- Short-term Capital Projects currently in construction, expect to complete summer 2020
- Long-term Upgrade Plan approved by MDE currently in design
- Revised cost estimate $202 million
- FY'21 budget $10.5 million

# FY 2021 Capital Budget
## Highlighted Projects

### Patuxent Water Filtration Plant

The Patuxent plant in Laurel produced an average of 41 million gallons of water per day (mgd) in FY'18

- Raw Water Pipeline (W-172.07, page 3-12)
  New raw water pipeline to plant; final permits received; expect to go to construction late summer; FY'21 budget $9.6 million

- Rocky Gorge Pump Station Upgrade
  (W-172.08, page 3-13)
  Upgrades to expand plant to pump up to 110 MGD of raw water up to plant; currently in construction with completion this winter; FY'21 budget $400,000

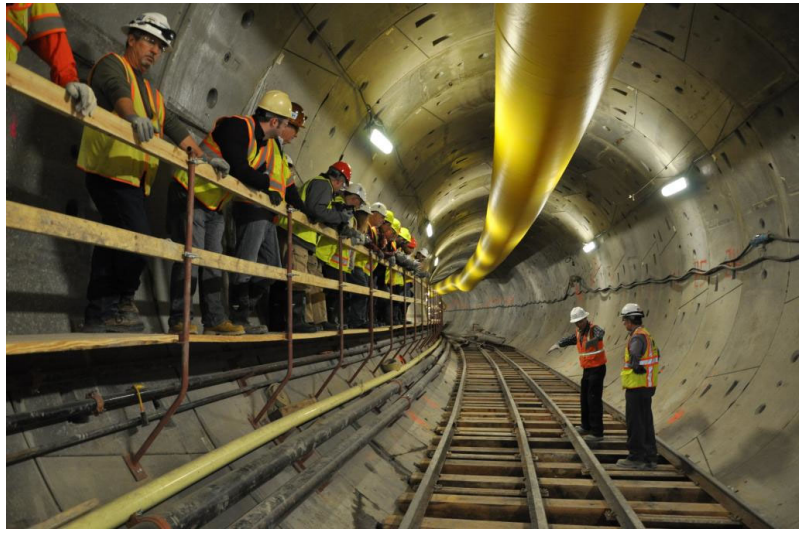
# FY 2021 Capital Budget
## Highlighted Projects

### Blue Plains WWTP

(S-22.series, page 4-2)

The Blue Plains WWTP is owned and operated by DC Water. WSSC's share of the capital costs of the plant is approximately 46%

- The Blue Plains WWTP treats approximately 65% of WSSC's wastewater
- The largest projects include the Long-Term Control Plan tunnels, and the Enhanced Nutrient Removal projects
- At $443 million, Blue Plains projects represent 22% of the six-year CIP program
- The FY'21 budget, at $59.5 million, represents 16% of the budget year



# FY 2021 Capital Budget
## Highlighted Projects

### Broad Creek WWPS Augmentation

(S-43.02, page 6-5)

- Piscataway WRRF headworks and storage upgrade; northern end of force main and southern end of force main projects construction completed
- Pumping station modifications in construction with expected completion next summer 2020
- Project Update Newsletters sent out to citizens and stakeholders
- FY'21 budget $166,000

# FY 2021 Capital Budget
## Highlighted Projects

### Piscataway Bioenergy

(S-103.02; p.4-8)

- Innovative project that will transform sewage into renewable energy
- Recover 2-3 megawatts of renewable energy
- Treat biosolids from 5 Water Resource Recovery Facilities
- Reduce Greenhouse Gas Emissions
- Protect the Chesapeake Bay
- Projected economic benefit of $3.7M per year
- Construction started May 2019
- FY'21 budget $61.3 million

# FY 2021 Capital Budget
## Highlighted Projects

- Advanced Metering Infrastructure (AMI) (A-109.00; p. 7-10): Implementation of a system-wide fully automated meter reading infrastructure system and new comprehensive customer billing and data analysis integration software.
- AMI will improve both customer service and operational efficiency including:
  - Monthly billing based on fully automated, actual meter readings. Reduced bill amount will help customers stay current with payments, help customers develop a greater awareness of their water consumption, and ensure that any excessive consumption due to leaks are addressed more quickly
  - Active notification of customers with abnormal consumption that might signify leaks before customers get high consumption bills
  - Reduced customer calls and 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, plus inflation, originating from the March 2011 study and are expected to change based upon the latest technology available at the time the project is bid. (Total Cost: $99.6M)

# FY 2021 Capital Budget
## New Projects

- Shady Grove Neighborhood Center (S-85.22; p.2-6) This project provides for the planning, design and construction of 3,600 feet of 15-inch sewer main and 875 feet of 18-inch sewer main to serve the Shady Grove Neighborhood Center Subdivision. (Developer funded; Total Cost: $3.4M)
- Regional Water Supply Resiliency (W-175.05; p.3-14) This project provides for a regional raw water supply reservoir and raw water conveyance system to serve the long-range water supply needs of the Washington metropolitan region. The project will be contingent upon receipt of federal grant funding and the execution of other relevant cost sharing agreements between WSSC and other ICPRB CO-OP Operations Committee members. (Grant funded; Initial Cost: $15.0M)
- Laboratory Division Building Expansion (A-101.04; p.7-5) This project provides for the planning, design, and construction of a 12,405 square-foot expansion to the Consolidated Laboratory Facility to accommodate the increased analytical workload, ensure that all data meets requirements set forth by the regulators, and to improve the safety of WSSC's employees and customers. (Bond funded; FY'21 estimate: $1.3M)
- Other Capital Programs (A-110.00; p.7-11) This project includes miscellaneous capital projects, programs, allocated costs and expenditures for common, non-CIP, enterprise-wide activities such as Relocations, New Water & Sewer House Connections, Purchase of Water Meters, Paving and General Construction of Local Lines. (Bond funded; FY'21 estimate: $70.6M)

# FY 2021 Capital Budget
## Projects Closing Out

- Thirteen projects pending close out (page 3)
- Total cost $135.1 million

  - W-3.02 Olney Standpipe Replacement
  - W-46.15 Clarksburg Elevated Water Storage Facility
  - W-138.02 Shady Grove Standpipe Replacement
  - S-84.60 Cabin Branch Wastewater Pumping Station
  - S-84.61 Cabin Branch WWPS Force Main
  - S-84.69 Clarksburg WWPS Force Main
  - S-103.16 Cabin John Trunk Sewer Relief

  - W-34.03 Water Transmission Improvements 385B Pressure Zone
  - W-62.05 Clinton Zone Water Storage Facility Implementation
  - W-65.10 St. Barnabas Elevated Tank Replacement
  - S-57.92 Western Branch Facility Upgrade
  - S-75.19 Brandywine Woods Wastewater Pumping Station
  - S-75.20 Brandywine Woods WWPS Force Main

# FY 2021 Capital Budget
## Impacts of Reductions

- Capital deferral impacts
  - Increased frequency of breaks and leaks; delayed response time; loss of service disruption to customers and businesses
  - Increased frequency of sanitary sewer overflows; community and recreational impacts; possible fines for failing to meet Consent Decree deadlines
  - Increased Operating & Maintenance costs
  - Delayed needed rehabilitation of depot facilities
  - Delayed risk reduction at Potomac WFP
  - Delayed risk reduction and benefits of expanded Patuxent WFP
  - Increased backlog of water tanks needing rehabilitation
  - Deferred corrections of water deficiencies in Clinton Zone
  - Delayed benefits of AMI including monthly billing
  - Possible water quality violations at Laboratory


# Questions?

WSSC
Where Water Matters

**WASHINGTON SUBURBAN SANITARY COMMISSION**

**COMMISSION SUMMARY**

**AGENDA CATEGORY:** Finance Office

**ITEM NUMBER:** **DATE:** July 17, 2019

| | |
|---|---|
| **SUBJECT** | Work Session/Briefing –Proposed Capital Improvements Program (CIP) for Fiscal Years 2021 – 2026 |
| **SUMMARY**<br><br>**SPECIAL COMMENTS** | Section 23-301 of the Public Utilities Article requires the WSSC to prepare, and submit to the Counties, a Proposed Capital Improvements Program by October 1 of each year.<br><br>While not required by State Law, good public policy dictates that public hearings should be held on the proposed program before it is transmitted to the two Counties. Public Hearings have been scheduled for September 4th and 5th and Commission action is required later in September.<br><br>In order to meet this schedule, a worksession is needed at this time to receive Commission input. |
| **CONTRACT NO./ REFERENCE NO.** | Not applicable. |
| **COSTS** | FY'21 Capital Budget CIP Six-Year Program $3,712,427,000. |
| **AMENDMENT/ CHANGE ORDER NO. AMOUNT** | Not applicable. |
| **MBE PARTICIPATION** | Not applicable. |
| **PRIOR STAFF/ COMMITTEE REVIEW**<br><br>**PRIOR STAFF/ COMMITTEE APPROVALS** | Carla Reid, General Manager/CEO<br>Joseph F. Beach, Deputy General Manager for Administration<br>Patricia Colihan, Chief Financial Officer<br>Letitia Carolina-Powell, Budget Division Manager |
| **RECOMMENDATION TO COMMISSION** | Briefing only - review of draft Public Hearing document. |
| **COMMISSION ACTION** | |

# WSSC STAFF DRAFT PROPOSED FYS 2021-2026 CIP
## JULY 17, 2019
### (ALL FIGURES IN THOUSANDS)

| Project Number | Title | Rank | Priority Score | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Status | Page |
|---|---|---|---|---|---|---|---|---|
| S - 1.01 | Sewer Reconstruction Program | 1 | 1.576 | $ 53,218 | $ 372,224 | $ 55,495 | On-Going | 7-4 |
| S - 43.02 | Broad Creek WWPS Augmentation | 2 | 1.468 | 10,408 | 166 | 166 | Construction-90% | 6-4 |
| S - 170.09 | Trunk Sewer Reconstruction Program | 3 | 1.381 | 65,864 | 277,943 | 69,491 | On-Going | 4-11 |
| S - 131.10 | Fort Washington Forest No. 1 WWPS Augmentation | 4 | 1.340 | 1,004 | 22 | 22 | Construction-25% | 6-12 |
| W - 73.33 | Potomac WFP Consent Decree Program | 5 | 1.294 | 11,025 | 160,125 | 10,500 | Design-0% | 3-7 |
| S - 22.10 | Blue Plains WWTP: Enhanced Nutrient Removal | 6 | 0.893 | 1,507 | 21,469 | 294 | Construction-96% | 4-6 |
| W - 139.02 | Duckett & Brighton Dam Upgrades | 7 | 0.619 | 10,011 | 22 | 22 | Construction-57% | 3-8 |
| W - 1.00 | Water Reconstruction Program | 8 | 0.564 | 70,232 | 651,222 | 72,494 | On-Going | 7-3 |
| W - 161.01 | Large Diameter Water Pipe & Large Valve Rehabilitation Program | 9 | 0.537 | 43,301 | 446,208 | 58,139 | On-Going | 3-9 |
| W - 73.32 | Potomac WFP Main Zone Pipeline | 10 | 0.501 | 880 | 35,465 | 688 | Planning-25% | 3-6 |
| **A - 101.04** | **Laboratory Services Building Expansion** | **11** | **0.492** | **1,243** | **20,580** | **1,276** | **Design-0%** | **7-5** |
| W - 73.22 | Potomac WFP Pre-Filter Chlorination & Air Scour Improvements | 12 | 0.486 | 8,713 | 2,991 | 2,991 | Design-100% | 3-4 |
| W - 90.04 | Brink Zone Reliability Improvements | 13 | 0.483 | 8,007 | 619 | 619 | Construction-45% | 1-5 |
| A - 103.00 | Energy Performance Program | 14 | 0.465 | 3,094 | 17,142 | 7,595 | On-Going | 7-7 |
| S - 96.14 | Piscataway WRRF Facility Upgrades | 15 | 0.458 | 39,350 | 96,226 | 28,284 | Construction-7% | 6-9 |
| S - 94.14 | Spring Gardens WWPS Replacement | 16 | 0.455 | 460 | 10,105 | 705 | Planning-5% | 2-8 |
| W - 172.07 | Patuxent Raw Water Pipeline | 17 | 0.453 | 4,582 | 15,730 | 9,570 | Design-98% | 3-12 |
| S - 94.13 | Damascus Town Center WWPS Replacement | 18 | 0.450 | 534 | 8,920 | 652 | Planning-5% | 2-7 |
| W - 73.30 | Potomac WFP Submerged Channel Intake | 19 | 0.449 | - | - | - | Planning-100% | 3-5 |
| S - 103.02 | Piscataway Bioenergy | 20 | 0.444 | 39,709 | 212,310 | 61,320 | Construction-2% | 4-8 |
| W - 137.03 | South Potomac Supply Improvement, Phase 2 | 21 | 0.435 | 1,449 | 63,369 | 210 | Design-30% | 5-15 |
| W - 105.00 | Water Storage Facility Rehabilitation Program | 22 | 0.425 | 550 | 18,150 | 1,650 | On-Going | 7-8 |
| S - 77.20 | Parkway North Substation Replacement | 23 | 0.413 | 5,663 | 1,495 | 1,357 | Design-11% | 6-7 |
| W - 107.00 | Specialty Valve Vault Rehabilitation Program | 24 | 0.401 | 391 | 6,595 | 1,132 | On-Going | 7-9 |
| S - 22.06 | Blue Plains WWTP: Liquid Train Projects, Part 2 | 25 | 0.381 | 22,831 | 166,285 | 23,432 | On-Going | 4-3 |
| S - 22.07 | Blue Plains WWTP: Biosolids Management, Part 2 | 25 | 0.381 | 10,164 | 59,673 | 11,347 | On-Going | 4-4 |
| S - 22.09 | Blue Plains WWTP: Plant-wide Projects | 25 | 0.381 | 10,487 | 85,492 | 10,811 | On-Going | 4-5 |
| S - 22.11 | Blue Plains: Pipelines & Appurtenances | 25 | 0.381 | 17,117 | 110,567 | 13,622 | On-Going | 4-7 |
| S - 75.21 | Mattawoman WWTP Upgrades | 29 | 0.374 | 3,190 | 15,488 | 3,630 | On-Going | 6-6 |

# WSSC STAFF DRAFT PROPOSED FYS 2021-2026 CIP
## JULY 17, 2019
### (ALL FIGURES IN THOUSANDS)

| Project Number | Title | Rank | Priority Score | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Status | Page |
|---|---|---|---|---|---|---|---|---|
| W - 34.05 | Marlboro Zone Reinforcement Main | 30 | 0.369 | $ 2,496 | $ 1,235 | $ 1,235 | Design-98% | 5-5 |
| W - 84.05 | Prince George's County 450A Zone Water Main | 31 | 0.369 | 567 | 76,523 | 18,403 | Design-70% | 5-10 |
| W - 172.08 | Rocky Gorge Pump Station Upgrade | 32 | 0.347 | 2,640 | 392 | 392 | Construction-77% | 3-13 |
| S - 157.02 | Western Branch WRRF Process Train Improvements | 33 | 0.313 | 330 | 14,049 | 880 | Design-0% | 6-13 |
| A - 102.00 | Engineering Support Program | 34 | 0.308 | 18,000 | 114,000 | 18,000 | On-Going | 7-6 |
| W - 84.02 | Ritchie Marlboro Road Transmission Main & PRV | 35 | 0.298 | 713 | 69 | 69 | Construction-96% | 5-7 |
| W - 34.02 | Old Branch Avenue Water Main | 36 | 0.293 | 5,574 | 14,446 | 7,772 | Design-100% | 5-3 |
| W - 34.04 | Branch Avenue Water Transmission Improvements | 37 | 0.290 | 4,343 | 16,624 | 3,520 | Construction-65% | 5-4 |
| S - 170.08 | Septage Discharge Facility Planning & Implementation | 38 | 0.283 | 12,461 | 22,516 | 12,461 | Design-90% | 4-10 |
| W - 113.20 | White Oak Water Mains Augmentation | 39 | 0.278 | 355 | 4,615 | 355 | Planning-10% | 1-6 |
| A - 109.00 | Advanced Metering Infrastructure | 40 | 0.276 | 3,039 | 95,584 | 20,687 | Planning-80% | 7-10 |
| W - 111.05 | Hillmeade Road Water Main | 41 | 0.270 | 138 | 69 | 69 | Construction-98% | 5-13 |
| W - 12.02 | Prince George's County HG415 Zone Water Main | 42 | 0.265 | 1,105 | 2,274 | 2,201 | Design-90% | 5-2 |
| **S - 85.22** | **Shady Grove Neighborhood Center** | **43** | **0.239** | **658** | **2,733** | **1,367** | **Planning-40%** | **2-6** |
| W - 62.06 | Rosaryville Water Storage Facility | 44 | 0.027 | - | 230 | - | Design-0% | 5-6 |
| W - 202.00 | Land & Rights-of-Way Acquisition - Bi-County Water | 44 | 0.186 | 913 | 1,580 | 1,512 | On-Going | 3-15 |
| S - 203.00 | Land & Rights-of-Way Acquisition - Bi-County Sewer | 44 | 0.186 | 50 | 883 | 283 | On-Going | 4-12 |
| S - 84.68 | Clarksburg Wastewater Pumping Station & Sewer Improvements | 47 | 0.184 | 3,082 | 618 | 618 | Construction-0% | 2-4 |
| **W - 175.05** | **Regional Water Supply Resiliency** | **48** | **0.181** | **-** | **15,000** | **1,500** | **Planning-0%** | **3-14** |
| W - 46.24 | Clarksburg Area Stage 3 Water Main, Part 4 | 49 | 0.167 | 278 | 439 | 439 | Construction-75% | 1-3 |
| W - 84.03 | Smith Home Farms Water Main | 49 | 0.167 | 606 | 1,303 | 439 | Construction-75% | 5-8 |
| W - 84.04 | Westphalia Town Center Water Main | 49 | 0.167 | 45 | 1,024 | 342 | Construction-40% | 5-9 |
| W - 93.01 | Konterra Town Center East Water Main | 49 | 0.167 | 714 | 1,340 | 814 | Construction-3% | 5-11 |
| S - 27.08 | Westphalia Town Center Sewer Main | 49 | 0.167 | 487 | 207 | 141 | Construction-40% | 6-2 |
| S - 28.18 | Konterra Town Center East Sewer | 49 | 0.167 | - | 1,992 | 1,992 | Construction-72% | 6-3 |
| S - 86.19 | Southlake Subdivision Sewer | 55 | 0.158 | 222 | 384 | 187 | Design-100% | 6-8 |
| S - 84.67 | Milestone Center Sewer Main | 56 | 0.149 | - | 546 | 522 | Design-0% | 2-3 |
| W - 105.01 | Marlton Section 18 Water Main, Lake Marlton Avenue | 56 | 0.149 | 1 | 2,706 | 429 | Design-20% | 5-12 |
| S - 131.05 | Pleasant Valley Sewer Main, Part 2 | 56 | 0.149 | 212 | 674 | 419 | Design-60% | 6-10 |

# WSSC STAFF DRAFT PROPOSED FYS 2021-2026 CIP
## JULY 17, 2019
### (ALL FIGURES IN THOUSANDS)

| Project Number | Title | Rank | Priority Score | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Status | Page |
|---|---|---|---|---|---|---|---|---|
| S - 131.07 | Pleasant Valley Sewer Main, Part 1 | 56 | 0.149 | $ 495 | $ 1,261 | $ 1,029 | Design-80% | 6-11 |
| S - 300.01 | D'Arcy Park North Relief Sewer | 56 | 0.149 | 275 | 575 | 290 | Design-20% | 7-12 |
| S - 85.21 | Shady Grove Station Sewer Augmentation | 61 | 0.147 | 353 | 6,110 | 5,773 | Design-50% | 2-5 |
| W - 46.25 | Clarksburg Area Stage 3 Water Main, Part 5 | 62 | 0.143 | 1,987 | 408 | 408 | Construction-70% | 1-4 |
| W - 120.14 | Timothy Branch Water Main | 62 | 0.143 | 1,782 | 981 | 981 | Planning-100% | 5-14 |
| S - 68.01 | Landover Mall Redevelopment | 62 | 0.143 | 105 | 1,251 | 649 | Planning-20% | 6-5 |
| **A - 110.00** | **Other Capital Programs** | **N/A** | **N/A** | **68,862** | **431,183** | **70,610** | **On-Going** | **7-11** |

| | | | |
|---|---|---|---|
| **Bi-County Projects** | **$ 262,255** | **$ 1,634,651** | **$ 288,375** |
| **Montgomery County Projects** | **15,714** | **35,113** | **11,458** |
| **Prince George's County Projects** | **80,999** | **315,408** | **75,240** |
| **CIP Projects** | **$ 358,968** | **$ 1,985,172** | **$ 375,073** |
| **Information Only Projects** | **218,904** | **1,727,255** | **249,229** |
| **Closeout Projects** | **3,919** | **-** | **-** |
| **COMBINED PROGRAM** | **$ 581,791** | **$ 3,712,427** | **$ 624,302** |

Washington Suburban Sanitary Commission

# PROPOSED FYS 2021 - 2026 CIP
# STAFF DRAFT

***COMMISSIONER'S WORKSESSION***

***DETAILED BACKUP PACKAGE***

***JULY 17, 2019***

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**SECTION 5 – PRINCE GEORGE'S COUNTY WATER PROJECTS**

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(Continued)

PAGE NO.

DATE: October 1, 2019

# FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

**EXPENDITURE PROJECTIONS**

| | EST. TOTAL COST | EXPEND THRU 19 | EST. EXPEND 20 | TOTAL SIX YEARS | EXPENDITURE SCHEDULE YR 1 21 | YR 2 22 | YR 3 23 | YR 4 24 | YR 5 25 | YR 6 26 | BEYOND SIX YEARS | PAGE NUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Montgomery County Water Projects | 55,801 | 38,090 | 11,630 | 6,081 | 1,821 | 325 | 2,278 | 1,657 | 0 | 0 | 0 | 1-1 |
| Prince George's County Water Projects | 293,581 | 82,483 | 20,625 | 182,193 | 36,484 | 55,457 | 40,853 | 35,064 | 7,380 | 6,955 | 8,280 | 5-1 |
| Bi-County Water Projects | 960,670 | 94,088 | 82,065 | 677,513 | 85,314 | 111,620 | 125,584 | 124,445 | 116,415 | 114,135 | 107,004 | 3-1 |
| **TOTAL WATER PROJECTS** | **1,310,052** | **214,661** | **114,320** | **865,787** | **123,619** | **167,402** | **168,715** | **161,166** | **123,795** | **121,090** | **115,284** | |
| Montgomery County Sewerage Projects | 55,371 | 19,663 | 6,676 | 29,032 | 9,637 | 6,633 | 10,468 | 2,294 | 0 | 0 | 0 | 2-1 |
| Prince George's County Sewerage Projects | 464,580 | 267,948 | 61,701 | 133,215 | 38,756 | 46,691 | 34,227 | 6,504 | 4,304 | 2,733 | 1,716 | 6-1 |
| Bi-County Sewerage Projects | 1,777,847 | 447,382 | 180,190 | 957,138 | 203,061 | 212,224 | 180,015 | 134,432 | 101,528 | 125,878 | 193,137 | 4-1 |
| **TOTAL SEWERAGE PROJECTS** | **2,297,798** | **734,993** | **248,567** | **1,119,385** | **251,454** | **265,548** | **224,710** | **143,230** | **105,832** | **128,611** | **194,853** | |
| **TOTAL CIP PROGRAM** | **3,607,850** | **949,654** | **362,887** | **1,985,172** | **375,073** | **432,950** | **393,425** | **304,396** | **229,627** | **249,701** | **310,137** | |
| Total Information Only Projects | 1,949,222 | 1,092 | 218,904 | 1,727,255 | 249,229 | 279,817 | 296,233 | 291,261 | 297,428 | 313,287 | 1,971 | 7-1 |
| **COMBINED PROGRAM** | **5,557,072** | **950,746** | **581,791** | **3,712,427** | **624,302** | **712,767** | **689,658** | **595,657** | **527,055** | **562,988** | **312,108** | |

**FUNDING SOURCES**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 4,480,446 | 448,110 | 494,215 | 3,276,917 | 540,860 | 624,206 | 610,699 | 526,097 | 469,915 | 505,140 | 261,204 |
| PAYGO | 248,128 | 0 | 31,016 | 186,096 | 31,016 | 31,016 | 31,016 | 31,016 | 31,016 | 31,016 | 31,016 |
| State Grants | 382,481 | 238,190 | 21,291 | 123,000 | 21,500 | 21,500 | 20,000 | 20,000 | 20,000 | 20,000 | 0 |
| System Development Charge | 315,523 | 224,205 | 22,325 | 60,713 | 9,530 | 22,555 | 17,801 | 10,597 | 0 | 230 | 8,280 |
| Contribution/Other | 66,115 | 32,072 | 10,109 | 23,934 | 16,221 | 4,812 | 1,397 | 500 | 502 | 502 | 0 |
| Government Contributions | 48,809 | 7,599 | 2,835 | 26,767 | 3,675 | 4,678 | 4,745 | 3,447 | 4,122 | 6,100 | 11,608 |
| Federal Grants | 15,570 | 570 | 0 | 15,000 | 1,500 | 4,000 | 4,000 | 4,000 | 1,500 | 0 | 0 |
| **COMBINED PROGRAM** | **5,557,072** | **950,746** | **581,791** | **3,712,427** | **624,302** | **712,767** | **689,658** | **595,657** | **527,055** | **562,988** | **312,108** |

# WSSC FYS 2021 - 2026 CIP
## NEW PROJECTS LISTING
### (ALL FIGURES IN THOUSANDS)

| Agency Number | Project Name | Total Project Cost | 6 Year Program Cost | Budget Year Cost | % of Growth |
|---|---|---|---|---|---|
| ***Montgomery County Sewer Projects*** | | | | | |
| S-85.22 | Shady Grove Neighborhood Center | $3,391 | $2,733 | $1,367 | 100% |
| ***Bi-County Water Projects*** | | | | | |
| W-175.05 | Regional Water Supply Resiliency | 15,000 | 15,000 | 1,500 | 0% |
| ***Information Only Projects*** | | | | | |
| A-101.04 | Laboratory Services Building Expansion | 21,844 | 20,580 | 1,276 | 0% |
| A-110.00 | Other Capital Programs | 500,045 | 431,183 | 70,610 | 0% |
| | **TOTALS** | **$540,280** | **$469,496** | **$74,753** | |

# WSSC FYS 2021 - 2026 CIP
## ALL PROJECTS PENDING CLOSE-OUT
### (ALL FIGURES IN THOUSANDS)

| Agency Number | Project Name | Estimated Total Cost | Expenditures Thru FY'19 | Estimated Expenditures FY'20 | Remarks |
|---|---|---|---|---|---|
| ***Montgomery County Water Projects*** | | | | | |
| W-3.02 | Olney Standpipe Replacement | $8,019 | $7,608 | $411 | Project completion expected in FY'20. |
| W-46.15 | Clarksburg Elevated Water Storage Facility | 7,208 | 7,024 | 184 | Project completion expected in FY'20. |
| W-138.02 | Shady Grove Standpipe Replacement | 12,052 | 11,644 | 408 | Project completion expected in FY'20. |
| ***Montgomery County Sewer Projects*** | | | | | |
| S-84.60 | Cabin Branch Wastewater Pumping Station | 3,435 | 2,099 | 1,336 | Project completion expected in FY'20. |
| S-84.61 | Cabin Branch WWPS Force Main | 542 | 289 | 253 | Project completion expected in FY'20. |
| S-84.69 | Clarksburg WWPS Force Main | - | - | - | Project combined with S-84.68. |
| S-103.16 | Cabin John Trunk Sewer Relief | 14,516 | 14,516 | - | Project completed. |
| ***Prince George's County Water Projects*** | | | | | |
| W-34.03 | Water Transmission Improvements 385B Pressure Zone | 14,320 | 13,765 | 555 | Project completion expected in FY'20. |
| W-62.05 | Clinton Zone Water Storage Facility Implementation | 10,036 | 9,681 | 355 | Project completion expected in FY'20. |
| W-65.10 | St. Barnabas Elevated Tank Replacement | 12,318 | 12,136 | 182 | Project completion expected in FY'20. |
| ***Prince George's County Sewer Projects*** | | | | | |
| S-57.92 | Western Branch Facility Upgrade | 52,672 | 52,437 | 235 | Project completion expected in FY'20 |
| S-75.19 | Brandywine Woods Wastewater Pumping Station | - | - | - | Project canceled |
| S-75.20 | Brandywine Woods WWPS Force Main | 12 | 12 | - | Project canceled |
| | **TOTALS** | **$135,130** | **$131,211** | **$3,919** | |

13 Projects Pending Close-Out

# Section 1 - Montgomery County Water Projects

DATE: October 1, 2019

# FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

**MONTGOMERY COUNTY WATER PROJECTS**

| AGENCY NUMBER | PROJECT NAME | EST. TOTAL COST | EXPEND THRU 19 | EST. EXPEND 20 | TOTAL SIX YEARS | EXPENDITURE SCHEDULE | | | | | | BEYOND SIX YEARS | PAGE NUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YR 1 21 | YR 2 22 | YR 3 23 | YR 4 24 | YR 5 25 | YR 6 26 | | |
| W-46.24 | Clarksburg Area Stage 3 Water Main, Part 4 | 4,515 | 3,798 | 278 | 439 | 439 | 0 | 0 | 0 | 0 | 0 | 0 | 1-3 |
| W-46.25 | Clarksburg Area Stage 3 Water Main, Part 5 | 2,845 | 450 | 1,987 | 408 | 408 | 0 | 0 | 0 | 0 | 0 | 0 | 1-4 |
| W-90.04 | Brink Zone Reliability Improvements | 16,192 | 7,566 | 8,007 | 619 | 619 | 0 | 0 | 0 | 0 | 0 | 0 | 1-5 |
| W-113.20 | White Oak Water Mains Augmentation | 4,970 | 0 | 355 | 4,615 | 355 | 325 | 2,278 | 1,657 | 0 | 0 | 0 | 1-6 |
| | Projects Pending Close-Out | 27,279 | 26,276 | 1,003 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1-7 |
| | **TOTALS** | 55,801 | 38,090 | 11,630 | 6,081 | 1,821 | 325 | 2,278 | 1,657 | 0 | 0 | 0 | |

## GERMANTOWN/CLARKSBURG AREA PROJECTS

**(ALL FIGURES IN THOUSANDS)**

| AGENCY NUMBER | PROJECT NAME | ADOPTED FY'20 TOTAL COST | PROPOSED FY'21 TOTAL COST | CHANGE $ | CHANGE % | SIX-YEAR COST | COMPLETION DATE (est) |
|---|---|---|---|---|---|---|---|
| W-46.24 | Clarksburg Area Stage 3 Water Main, Part 4 | 4,088 | 4,515 | 427 | 10.4% | 439 | Developer Dependent |
| W-46.25 | Clarksburg Area Stage 3 Water Main, Part 5 | 2,712 | 2,845 | 133 | 4.9% | 408 | Developer Dependent |
| | **TOTALS** | **$6,800** | **$7,360** | **$560** | **8.2%** | **$847** | |

**Summary:** These projects are in response to the growth in the up-county area including Germantown and Clarksburg. 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 for project W-46.24 Clarksburg Area Stage 3 Water Main, Part 4 and project W-46.25 Clarksburg Area Stage 3 Water Main, Part 5 have increased based upon updated information provided by the developer.

# Clarksburg Area Stage 3 Water Main, Part 4

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000046.24 | 113800 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 542 | 480 | 32 | 30 | 30 | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 3,879 | 3,318 | 210 | 351 | 351 | | | | | | |
| Other | 94 | | 36 | 58 | 58 | | | | | | |
| **Total** | **4,515** | **3,798** | **278** | **439** | **439** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 4,515 | 3,798 | 278 | 439 | 439 | | | | | | |

**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**

Cost and schedule updated based upon information provided by the developer.

**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: Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Montgomery County Government
Coordinating Projects: W - 000046.15 - Clarksburg Elevated Water Storage Facility; W - 000046.25 - Clarksburg Area Stage 3 Water Main, Part 5

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $192 | |
| Debt Service | | |
| Total Cost | $192 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

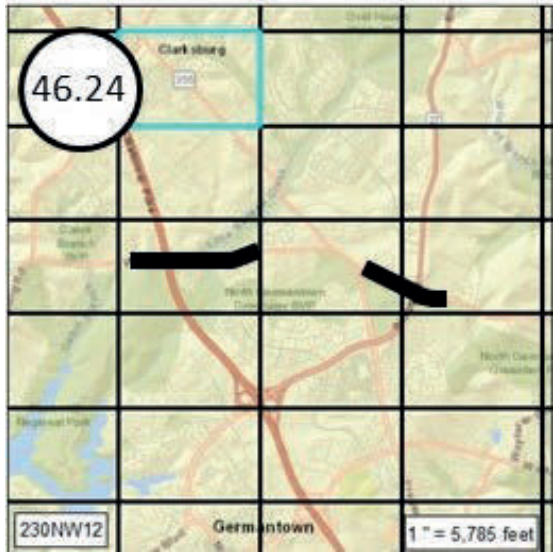
| | |
|---|---|
| Date First in Program | FY 11 |
| Date First Approved | FY 97 |
| Initial Cost Estimate | 1,954 |
| Cost Estimate Last FY | 4,088 |
| Present Cost Estimate | 4,515 |
| Approved Request Last FY | 271 |
| Total Expense & Encumbrances | 3,798 |
| Approval Request Year 1 | 439 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 75 % |
| Estimated 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 - 000046.25 | 163801 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 220 | 215 | 5 | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 2,280 | 235 | 1,690 | 355 | 355 | | | | | | |
| Other | 345 | | 292 | 53 | 53 | | | | | | |
| **Total** | **2,845** | **450** | **1,987** | **408** | **408** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 2,845 | 450 | 1,987 | 408 | 408 | | | | | | |

**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 WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Montgomery County Department of Public Works and Transportation; Montgomery County Government
Coordinating Projects: W - 000046.24 - Clarksburg Area Stage 3 Water Main, Part 4

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $80 | |
| Debt Service | | |
| Total Cost | $80 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

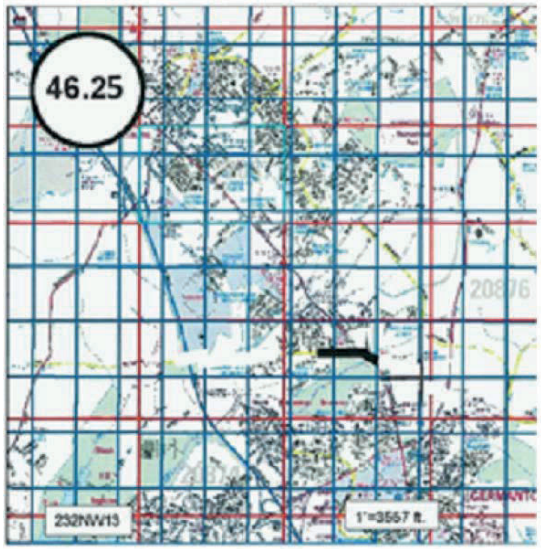
| | |
|---|---|
| Date First in Program | FY 16 |
| Date First Approved | FY 97 |
| Initial Cost Estimate | 1,624 |
| Cost Estimate Last FY | 2,712 |
| Present Cost Estimate | 2,845 |
| Approved Request Last FY | 397 |
| Total Expense & Encumbrances | 450 |
| Approval Request Year 1 | 408 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 70 % |
| Estimated Completion Date | Developer Dependent |

| | |
|---|---|
| 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 - 000090.04 | 143800 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | Brink HG760A; Cedar Heights HG836A; Clarksburg HG740B; |
| Drainage Basins | |
| Planning Areas | Gaithersburg & Vicinity PA 20 |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 1,767 | 1,337 | 396 | 34 | 34 | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 13,641 | 6,229 | 6,883 | 529 | 529 | | | | | | |
| Other | 784 | | 728 | 56 | 56 | | | | | | |
| **Total** | **16,192** | **7,566** | **8,007** | **619** | **619** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 16,192 | 7,566 | 8,007 | 619 | 619 | | | | | | |

**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**

Not applicable.

**OTHER**

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

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $1,053 | 22 |
| Total Cost | $1,053 | 22 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

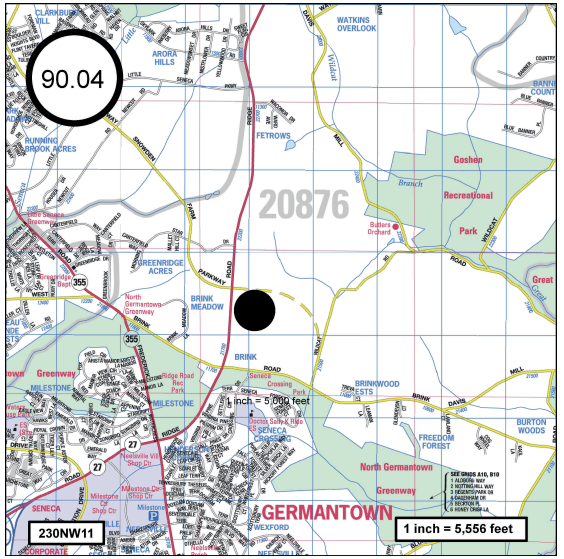
| | |
|---|---|
| Date First in Program | FY 14 |
| Date First Approved | FY 14 |
| Initial Cost Estimate | 345 |
| Cost Estimate Last FY | 16,700 |
| Present Cost Estimate | 16,192 |
| Approved Request Last FY | 6,085 |
| Total Expense & Encumbrances | 7,566 |
| Approval Request Year 1 | 619 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 45 % |
| Estimated Completion Date | August 2020 |

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

**H. Map**



# White Oak Water Mains Augmentation

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000113.20 | 382001 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | Montgomery Main 495A |
| Drainage Basins | |
| Planning Areas | Fairland-Beltsville (PG) PA 61; Langley Park & Vicinity PA 65 |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 823 | | 309 | 514 | 309 | 103 | 51 | 51 | | | |
| Land | | | | | | | | | | | |
| Construction | 3,500 | | | 3,500 | | 180 | 1,930 | 1,390 | | | |
| Other | 647 | | 46 | 601 | 46 | 42 | 297 | 216 | | | |
| **Total** | **4,970** | | **355** | **4,615** | **355** | **325** | **2,278** | **1,657** | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SDC | 4,970 | | 355 | 4,615 | 355 | 325 | 2,278 | 1,657 | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design, and construction required for the replacement of 7,650 feet of 4-inch to 20-inch diameter water main along Cherry Hill Road, Gracefield Road, and Powder Mill Road/Perimeter Road to serve three planned projects in the White Oak area: Washington Adventist Hospital, VIVA Global LifeSci Village, and Food & Drug Administration White Oak Master Plan.

**JUSTIFICATION**

The existing mains in these areas will be upsized to provide adequate capacity to serve domestic and fire flow needs for the three new developments. The mains will also provide additional looping and redundancy to the 495A Pressure Zone.
MWCOG Round 8.0 growth forecasts; WSSC Memorandum dated November 21, 2017; Capital Needs Process Validation #122 submitted December 4, 2017.

**COST CHANGE**

Not applicable.

**OTHER**

The schedule and expenditures shown in Block B above are preliminary planning level estimates and are expected to change once the project moves into design.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $226 | 25 |
| Debt Service | | |
| Total Cost | $226 | 25 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

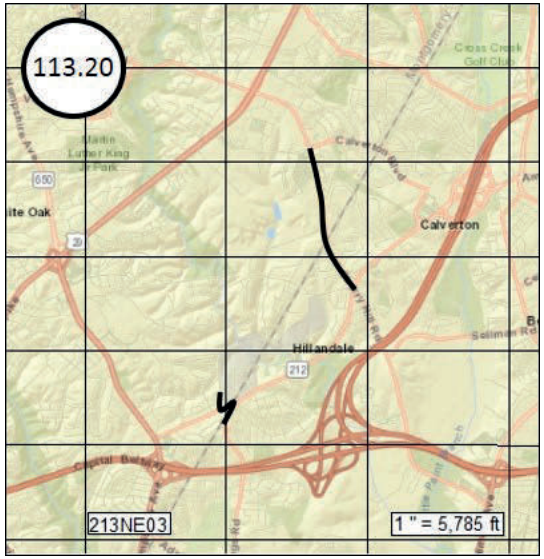
| | |
|---|---|
| Date First in Program | FY 20 |
| Date First Approved | FY 20 |
| Initial Cost Estimate | 4,380 |
| Cost Estimate Last FY | 4,830 |
| Present Cost Estimate | 4,970 |
| Approved Request Last FY | 345 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 355 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Planning |
| Percent Complete | 10 % |
| Estimated Completion Date | April 2024 |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**



## PROJECTS PENDING CLOSE-OUT

**Montgomery County Water Projects**

**(ALL FIGURES IN THOUSANDS)**

| Project Number | Agency Number | Project Name | Estimated Total Cost | Expenditures Thru FY'19 | Estimated Expenditures FY'20 | Remarks |
|---|---|---|---|---|---|---|
| 063801 | W-3.02 | Olney Standpipe Replacement | $8,019 | $7,608 | $411 | Project completion expected in FY'20. |
| 973819 | W-46.15 | Clarksburg Elevated Water Storage Facility | 7,208 | 7,024 | 184 | Project completion expected in FY'20. |
| 093801 | W-138.02 | Shady Grove Standpipe Replacement | 12,052 | 11,644 | 408 | Project completion expected in FY'20. |
| | | **TOTALS** | $27,279 | $26,276 | $1,003 | |

# Section 2 - Montgomery County Sewer Projects

DATE: October 1, 2019

# FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

**MONTGOMERY COUNTY SEWER PROJECTS**

| AGENCY NUMBER | PROJECT NAME | EST. TOTAL COST | EXPEND THRU 19 | EST. EXPEND 20 | TOTAL SIX YEARS | EXPENDITURE SCHEDULE | | | | | | BEYOND SIX YEARS | PAGE NUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YR 1 21 | YR 2 22 | YR 3 23 | YR 4 24 | YR 5 25 | YR 6 26 | | |
| S-84.67 | Milestone Center Sewer Main | 834 | 288 | 0 | 546 | 522 | 24 | 0 | 0 | 0 | 0 | 0 | 2-3 |
| S-84.68 | Clarksburg Wastewater Pumping Station & Sewer Improvements | 4,954 | 1,254 | 3,082 | 618 | 618 | 0 | 0 | 0 | 0 | 0 | 0 | 2-4 |
| S-85.21 | Shady Grove Station Sewer Augmentation | 6,982 | 519 | 353 | 6,110 | 5,773 | 244 | 93 | 0 | 0 | 0 | 0 | 2-5 |
| S-85.22 | Shady Grove Neighborhood Center | 3,391 | 0 | 658 | 2,733 | 1,367 | 1,366 | 0 | 0 | 0 | 0 | 0 | 2-6 |
| S-94.13 | Damascus Town Center WWPS Replacement | 9,669 | 215 | 534 | 8,920 | 652 | 2,901 | 5,129 | 238 | 0 | 0 | 0 | 2-7 |
| S-94.14 | Spring Gardens WWPS Replacement | 11,048 | 483 | 460 | 10,105 | 705 | 2,098 | 5,246 | 2,056 | 0 | 0 | 0 | 2-8 |
| | Projects Pending Close-Out | 18,493 | 16,904 | 1,589 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2-9 |
| | **TOTALS** | 55,371 | 19,663 | 6,676 | 29,032 | 9,637 | 6,633 | 10,468 | 2,294 | 0 | 0 | 0 | |

## Montgomery County Sewer Projects

### New Projects Listing

**(ALL FIGURES IN THOUSANDS)**

| Agency Number | Project Name | Total Project Cost | Budget Year Cost | Page Number |
|---|---|---|---|---|
| S-85.22 | Shady Grove Neighborhood Center | $3,391 | $1,367 | 2-6 |
| | **TOTALS** | $3,391 | $1,367 | |

# Milestone Center Sewer Main

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000084.67 | 173804 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 418 | 288 | | 130 | 130 | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 345 | | | 345 | 324 | 21 | | | | | |
| Other | 71 | | | 71 | 68 | 3 | | | | | |
| **Total** | **834** | **288** | | **546** | **522** | **24** | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 834 | 288 | | 546 | 522 | 24 | | | | | |

**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 based upon 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: Montgomery County Government
Coordinating Projects: Not Applicable

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $38 | |
| Debt Service | | |
| Total Cost | $38 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

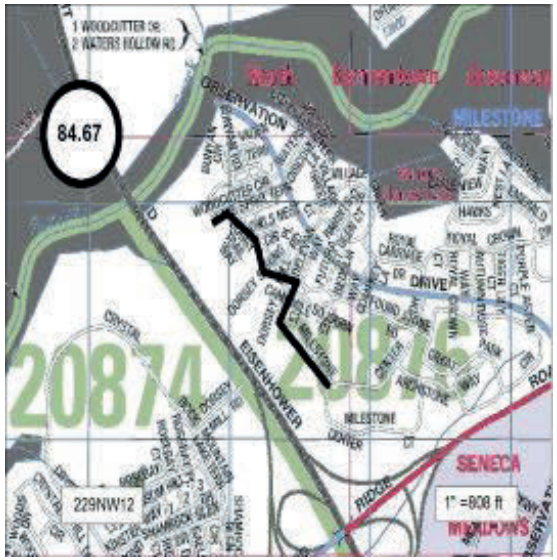
| | |
|---|---|
| Date First in Program | FY 18 |
| Date First Approved | FY 18 |
| Initial Cost Estimate | 504 |
| Cost Estimate Last FY | 657 |
| Present Cost Estimate | 834 |
| Approved Request Last FY | 507 |
| Total Expense & Encumbrances | 288 |
| Approval Request Year 1 | 522 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Design |
| Percent Complete | 0 % |
| Estimated Completion Date | Developer Dependent |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| Environmental Regulation | |
| Population Served | |
| Capacity | 2.83 MGD |

**H. Map**



# Clarksburg Wastewater Pumping Station & Sewer Improvements

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000084.68 | 173802 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 1,305 | 1,088 | 180 | 37 | 37 | | | | | | |
| Land | 166 | 166 | | | | | | | | | |
| Construction | 3,000 | | 2,500 | 500 | 500 | | | | | | |
| Other | 483 | | 402 | 81 | 81 | | | | | | |
| **Total** | **4,954** | **1,254** | **3,082** | **618** | **618** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SDC | 4,954 | 1,254 | 3,082 | 618 | 618 | | | | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design, and construction of a 0.94 MGD wastewater pumping station and 1,270 feet of force main. 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**

The projected cost of the combined Clarksburg Wastewater Pumping Station and the Clarksburg WWPS Force Main projects has decreased significantly due to revisions in the estimated construction cost based on the final design.

**OTHER**

The project scope has been revised to include the Clarksburg WWPS Force Main project . The schedule and expenditure projections shown in Block B above are based on the final design estimate and may change based upon actual bid. Planning work for this project 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 Department of Environmental Protection; Montgomery County Government
Coordinating Projects: S - 000084.69 - Clarksburg WWPS Force Main

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

**F. Approval and Expenditure Data (000's)**

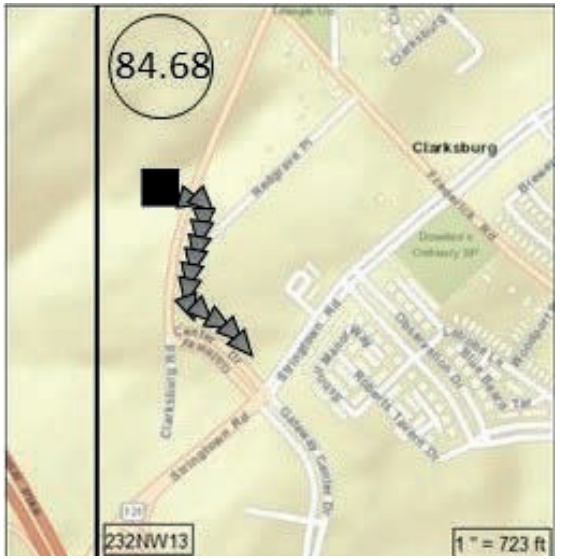
| | |
|---|---|
| Date First in Program | FY 18 |
| Date First Approved | FY 18 |
| Initial Cost Estimate | 4,542 |
| Cost Estimate Last FY | 5,824 |
| Present Cost Estimate | 4,954 |
| Approved Request Last FY | 1,357 |
| Total Expense & Encumbrances | 1,254 |
| Approval Request Year 1 | 618 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land Acquired |
| Project Phase | Construction |
| Percent Complete | 0 % |
| Estimated Completion Date | August 2020 |

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

**H. Map**



# Shady Grove Station Sewer Augmentation

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000085.21 | 153800 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 574 | 511 | 30 | 33 | 20 | 12 | 1 | | | | |
| Land | | | | | | | | | | | |
| Construction | 5,565 | 8 | 277 | 5,280 | 5,000 | 200 | 80 | | | | |
| Other | 843 | | 46 | 797 | 753 | 32 | 12 | | | | |
| **Total** | **6,982** | **519** | **353** | **6,110** | **5,773** | **244** | **93** | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 6,982 | 519 | 353 | 6,110 | 5,773 | 244 | 93 | | | | |

**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**

The current schedule and expenditure estimates reflect updated 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 Systems Extension Permit. 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 Public Works and Transportation; Montgomery County Government
Coordinating Projects: Not Applicable

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $73 | |
| Debt Service | | |
| Total Cost | $73 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

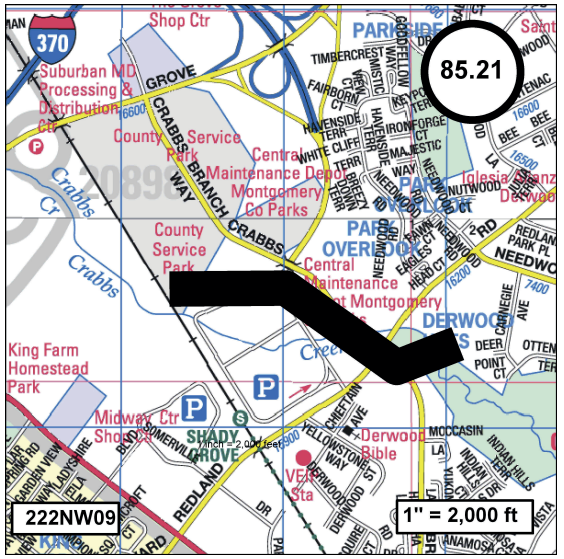
| | |
|---|---|
| Date First in Program | FY 15 |
| Date First Approved | FY 15 |
| Initial Cost Estimate | 2,254 |
| Cost Estimate Last FY | 2,538 |
| Present Cost Estimate | 6,982 |
| Approved Request Last FY | 1,245 |
| Total Expense & Encumbrances | 519 |
| Approval Request Year 1 | 5,773 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Design |
| Percent Complete | 50 % |
| Estimated Completion Date | Developer Dependent |

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

**H. Map**



# Shady Grove Neighborhood Center

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000085.22 | | Add |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | |
| Drainage Basins | Watts Branch 16 |
| Planning Areas | Gaithersburg & Vicinity PA 20 |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 527 | | 350 | 177 | 89 | 88 | | | | | |
| Land | | | | | | | | | | | |
| Construction | 2,493 | | 293 | 2,200 | 1,100 | 1,100 | | | | | |
| Other | 371 | | 15 | 356 | 178 | 178 | | | | | |
| **Total** | **3,391** | | **658** | **2,733** | **1,367** | **1,366** | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 3,391 | | 658 | 2,733 | 1,367 | 1,366 | | | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design and construction of 3,600 feet of 15-inch sewer main and 875 feet of 18-inch sewer main to serve the Shady Grove Neighborhood Center Subdivision.

**JUSTIFICATION**

Shady Grove Neighborhood Center Planning Analysis (March, 2019). The existing sewer system cannot handle the projected flows that will be generated by the Shady Grove Neighborhood Center. The timing and scheduling of this project is dependent on the developer.

**COST CHANGE**

Not applicable.

**OTHER**

The present project scope was developed for the FY2021 CIP and has an estimated total cost of $3,391,000. 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: Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Montgomery County Government
Coordinating Projects: Not Applicable

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $90 | |
| Debt Service | | |
| Total Cost | $90 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 21 |
| Date First Approved | FY 21 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | |
| Present Cost Estimate | 3,391 |
| Approved Request Last FY | |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 1,367 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Planning |
| Percent Complete | 40 % |
| Estimated Completion Date | Developer Dependent |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| Environmental Regulation | |
| Population Served | 7,000 |
| Capacity | 1.40 to 2.45 MGD |

**H. Map**

# Damascus Town Center WWPS Replacement

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000094.13 | 382002 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | |
| Drainage Basins | Patuxent North 26; Seneca Creek 15 |
| Planning Areas | Damascus & Vicinity PA 11 |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 1,658 | 215 | 464 | 979 | 567 | 180 | 180 | 52 | | | |
| Land | | | | | | | | | | | |
| Construction | 6,778 | | | 6,778 | | 2,343 | 4,280 | 155 | | | |
| Other | 1,233 | | 70 | 1,163 | 85 | 378 | 669 | 31 | | | |
| **Total** | **9,669** | **215** | **534** | **8,920** | **652** | **2,901** | **5,129** | **238** | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 6,768 | 150 | 374 | 6,244 | 456 | 2,031 | 3,590 | 167 | | | |
| SDC | 2,901 | 65 | 160 | 2,676 | 196 | 870 | 1,539 | 71 | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design and construction of a 0.416 MGD wastewater pumping station (WWPS), approximately 2,100 LF of gravity sewer and 2,100 LF of force main (FM). The new WWPS and associated FM and gravity sewer will provide service to the existing and future Damascus Town Center service area.

**JUSTIFICATION**

The existing pumping station, which is over thirty-five years old, was originally built as a privately owned facility and did not conform to WSSC standards. The pumping station was taken over by WSSC in the late 1970s. It has reached the end of its useful life and replacement parts are obsolete. Additionally, the capacity of the pumping station must be increased to accommodate the future service area in accordance with the Maryland National Capital Park and Planning Commission Damascus Master Plan. The Asset Management Office Business Case CNPV7 recommended the pumping station replacement.

**COST CHANGE**

Not applicable.

**OTHER**

The project scope remained the same. The schedule and expenditure projections shown in Block B above are preliminary planning level estimates and may change based upon site conditions and design constraints. Planning work began in FY'18 under ESP project S-602.01, Damascus Town Center WWPS Replacement. Land costs are included in WSSC project S-203.00.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $440 | 25 |
| Total Cost | $440 | 25 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY20 |
| Date First Approved | FY20 |
| Initial Cost Estimate | 9,460 |
| Cost Estimate Last FY | 9,460 |
| Present Cost Estimate | 9,669 |
| Approved Request Last FY | 520 |
| Total Expense & Encumbrances | 215 |
| Approval Request Year 1 | 652 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land and R/W to be acquired |
| Project Phase | Planning |
| Percent Complete | 5 % |
| Estimated Completion Date | June 2024 |

| | |
|---|---|
| Growth | 30% |
| System Improvement | 70% |
| Environmental Regulation | |
| Population Served | 854 |
| Capacity | 0.416 MGD |

**H. Map**

MAP NOT APPLICABLE

# Spring Gardens WWPS Replacement

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000094.14 | 382003 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | |
| Drainage Basins | Monocacy 25 |
| Planning Areas | Damascus & Vicinity PA 11 |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 2,710 | 343 | 400 | 1,967 | 613 | 824 | 412 | 118 | | | |
| Land | 140 | 140 | | | | | | | | | |
| Construction | 6,901 | | | 6,901 | | 1,000 | 4,150 | 1,751 | | | |
| Other | 1,297 | | 60 | 1,237 | 92 | 274 | 684 | 187 | | | |
| **Total** | **11,048** | **483** | **460** | **10,105** | **705** | **2,098** | **5,246** | **2,056** | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 3,646 | 159 | 152 | 3,335 | 233 | 693 | 1,731 | 678 | | | |
| SDC | 7,402 | 324 | 308 | 6,770 | 472 | 1,405 | 3,515 | 1,378 | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design, and construction of a 1.3 MGD wastewater pumping station, 7,500 LF of force main, and 900 LF of gravity sewer. The relocated wastewater pumping station and force main will provide service to the existing and future Spring Gardens service area.

**JUSTIFICATION**

The existing pumping station and force main are over forty-one years old and have reached the end of their useful lives. Additionally, the existing capacity of the pumping station must be increased to accommodate build-out of the service area and therefore it must be replaced with a new facility rated at 1.3 MGD. The Asset Management Office Business Case CNPV6 recommended the pumping station replacement.

**COST CHANGE**

Not applicable.

**OTHER**

The project scope remained the same. The schedule and expenditure projections shown in Block B above are preliminary planning level estimates and may change based upon site conditions and design constraints. Planning work began in FY'18 under ESP project S-602.26, Spring Gardens WWPS Replacement.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $170 | 25 |
| Debt Service | $237 | 25 |
| Total Cost | $407 | 25 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 20 |
| Date First Approved | FY 20 |
| Initial Cost Estimate | 10,180 |
| Cost Estimate Last FY | 10,320 |
| Present Cost Estimate | 11,048 |
| Approved Request Last FY | 921 |
| Total Expense & Encumbrances | 483 |
| Approval Request Year 1 | 705 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land Acquired |
| Project Phase | Planning |
| Percent Complete | 5 % |
| Estimated Completion Date | June 2024 |

| | |
|---|---|
| Growth | 67% |
| System Improvement | 33% |
| Environmental Regulation | |
| Population Served | |
| Capacity | 1.3 MGD |

**H. Map**

MAP NOT APPLICABLE

## PROJECTS PENDING CLOSE-OUT

**Montgomery County Sewer Projects**

**(ALL FIGURES IN THOUSANDS)**

| Project Number | Agency Number | Project Name | Estimated Total Cost | Expenditures Thru FY'19 | Estimated Expenditures FY'20 | Remarks |
|---|---|---|---|---|---|---|
| 23807 | S-84.60 | Cabin Branch Wastewater Pumping Station | $3,435 | $2,099 | $1,336 | Project completion expected in FY'20. |
| 23808 | S-84.61 | Cabin Branch WWPS Force Main | 542 | 289 | 253 | Project completion expected in FY'20. |
| 173803 | S-84.69 | Clarksburg WWPS Force Main | 0 | 0 | 0 | Project combined with S-84.68 |
| 153801 | S-103.16 | Cabin John Trunk Sewer Relief | 14,516 | 14,516 | 0 | Project completed. |
| | | **TOTALS** | $18,493 | $16,904 | $1,589 | |

# Section 3 - Bi-County Water Projects

DATE: October 1, 2019

# FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

**BI-COUNTY WATER PROJECTS**

| AGENCY NUMBER | PROJECT NAME | EST. TOTAL COST | EXPEND THRU 19 | EST. EXPEND 20 | TOTAL SIX YEARS | EXPENDITURE SCHEDULE | | | | | | BEYOND SIX YEARS | PAGE NUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YR 1 21 | YR 2 22 | YR 3 23 | YR 4 24 | YR 5 25 | YR 6 26 | | |
| W-73.22 | Potomac WFP Pre-Filter Chlorination & Air Scour Improvements | 24,404 | 12,700 | 8,713 | 2,991 | 2,991 | 0 | 0 | 0 | 0 | 0 | 0 | 3-4 |
| W-73.30 | Potomac WFP Submerged Channel Intake | 88,177 | 4,348 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 83,829 | 3-5 |
| W-73.32 | Potomac WFP Main Zone Pipeline | 37,745 | 1,400 | 880 | 35,465 | 688 | 7,387 | 13,640 | 10,340 | 3,410 | 0 | 0 | 3-6 |
| W-73.33 | Potomac WFP Consent Decree Program | 202,032 | 8,307 | 11,025 | 160,125 | 10,500 | 26,250 | 31,500 | 30,975 | 30,450 | 30,450 | 22,575 | 3-7 |
| W-139.02 | Duckett & Brighton Dam Upgrades | 41,942 | 31,909 | 10,011 | 22 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 3-8 |
| W-161.01 | Large Diameter Water Pipe & Large Valve Rehabilitation Program | 489,509 | 0 | 43,301 | 446,208 | 58,139 | 67,803 | 76,426 | 79,120 | 81,045 | 83,675 | 0 | 3-9 |
| W-172.07 | Patuxent Raw Water Pipeline | 33,788 | 13,476 | 4,582 | 15,730 | 9,570 | 6,160 | 0 | 0 | 0 | 0 | 0 | 3-12 |
| W-172.08 | Rocky Gorge Pump Station Upgrade | 24,980 | 21,948 | 2,640 | 392 | 392 | 0 | 0 | 0 | 0 | 0 | 0 | 3-13 |
| W-175.05 | Regional Water Supply Resiliency | 15,000 | 0 | 0 | 15,000 | 1,500 | 4,000 | 4,000 | 4,000 | 1,500 | | | 3-14 |
| W-202.00 | Land & Rights-of-Way Acquisition - Bi-County Water | 3,093 | 0 | 913 | 1,580 | 1,512 | 20 | 18 | 10 | 10 | 10 | 600 | 3-15 |
| | **TOTALS** | 960,670 | 94,088 | 82,065 | 677,513 | 85,314 | 111,620 | 125,584 | 124,445 | 116,415 | 114,135 | 107,004 | |

## Bi-County Water Projects
### New Projects Listing
**(ALL FIGURES IN THOUSANDS)**

| Agency Number | Project Name | Total Project Cost | Budget Year Cost | Page Number |
|---|---|---|---|---|
| W-175.05 | Regional Water Supply Resiliency | $15,000 | $1,500 | 3-14 |
| | **TOTALS** | $15,000 | $1,500 | |

## POTOMAC WATER FILTRATION PLANT PROJECTS

**(ALL FIGURES IN THOUSANDS)**

| AGENCY NUMBER | PROJECT NAME | ADOPTED FY'20 TOTAL COST | PROPOSED FY'21 TOTAL COST | CHANGE $ | CHANGE % | SIX-YEAR COST | COMPLETION DATE (est) |
|---|---|---|---|---|---|---|---|
| W-73.22 | Potomac WFP Pre-Filter Chlorination & Air Scour Improvements | $25,275 | $24,404 | ($871) | -3.4% | $2,991 | June 2021 |
| W-73.30 | Potomac WFP Submerged Channel Intake | 85,603 | 88,177 | 2,574 | 3.0% | 0 | TBD |
| W-73.32 | Potomac WFP Main Zone Pipeline | 38,102 | 37,745 | (357) | -0.9% | 35,465 | June 2025 |
| W-73.33 | Potomac WFP Consent Decree Program | 163,823 | 202,032 | 38,209 | 23.3% | 160,125 | January 2027 |
| | **TOTALS** | **$312,803** | **$352,358** | **$39,555** | **12.6%** | **$198,581** | |

**Summary:** This group of projects represents operational improvements to the Potomac Water Filtration Plant (WFP) in Montgomery County. 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 wye 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:** Due to budgetary constraints, the Potomac WFP Submerged Channel Intake project (W-73.30) has been deferred to beyond six years. Estimates for the Potomac WFP Consent Decree Program (W-73.33) were increased for inflation and are based on recommendations in the approved revised LTUP Report dated September 2018.

# Potomac WFP Pre-Filter Chlorination & Air Scour Improvements

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000073.22 | 143803 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 1,749 | 782 | 720 | 247 | 247 | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 21,591 | 11,918 | 7,201 | 2,472 | 2,472 | | | | | | |
| Other | 1,064 | | 792 | 272 | 272 | | | | | | |
| **Total** | **24,404** | **12,700** | **8,713** | **2,991** | **2,991** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 24,404 | 12,700 | 8,713 | 2,991 | 2,991 | | | | | | |

**D. Description & Justification**

**DESCRIPTION**

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.

**JUSTIFICATION**

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.
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).

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. 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. The construction for Pre-Filter Chlorination and Underdrain Replacement have been completed. Expenditure and schedule projections shown in Block B above include design level estimates for Air Scour (which may change based on actual bids). 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.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $1,588 | 22 |
| Total Cost | $1,588 | 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 | 5,602 |
| Cost Estimate Last FY | 25,275 |
| Present Cost Estimate | 24,404 |
| Approved Request Last FY | 8,000 |
| Total Expense & Encumbrances | 12,700 |
| Approval Request Year 1 | 2,991 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Design |
| Percent Complete | 100 % |
| Estimated Completion Date | June 2021 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# Potomac WFP Submerged Channel Intake

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000073.30 | 033812 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 11,181 | 4,228 | | | | | | | | | 6,953 |
| Land | | | | | | | | | | | |
| Construction | 73,004 | 120 | | | | | | | | | 72,884 |
| Other | 3,992 | | | | | | | | | | 3,992 |
| **Total** | **88,177** | **4,348** | | | | | | | | | **83,829** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 88,177 | 4,348 | | | | | | | | | 83,829 |

**D. Description & Justification**

**DESCRIPTION**

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.

**JUSTIFICATION**

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.
"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 2003); "Potomac WFP Facility Plan", O'Brien & Gere Engineers, Inc. (September 2002; "Draft Feasibility Study Report", Black & Veatch (November 2013).

**COST CHANGE**

Due to budgetary constraints the project was deferred to beyond six years.

**OTHER**

The project scope has remained the same. Significant outreach activities occurred as part of the planning phase of this project. The National Environmental Policy Act (NEPA) process was concluded in January 2018 when the National Park Service (NPS) approved the Environmental Assessment and transmitted its record of decision and the Finding of No Significant Impact. 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. 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.

**COORDINATION**

Coordinating Agencies: Maryland Department of Natural Resources; Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Montgomery County Department of Environmental Protection; Montgomery County Government; National Park Service; Prince George's County Department of Environmental Resources; Prince George's County Government; U.S. Army Corps of Engineers
Coordinating Projects: W - 000073.33 - Potomac WFP Consent Decree Program

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $5,736 | |
| Total Cost | $5,736 | |
| Impact on Water and Sewer Rate | $0.01 | |

**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 | 85,603 |
| Present Cost Estimate | 88,177 |
| Approved Request Last FY | |
| Total Expense & Encumbrances | 4,348 |
| Approval Request Year 1 | |

**G. Status Information**

| | |
|---|---|
| Land Status | Land and R/W to be acquired |
| Project Phase | Planning |
| Percent Complete | 100 % |
| Estimated Completion Date | TBD |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT AVAILABLE

# Potomac WFP Main Zone Pipeline

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

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 3,540 | 1,400 | 800 | 1,340 | 625 | 415 | 100 | 100 | 100 | | |
| Land | | | | | | | | | | | |
| Construction | 30,900 | | | 30,900 | | 6,300 | 12,300 | 9,300 | 3,000 | | |
| Other | 3,305 | | 80 | 3,225 | 63 | 672 | 1,240 | 940 | 310 | | |
| **Total** | **37,745** | **1,400** | **880** | **35,465** | **688** | **7,387** | **13,640** | **10,340** | **3,410** | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 37,745 | 1,400 | 880 | 35,465 | 688 | 7,387 | 13,640 | 10,340 | 3,410 | | |

**D. Description & Justification**

**DESCRIPTION**

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 may include a rock tunnel segment.

**JUSTIFICATION**

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.
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)

**COST CHANGE**

Not applicable.

**OTHER**

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.

**COORDINATION**

Coordinating Agencies: Maryland Department of Natural Resources; Maryland Department of the Environment; Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Montgomery County Department of Public Works and Transportation; Montgomery County Government; U.S. Army Corps of Engineers
Coordinating Projects: W - 000073.33 - Potomac WFP Consent Decree Program

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $44 | 26 |
| Debt Service | $2,455 | 26 |
| Total Cost | $2,499 | 26 |
| Impact on Water and Sewer Rate | $0.01 | 26 |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 13 |
| Date First Approved | FY 13 |
| Initial Cost Estimate | 330 |
| Cost Estimate Last FY | 38,102 |
| Present Cost Estimate | 37,745 |
| Approved Request Last FY | 460 |
| Total Expense & Encumbrances | 1,400 |
| Approval Request Year 1 | 688 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Planning |
| Percent Complete | 25 % |
| Estimated Completion Date | June 2025 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | Approx. 200 MGD |

**H. Map**

MAP NOT AVAILABLE

# Potomac WFP Consent Decree Program

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000073.33 | 173801 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 40,154 | 6,154 | 3,500 | 26,500 | 4,000 | 5,000 | 5,000 | 4,500 | 4,000 | 4,000 | 4,000 |
| Land | 1,000 | 1,000 | | | | | | | | | |
| Construction | 151,653 | 1,153 | 7,000 | 126,000 | 6,000 | 20,000 | 25,000 | 25,000 | 25,000 | 25,000 | 17,500 |
| Other | 9,225 | | 525 | 7,625 | 500 | 1,250 | 1,500 | 1,475 | 1,450 | 1,450 | 1,075 |
| **Total** | **202,032** | **8,307** | **11,025** | **160,125** | **10,500** | **26,250** | **31,500** | **30,975** | **30,450** | **30,450** | **22,575** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 202,032 | 8,307 | 11,025 | 160,125 | 10,500 | 26,250 | 31,500 | 30,975 | 30,450 | 30,450 | 22,575 |

**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**

Costs were increased for inflation and are based on recommendations in the approved revised LTUP Report dated September 2018.

**OTHER**

The project scope has remained the same. Expenditure and schedule projections shown above are Order of Magnitude level estimates. 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; National Park Service; Prince George's County Government; U.S. Environmental Protection Agency, Region III
Coordinating Projects: W - 000073.30 - Potomac WFP Submerged Channel Intake; W - 000073.32 - Potomac WFP Main Zone Pipeline

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $13,142 | 28 |
| Total Cost | $13,142 | 28 |
| Impact on Water and Sewer Rate | $0.03 | 28 |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 17 |
| Date First Approved | FY 16 |
| Initial Cost Estimate | 27,250 |
| Cost Estimate Last FY | 163,823 |
| Present Cost Estimate | 202,032 |
| Approved Request Last FY | 9,975 |
| Total Expense & Encumbrances | 8,307 |
| Approval Request Year 1 | 10,500 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land Acquired |
| Project Phase | Design |
| Percent Complete | 0 % |
| Estimated Completion Date | January 2027 |

| | |
|---|---|
| Growth | |
| System Improvement | |
| Environmental Regulation | 100% |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT AVAILABLE

# Duckett & Brighton Dam Upgrades

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000139.02 | 073802 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 8,195 | 7,448 | 747 | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 32,835 | 24,461 | 8,354 | 20 | 20 | | | | | | |
| Other | 912 | | 910 | 2 | 2 | | | | | | |
| **Total** | **41,942** | **31,909** | **10,011** | **22** | **22** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 41,942 | 31,909 | 10,011 | 22 | 22 | | | | | | |

**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**

Not applicable.

**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 complete. Brighton Dam Upgrades construction project is currently under construction.

**COORDINATION**

Coordinating Agencies: City of Laurel; Howard County Government; Maryland Department of the Environment; Maryland State Highway Administration; Montgomery County Government; Prince George's County Government; U.S. Army Corps of Engineers
Coordinating Projects: W - 000172.08 - Rocky Gorge Pump Station Upgrade

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $2,728 | 21 |
| Total Cost | $2,728 | 21 |
| Impact on Water and Sewer Rate | $0.01 | 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 | 40,291 |
| Present Cost Estimate | 41,942 |
| Approved Request Last FY | 6,838 |
| Total Expense & Encumbrances | 31,909 |
| Approval Request Year 1 | 22 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 57 % |
| Estimated Completion Date | February 2020 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT AVAILABLE

# Large Diameter Water Pipe & Large Valve Rehabilitation Program

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000161.01 | 113803 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 58,925 | | 6,472 | 52,453 | 8,301 | 8,314 | 8,826 | 9,154 | 8,708 | 9,150 | |
| Land | | | | | | | | | | | |
| Construction | 386,082 | | 32,893 | 353,189 | 44,552 | 53,324 | 60,651 | 62,773 | 64,970 | 66,919 | |
| Other | 44,502 | | 3,936 | 40,566 | 5,286 | 6,165 | 6,949 | 7,193 | 7,367 | 7,606 | |
| **Total** | **489,509** | | **43,301** | **446,208** | **58,139** | **67,803** | **76,426** | **79,120** | **81,045** | **83,675** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 489,509 | | 43,301 | 446,208 | 58,139 | 67,803 | 76,426 | 79,120 | 81,045 | 83,675 | |

**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 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, or replace any of the nearly 1,500 large diameter valves and vaults located throughout the system.

Utility Wide Master Plan (December 2007); 30 Year Infrastructure Plan (2007); FY 2021 Water Network Asset Management Plan (May 2019).

**COST CHANGE**

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

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.
.

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $31,843 | |
| Total Cost | $31,843 | |
| Impact on Water and Sewer Rate | $0.07 | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 11 |
| Date First Approved | FY 11 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 433,056 |
| Present Cost Estimate | 489,509 |
| Approved Request Last FY | 40,385 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 58,139 |

**G. Status Information**

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

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT AVAILABLE

**OTHER**

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are Order of Magnitude estimates and are expected to change based upon the results of the ongoing inspections and condition assessments. Additional costs associated with PCCP inspection/condition assessment, large valve inspection/repairs, and emergency repairs are included in the Operating Budget.

**COORDINATION**

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

Coordinating Projects: W - 000001.00 - Water Reconstruction Program; W - 000107.00 - Specialty Valve Vault Rehabilitation Program

## PATUXENT WATER FILTRATION PLANT PROJECTS
**(ALL FIGURES IN THOUSANDS)**

| AGENCY NUMBER | PROJECT NAME | ADOPTED FY'20 TOTAL COST | PROPOSED FY'21 TOTAL COST | CHANGE $ | CHANGE % | SIX-YEAR COST | COMPLETION DATE (est) |
|---|---|---|---|---|---|---|---|
| W-172.07 | Patuxent Raw Water Pipeline | $34,439 | $33,788 | ($651) | -1.9% | $15,730 | June 2022 |
| W-172.08 | Rocky Gorge Pump Station Upgrade | 23,241 | 24,980 | 1,739 | 7.5% | 392 | August 2020 |
| | **TOTALS** | **$57,680** | **$58,768** | **$1,088** | **1.9%** | **$16,122** | |

**Summary** 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:** Costs for Rocky Gorge Station Upgrade (W-172.08) were increased due to current construction contract change orders, replacement of substation batteries, and expected engineering contract increases due to construction delays.

# Patuxent Raw Water Pipeline

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000172.07 | 063804 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | Prince George's Main HG320A |
| Drainage Basins | |
| Planning Areas | Bi-County |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 3,525 | 3,125 | 100 | 300 | 200 | 100 | | | | | |
| Land | 306 | 306 | | | | | | | | | |
| Construction | 28,110 | 10,045 | 4,065 | 14,000 | 8,500 | 5,500 | | | | | |
| Other | 1,847 | | 417 | 1,430 | 870 | 560 | | | | | |
| **Total** | **33,788** | **13,476** | **4,582** | **15,730** | **9,570** | **6,160** | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 33,788 | 13,476 | 4,582 | 15,730 | 9,570 | 6,160 | | | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the 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.

**JUSTIFICATION**

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 the 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 MGD.
Patuxent WFP Facility Plan (April 1997); In-House Study (April 2002).

**COST CHANGE**

Not applicable.

**OTHER**

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. Due to county permitting requirements the project design and construction schedule was split into two phases. 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).

**COORDINATION**

Coordinating Agencies: Baltimore Gas & Electric; Interstate Commission on the Potomac River Basin; Local Community Civic Associations;(West Laurel Civic Association); Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Montgomery County Government; Prince George's County Government
Coordinating Projects: W - 000172.08 - Rocky Gorge Pump Station Upgrade

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $389 | 23 |
| Debt Service | $2,198 | 23 |
| Total Cost | $2,587 | 23 |
| Impact on Water and Sewer Rate | $0.01 | 23 |

**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 | 34,439 |
| Present Cost Estimate | 33,788 |
| Approved Request Last FY | 8,580 |
| Total Expense & Encumbrances | 13,476 |
| Approval Request Year 1 | 9,570 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land Acquired |
| Project Phase | Design |
| Percent Complete | 98 % |
| Estimated Completion Date | June 2022 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT AVAILABLE

# Rocky Gorge Pump Station Upgrade

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000172.08 | 063805 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 6,205 | 5,105 | 900 | 200 | 200 | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 18,499 | 16,843 | 1,500 | 156 | 156 | | | | | | |
| Other | 276 | | 240 | 36 | 36 | | | | | | |
| **Total** | **24,980** | **21,948** | **2,640** | **392** | **392** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 24,980 | 21,948 | 2,640 | 392 | 392 | | | | | | |

**D. Description & Justification**

**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.

**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).

**COST CHANGE**

Costs were increased due to current construction contract change orders, replacement of substation batteries, and expected engineering contract increases due to construction delays.

**OTHER**

The project scope remains the same. Expenditure and schedule projections shown in Block B above are based on contracts in place.

**COORDINATION**

Coordinating Agencies: Baltimore Gas & Electric; Maryland Department of the Environment; Maryland State Highway Administration; Montgomery County Government; Prince George's County Government
Coordinating Projects: W - 000139.02 - Duckett & Brighton Dam Upgrades; W - 000172.07 - Patuxent Raw Water Pipeline

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $1,625 | 22 |
| Total Cost | $1,625 | 22 |
| Impact on Water and Sewer Rate | | |

**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 | 23,241 |
| Present Cost Estimate | 24,980 |
| Approved Request Last FY | 1,025 |
| Total Expense & Encumbrances | 21,948 |
| Approval Request Year 1 | 392 |

**G. Status Information**

| | |
|---|---|
| Land Status | Public/Agency owned land |
| Project Phase | Construction |
| Percent Complete | 77 % |
| Estimated Completion Date | August 2020 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | 110 MGD |

**H. Map**

MAP NOT AVAILABLE

# Regional Water Supply Resiliency

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000175.05 | | Add |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | |
| Drainage Basins | |
| Planning Areas | Montgomery County PA |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 15,000 | | | 15,000 | 1,500 | 4,000 | 4,000 | 4,000 | 1,500 | | |
| Land | | | | | | | | | | | |
| Construction | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| **Total** | **15,000** | | | **15,000** | **1,500** | **4,000** | **4,000** | **4,000** | **1,500** | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Federal Aid | 15,000 | | | 15,000 | 1,500 | 4,000 | 4,000 | 4,000 | 1,500 | | |

**D. Description & Justification**

**DESCRIPTION**

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

**JUSTIFICATION**

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

**COST CHANGE**

Not applicable.

**OTHER**

The present project scope was developed for the FY'21 CIP and has an estimated cost of $15,000,000.

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

**COORDINATION**

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

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

**F. Approval and Expenditure Data (000's)**

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

**G. Status Information**

| | |
|---|---|
| Land Status | Land and R/W to be acquired |
| Project Phase | Planning |
| Percent Complete | 0 % |
| Estimated Completion Date | TBD |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | 1,800,000 |
| Capacity | 7.5 BG |

**H. Map**

MAP NOT APPLICABLE

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

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000202.00 | 983857 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | | | | | | | | | | | |
| Land | 3,093 | | 913 | 1,580 | 1,512 | 20 | 18 | 10 | 10 | 10 | 600 |
| Construction | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| **Total** | **3,093** | | **913** | **1,580** | **1,512** | **20** | **18** | **10** | **10** | **10** | **600** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 2,884 | | 791 | 1,493 | 1,425 | 20 | 18 | 10 | 10 | 10 | 600 |
| SDC | 209 | | 122 | 87 | 87 | | | | | | |

**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 & Other | | |
| Maintenance | | |
| Debt Service | $188 | |
| Total Cost | $188 | |
| 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 | 3,598 |
| Present Cost Estimate | 3,093 |
| Approved Request Last FY | 1,720 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 1,512 |

**G. Status Information**

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

| | |
|---|---|
| Growth | 7% |
| System Improvement | 93% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT AVAILABLE

# Section 4 - Bi-County Sewer Projects

DATE: October 1, 2019

# FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

**BI-COUNTY SEWER PROJECTS**

| AGENCY NUMBER | PROJECT NAME | EST. TOTAL COST | EXPEND THRU 19 | EST. EXPEND 20 | TOTAL SIX YEARS | EXPENDITURE SCHEDULE | | | | | | BEYOND SIX YEARS | PAGE NUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YR 1 21 | YR 2 22 | YR 3 23 | YR 4 24 | YR 5 25 | YR 6 26 | | |
| S-22.06 | Blue Plains WWTP: Liquid Train Projects, Part 2 | 310,880 | 0 | 22,831 | 166,285 | 23,432 | 28,827 | 20,859 | 22,116 | 23,339 | 47,712 | 121,764 | 4-3 |
| S-22.07 | Blue Plains WWTP: Biosolids Management, Part 2 | 75,220 | 0 | 10,164 | 59,673 | 11,347 | 12,840 | 17,303 | 8,670 | 7,300 | 2,213 | 5,383 | 4-4 |
| S-22.09 | Blue Plains WWTP: Plant-wide Projects | 111,706 | 0 | 10,487 | 85,492 | 10,811 | 14,584 | 22,288 | 13,912 | 9,577 | 14,320 | 15,727 | 4-5 |
| S-22.10 | Blue Plains WWTP: Enhanced Nutrient Removal | 440,738 | 412,789 | 1,507 | 21,469 | 294 | 319 | 1,844 | 1,900 | 5,794 | 11,318 | 4,973 | 4-6 |
| S-22.11 | Blue Plains: Pipelines & Appurtenances | 172,974 | 0 | 17,117 | 110,567 | 13,622 | 15,964 | 19,068 | 22,609 | 20,895 | 18,409 | 45,290 | 4-7 |
| S-103.02 | Piscataway Bioenergy | 281,208 | 29,189 | 39,709 | 212,310 | 61,320 | 69,720 | 49,770 | 31,500 | 0 | 0 | 0 | 4-8 |
| S-170.08 | Septage Discharge Facility Planning & Implementation | 40,381 | 5,404 | 12,461 | 22,516 | 12,461 | 2,769 | 0 | 3,643 | 3,643 | 0 | 0 | 4-10 |
| S-170.09 | Trunk Sewer Reconstruction Program | 343,807 | 0 | 65,864 | 277,943 | 69,491 | 67,081 | 48,763 | 29,962 | 30,860 | 31,786 | 0 | 4-11 |
| S-203.00 | Land & Rights-Of-Way Acquisition - Bi-County Sewer | 933 | 0 | 50 | 883 | 283 | 120 | 120 | 120 | 120 | 120 | 0 | 4-12 |
| | **TOTALS** | 1,777,847 | 447,382 | 180,190 | 957,138 | 203,061 | 212,224 | 180,015 | 134,432 | 101,528 | 125,878 | 193,137 | |

## BLUE PLAINS WASTEWATER TREATMENT PLANT PROJECTS

**(ALL FIGURES IN THOUSANDS)**

| AGENCY NUMBER | PROJECT NAME | ADOPTED FY'20 TOTAL COST | PROPOSED FY'21 TOTAL COST | CHANGE $ | CHANGE % | SIX-YEAR COST | COMPLETION DATE (est) |
|---|---|---|---|---|---|---|---|
| S-22.06 | Blue Plains WWTP: Liquid Train Projects, Part 2 | $247,693 | $310,880 | $63,187 | 25.5% | $166,285 | On-Going |
| S-22.07 | Blue Plains WWTP: Biosolids Management, Part 2 | 41,472 | 75,220 | 33,748 | 81.4% | 59,673 | On-Going |
| S-22.09 | Blue Plains WWTP: Plant-wide Projects | 117,624 | 111,706 | (5,918) | -5.0% | 85,492 | On-Going |
| S-22.10 | Blue Plains WWTP: Enhanced Nutrient Removal | 394,543 | 440,738 | 46,195 | 11.7% | 21,469 | Jun-26 |
| S-22.11 | Blue Plains: Pipelines & Appurtenances | 152,284 | 172,974 | 20,690 | 13.6% | 110,567 | On-Going |
| | **TOTALS** | **$953,616** | **$1,111,518** | **$157,902** | **16.6%** | **$443,486** | |

**Summary:** These five projects, with an estimated total cost of $1.1 billion, 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 Biological Nutrient Removal (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 22% 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 - 000022.06 | 954811 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | | | | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 307,802 | | 22,605 | 164,639 | 23,200 | 28,542 | 20,653 | 21,897 | 23,108 | 47,239 | 120,558 |
| Other | 3,078 | | 226 | 1,646 | 232 | 285 | 206 | 219 | 231 | 473 | 1,206 |
| **Total** | **310,880** | | **22,831** | **166,285** | **23,432** | **28,827** | **20,859** | **22,116** | **23,339** | **47,712** | **121,764** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 293,816 | | 21,578 | 157,158 | 22,146 | 27,245 | 19,714 | 20,902 | 22,058 | 45,093 | 115,080 |
| City of Rockville | 17,064 | | 1,253 | 9,127 | 1,286 | 1,582 | 1,145 | 1,214 | 1,281 | 2,619 | 6,684 |

**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: Filtration/Disinfection Facilities Phases I & II, upgrading influent screening, and upgrading effluent filters.

**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); Blue Plains Facilities Master Plan (2016), and the DCWASA Approved FY 2020 Capital Improvements Program.

**COST CHANGE**

Costs in Year 6 and beyond reflect programmed costs for renewal and replacement of components expected to have reached the end of their useful life, including mechanical treatment components and some structural rebuilds of tanks and filters.

**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.

**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: S - 000022.10 - Blue Plains WWTP: Enhanced Nutrient Removal

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $19,113 | |
| Total Cost | $19,113 | |
| Impact on Water and Sewer Rate | $0.04 | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 95 |
| Date First Approved | FY 95 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 247,693 |
| Present Cost Estimate | 310,880 |
| Approved Request Last FY | 22,831 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 23,432 |

**G. Status Information**

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

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

**H. Map**

MAP NOT AVAILABLE

# Blue Plains WWTP: Biosolids Management, Part 2

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

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | | | | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 74,474 | | 10,063 | 59,081 | 11,234 | 12,713 | 17,132 | 8,584 | 7,227 | 2,191 | 5,330 |
| Other | 746 | | 101 | 592 | 113 | 127 | 171 | 86 | 73 | 22 | 53 |
| **Total** | **75,220** | | **10,164** | **59,673** | **11,347** | **12,840** | **17,303** | **8,670** | **7,300** | **2,213** | **5,383** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 71,090 | | 9,606 | 56,396 | 10,724 | 12,135 | 16,353 | 8,194 | 6,899 | 2,091 | 5,088 |
| City of Rockville | 4,130 | | 558 | 3,277 | 623 | 705 | 950 | 476 | 401 | 122 | 295 |

**D. Description & Justification**

**DESCRIPTION**

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: Gravity Thickener Facility upgrades; and Solids Processing Building/Dewatered Sludge Loading Facility.

**JUSTIFICATION**

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 (December2007); Blue Plains Facilities Master Plan (2016); and the DCWASA Approved FY 2020 Capital Improvement Program.

**COST CHANGE**

Cost increase in FY'22 through FY'25 reflects two major initiatives: 1) to rehabilitate and upgrade the gravity thickeners; 2) to rehabilitate the Class A biosolids process facilities.

**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. 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: 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 & Other | | |
| Maintenance | | |
| Debt Service | $4,625 | |
| Total Cost | $4,625 | |
| Impact on Water and Sewer Rate | $0.01 | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 95 |
| Date First Approved | FY 95 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 41,472 |
| Present Cost Estimate | 75,220 |
| Approved Request Last FY | 10,164 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 11,347 |

**G. Status Information**

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

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

**H. Map**

MAP NOT AVAILABLE

# Blue Plains WWTP: Plant-wide Projects

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

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | | | | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 110,599 | | 10,383 | 84,644 | 10,704 | 14,439 | 22,067 | 13,774 | 9,482 | 14,178 | 15,572 |
| Other | 1,107 | | 104 | 848 | 107 | 145 | 221 | 138 | 95 | 142 | 155 |
| **Total** | **111,706** | | **10,487** | **85,492** | **10,811** | **14,584** | **22,288** | **13,912** | **9,577** | **14,320** | **15,727** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 105,573 | | 9,911 | 80,798 | 10,218 | 13,783 | 21,064 | 13,148 | 9,051 | 13,534 | 14,864 |
| City of Rockville | 6,133 | | 576 | 4,694 | 593 | 801 | 1,224 | 764 | 526 | 786 | 863 |

**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: Electrical system upgrades, Floodwall construction, Lighting upgrades, Chemical system upgrades, 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); Blue Plains Facilities Master Plan (2016), and the DCWASA Approved FY 2020 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.

**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 & Other | | |
| Maintenance | | |
| Debt Service | $6,868 | |
| Total Cost | $6,868 | |
| Impact on Water and Sewer Rate | $0.02 | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 95 |
| Date First Approved | FY 02 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 117,624 |
| Present Cost Estimate | 111,706 |
| Approved Request Last FY | 10,487 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 10,811 |

**G. Status Information**

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

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

**H. Map**

MAP NOT AVAILABLE

# Blue Plains WWTP: Enhanced Nutrient Removal

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000022.10 | 083800 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | | | | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 440,462 | 412,789 | 1,492 | 21,257 | 291 | 316 | 1,826 | 1,881 | 5,737 | 11,206 | 4,924 |
| Other | 276 | | 15 | 212 | 3 | 3 | 18 | 19 | 57 | 112 | 49 |
| **Total** | **440,738** | **412,789** | **1,507** | **21,469** | **294** | **319** | **1,844** | **1,900** | **5,794** | **11,318** | **4,973** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 192,669 | 167,000 | 677 | 20,292 | 278 | 302 | 1,743 | 1,796 | 5,476 | 10,697 | 4,700 |
| State Aid | 238,981 | 238,190 | 791 | | | | | | | | |
| City of Rockville | 9,088 | 7,599 | 39 | 1,177 | 16 | 17 | 101 | 104 | 318 | 621 | 273 |

**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 to achieve enhanced nutrient removal have been completed and are operational. Additional projects are required to ensure NPDES permit compliance, as flows and levels to the plant increase. The projects will include ongoing program management upgrades to the secondary treatment facilities.

**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); Blue Plains Facilities Master Plan (2016); DCWASA Approved FY 2020 Capital Improvement Program; and the Blue Plains Intermunicipal Agreement of 2012.

**COST CHANGE**

ENR upgrades are substantially complete. Future upgrades are planned for secondary treatment to provide full nitrification under future flow conditions.

**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 are scheduled to be initiated in FY23 or later. At this time there are no additional BRF grant funds approved for this project. Projects extending beyond those supported by State Aid include rehabilitation and upgrades to older projects. Portions of the program have been financed by low interest loans through the Maryland Department of the Environment's Water Quality Administration State Revolving Loan Program. The funding schedule also indicates the calculated Rockville share of the cost.

**COORDINATION**

Coordinating Agencies: City of Rockville;(responsible for a share of funding); District of Columbia Water and Sewer Authority;(responsible for design and construction); Maryland Department of the Environment; U.S. Environmental Protection Agency, Region III
Coordinating Projects: S - 000022.06 - Blue Plains WWTP: Liquid Train Projects, Part 2

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $12,533 | 28 |
| Total Cost | $12,533 | 28 |
| Impact on Water and Sewer Rate | $0.03 | 28 |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 08 |
| Date First Approved | FY 07 |
| Initial Cost Estimate | 648 |
| Cost Estimate Last FY | 394,543 |
| Present Cost Estimate | 440,738 |
| Approved Request Last FY | 1,507 |
| Total Expense & Encumbrances | 412,789 |
| Approval Request Year 1 | 294 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 96 % |
| Estimated Completion Date | July 2026 |

| | |
|---|---|
| Growth | |
| System Improvement | |
| Environmental Regulation | 100% |
| Population Served | |
| Capacity | 169.2 / 370 MGD |

**H. Map**

MAP NOT AVAILABLE

# Blue Plains: Pipelines & Appurtenances

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

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | | | | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 171,260 | | 16,948 | 109,471 | 13,487 | 15,805 | 18,879 | 22,385 | 20,688 | 18,227 | 44,841 |
| Other | 1,714 | | 169 | 1,096 | 135 | 159 | 189 | 224 | 207 | 182 | 449 |
| **Total** | **172,974** | | **17,117** | **110,567** | **13,622** | **15,964** | **19,068** | **22,609** | **20,895** | **18,409** | **45,290** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 160,580 | | 16,708 | 102,075 | 12,465 | 14,391 | 17,743 | 21,720 | 19,299 | 16,457 | 41,797 |
| City of Rockville | 12,394 | | 409 | 8,492 | 1,157 | 1,573 | 1,325 | 889 | 1,596 | 1,952 | 3,493 |

**D. Description & Justification**

**DESCRIPTION**

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: Potomac Interceptor Rehabilitation; Upper Potomac Interceptor; Potomac Sewage Pumping Station Rehabilitation; Main Sewage Pumping Station intermediate repairs; Renovations to the central operations facility; Rehabilitation of the Anacostia and Potomac force mains; Influent Sewers Rehabilitation; and projects associated with the Combined Sewer Overflow (CSO) Long Term Control Plan (Clean Rivers Program) (Anacostia and Potomac Tunnels).

**JUSTIFICATION**

This is a continuation of DCWASA's upgrading of the Blue Plains-associated projects outside the fence.
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 2020 Capital Improvement Program.

**COST CHANGE**

Not applicable.

**OTHER**

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

**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 & Other | | |
| Maintenance | | |
| Debt Service | $10,446 | |
| Total Cost | $10,446 | |
| Impact on Water and Sewer Rate | $0.02 | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 11 |
| Date First Approved | FY 02 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 152,284 |
| Present Cost Estimate | 172,974 |
| Approved Request Last FY | 17,117 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 13,622 |

**G. Status Information**

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

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

**H. Map**

MAP NOT AVAILABLE

# Piscataway Bioenergy

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000103.02 | 153802 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 48,397 | 28,379 | 10,818 | 9,200 | 2,400 | 2,400 | 2,400 | 2,000 | | | |
| Land | | | | | | | | | | | |
| Construction | 220,810 | 810 | 27,000 | 193,000 | 56,000 | 64,000 | 45,000 | 28,000 | | | |
| Other | 12,001 | | 1,891 | 10,110 | 2,920 | 3,320 | 2,370 | 1,500 | | | |
| **Total** | **281,208** | **29,189** | **39,709** | **212,310** | **61,320** | **69,720** | **49,770** | **31,500** | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 277,138 | 28,619 | 39,209 | 209,310 | 59,820 | 68,220 | 49,770 | 31,500 | | | |
| Federal Aid | 570 | 570 | | | | | | | | | |
| State Aid | 3,500 | | 500 | 3,000 | 1,500 | 1,500 | | | | | |

**D. Description & Justification**

**DESCRIPTION**

This project will develop a comprehensive program for the engineering, design, construction, maintenance, and monitoring and verification necessary to add sustainable energy equipment and systems to produce biogas and electricity at Piscataway WRRF. It will provide a reduction in operations, maintenance, chemicals, biosolids transportation, and biosolids disposal costs. It will also enhance existing operating conditions and reliability while continuing to meet all permit requirements, and ensure a continued commitment to environmental stewardship at WSSC 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 based on a Thermal Hydrolysis/Mesophillic 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 Geenhouse 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.

Plans & Studies: Appel Consultants, Urban Waste Grease Resource Assessment-NREL (November 1998); Environmental Protection Agency (EPA), Opportunities For and Benefits Of Combined Heat and Power at Wastewater Treatment Facilities (December 2006); Brown & Caldwell, Anaerobic Digestion and Electric Generation Options for WSSC (November 2007); Metcalf & Eddy, WSSC Sludge Digestion Study for Piscataway and Seneca (December 2007); Black & Veatch, WSSC Digester Scope and Analysis (December 2007); JMT, Prince George's County Septage (FOG) Discharge Facility Study (February 2008); JMT, Western Research Institute (WRI) Biogas Feasibility Study Scope of Work - WSSC (April 2008); JMT, Montgomery County Septage (FOG) Discharge Facility Study (January 2010); Facility Plan for the Rock Creek Wastewater Treatment Plant (January 2010); AECOM Technical Services, Inc., Anaerobic Digestion/Combined Heat & Power Study (December 2011, Executive Summary Revised May 2013). HDR Inc. Design Development Report

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $18,028 | 25 |
| Total Cost | $18,028 | 25 |
| Impact on Water and Sewer Rate | $0.04 | 25 |

**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 | 261,993 |
| Present Cost Estimate | 281,208 |
| Approved Request Last FY | 58,118 |
| Total Expense & Encumbrances | 29,189 |
| Approval Request Year 1 | 61,320 |

**G. Status Information**

| | |
|---|---|
| Land Status | Public/Agency owned land |
| Project Phase | Construction |
| Percent Complete | 2 % |
| Estimated Completion Date | December 2023 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT AVAILABLE

(March 2017).

**COST CHANGE**

Cost increased based upon 30% design estimate and to reflect continuing market trends in construction industry escalations for costs of labor, steel, diesel, miscellaneous metals, concrete, electrical and process equipment, and other materials.

**OTHER**

The project scope has remained the same. 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 WRRFs. The Montgomery and Prince George's County Councils were briefed and approved the project by resolution on November 25, 2014, and September 9, 2014, respectively. In 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. In Sept 2017 issued a Request for Proposals (RFP) to two design --build entities for a progressive design-build delivery of the Bio-Energy Project. Transporting of biosolids from Western Branch WRRF to Piscataway included in FY2019 program update. A portion of this project will be financed by low interest loans through the Maryland Department of the Environment's Water Quality Administration State Revolving Loan Program. In June 2018 the Commission awarded a Progressive Design-Build Contract to PC Construction for the Bioenergy Project.

**COORDINATION**

Coordinating Agencies: Chesapeake Bay Critical Areas; Maryland Department of the Environment; Maryland Energy Administration; Maryland-National Capital Park & Planning Commission;(Mandatory Referral Process); Montgomery County Department of Environmental Protection; Montgomery County Government; Prince George's County Government; SMECO; Washington Gas Light Company
Coordinating Projects: S - 000096.14 - Piscataway WRRF Facility Upgrades; S - 000170.08 - Septage Discharge Facility Planning & Implementation

# Septage Discharge Facility Planning & Implementation

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000170.08 | 103802 | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 5,055 | 3,359 | 561 | 1,135 | 561 | 124 | | 225 | 225 | | |
| Land | | | | | | | | | | | |
| Construction | 32,146 | 2,045 | 10,767 | 19,334 | 10,767 | 2,393 | | 3,087 | 3,087 | | |
| Other | 3,180 | | 1,133 | 2,047 | 1,133 | 252 | | 331 | 331 | | |
| **Total** | **40,381** | **5,404** | **12,461** | **22,516** | **12,461** | **2,769** | | **3,643** | **3,643** | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 40,381 | 5,404 | 12,461 | 22,516 | 12,461 | 2,769 | | 3,643 | 3,643 | | |

**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 WRRF, and new Septage discharge facilities at Anacostia WWPS No. 2 and Piscataway WRRF.

**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 based upon more refined cost estimates for all three sites.

**OTHER**

The project scope has remained the same. The design of the Rock Creek and Anacostia sites are 100% complete. The design of the Piscataway site is 90% complete. The expenditures and schedule projections shown in Block B are estimates at the current design stages at each site, and may change based upon actual bids. The design and construction of the FOG Discharge Facility at the Piscataway WRRF has been moved to the Piscataway WRRF Bio-Energy Project.

The Rock Creek and Anacostia sites will be advertised as one project in 2019. The design of the Piscataway site will be completed with construction deferred until 2023, after the performance of the Rock Creek and Anacostia sites have been evaluated, and coordinated with the construction schedule of other Piscataway facility projects.

**COORDINATION**

Coordinating Agencies: Maryland Department of Natural Resources; Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission;(Mandatory Referral); Montgomery County Department of Environmental Protection; Montgomery County Government; Prince George's County Department of Environmental Resources; Prince George's County Government
Coordinating Projects: S - 000096.14 - Piscataway WRRF Facility Upgrades; S - 000103.02 - Piscataway Bioenergy

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $2,627 | 26 |
| Total Cost | $2,627 | 26 |
| Impact on Water and Sewer Rate | $0.01 | 26 |

**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 | 32,455 |
| Present Cost Estimate | 40,381 |
| Approved Request Last FY | 12,276 |
| Total Expense & Encumbrances | 5,404 |
| Approval Request Year 1 | 12,461 |

**G. Status Information**

| | |
|---|---|
| Land Status | Public/Agency owned land |
| Project Phase | Design |
| Percent Complete | 90 % |
| Estimated Completion Date | January 2025 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# Trunk Sewer Reconstruction Program

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

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 44,184 | | 5,126 | 39,058 | 6,287 | 6,931 | 6,358 | 6,303 | 6,492 | 6,687 | |
| Land | | | | | | | | | | | |
| Construction | 268,369 | | 54,750 | 213,619 | 56,887 | 54,053 | 37,972 | 20,935 | 21,563 | 22,209 | |
| Other | 31,254 | | 5,988 | 25,266 | 6,317 | 6,097 | 4,433 | 2,724 | 2,805 | 2,890 | |
| **Total** | **343,807** | | **65,864** | **277,943** | **69,491** | **67,081** | **48,763** | **29,962** | **30,860** | **31,786** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 343,807 | | 65,864 | 277,943 | 69,491 | 67,081 | 48,763 | 29,962 | 30,860 | 31,786 | |

**D. Description & Justification**

**DESCRIPTION**

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

**JUSTIFICATION**

Under the terms of the Consent Decree the WSSC Trunk Sewer Inspection Program inspected all required sewers in 21 basins by December 2010 and completed Sewer System Evaluation Surveys (SSES) for 9 basins. WSSC 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)

**COST CHANGE**

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

**OTHER**

The project scope has remained the same. Reconstruction work will include: reduction of I/I; replacement of substandard sewer segments; in situ lining of sewer segments; pipeline and manhole protection; rebuilding of manholes; and correction of structural defects and poor alignment. The reconstruction work in each sewer basin will be prioritized to most effectively prevent SSOs and backups. A Second Amendment to the Consent Decree extending WSSC's deadline to FY 2022 was agreed to by the U.S. Environmental Protection Agency, U.S. Department of Justice, and Maryland Department of the Environment and was entered by the U.S. District Court. All construction contracts for ESA work have been awarded and the approved amounts have been utilized in the current budget projections. As actual construction progresses the projections may be updated. Most of the upfront costs are associated with the construction of access roads and by-pass pumping. After completion of a majority of the Priority 1 construction activities associated with the Consent Decree, Phase 2 work (Priority 2 & 3 plus any newly identified Priority 1) is programmed at roughly five miles per year beginning in FY 2024. Land costs are included in WSSC Project S-203.00.

**COORDINATION**

Coordinating Agencies: Maryland Department of Natural Resources; Maryland Department of the Environment; Maryland Historical Trust; Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Montgomery County Department of Public Works and Transportation; National Park Service; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; U.S. Environmental Protection Agency, Region III
Coordinating Projects: S - 000001.01 - Sewer Reconstruction Program

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $22,365 | |
| Total Cost | $22,365 | |
| Impact on Water and Sewer Rate | $0.05 | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 11 |
| Date First Approved | FY 11 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 371,635 |
| Present Cost Estimate | 343,807 |
| Approved Request Last FY | 75,326 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 69,491 |

**G. Status Information**

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

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

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

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

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | | | | | | | | | | | |
| Land | 933 | | 50 | 883 | 283 | 120 | 120 | 120 | 120 | 120 | |
| Construction | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| **Total** | **933** | | **50** | **883** | **283** | **120** | **120** | **120** | **120** | **120** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 884 | | 50 | 834 | 234 | 120 | 120 | 120 | 120 | 120 | |
| SDC | 49 | | | 49 | 49 | | | | | | |

**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 & Other | | |
| Maintenance | | |
| Debt Service | $58 | |
| Total Cost | $58 | |
| 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 | 375 |
| Present Cost Estimate | 933 |
| Approved Request Last FY | 50 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 283 |

**G. Status Information**

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

| | |
|---|---|
| Growth | 5% |
| System Improvement | 95% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# Section 5 - Prince George's County Water Projects

DATE: October 1, 2019

# FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

**PRINCE GEORGE'S COUNTY WATER PROJECTS**

| AGENCY NUMBER | PROJECT NAME | EST. TOTAL COST | EXPEND THRU 19 | EST. EXPEND 20 | TOTAL SIX YEARS | EXPENDITURE SCHEDULE | | | | | | BEYOND SIX YEARS | PAGE NUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YR 1 21 | YR 2 22 | YR 3 23 | YR 4 24 | YR 5 25 | YR 6 26 | | |
| W-12.02 | Prince George's County HG415 Zone Water Main | 3,910 | 531 | 1,105 | 2,274 | 2,201 | 73 | 0 | 0 | 0 | 0 | 0 | 5-2 |
| W-34.02 | Old Branch Avenue Water Main | 22,908 | 2,888 | 5,574 | 14,446 | 7,772 | 6,674 | 0 | 0 | 0 | 0 | 0 | 5-3 |
| W-34.04 | Branch Avenue Water Transmission Improvements | 42,931 | 21,964 | 4,343 | 16,624 | 3,520 | 9,460 | 3,311 | 333 | 0 | 0 | 0 | 5-4 |
| W-34.05 | Marlboro Zone Reinforcement Main | 4,263 | 532 | 2,496 | 1,235 | 1,235 | 0 | 0 | 0 | 0 | 0 | 0 | 5-5 |
| W-62.06 | Rosaryville Water Storage Facility | 8,510 | 0 | 0 | 230 | 0 | 0 | 0 | 0 | 0 | 230 | 8,280 | 5-6 |
| W-84.02 | Ritchie Marlboro Road Transmission & PRV | 9,729 | 8,947 | 713 | 69 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 5-7 |
| W-84.03 | Smith Home Farms Water Main | 2,883 | 974 | 606 | 1,303 | 439 | 435 | 429 | 0 | 0 | 0 | 0 | 5-8 |
| W-84.04 | Westphalia Town Center Water Main | 1,708 | 639 | 45 | 1,024 | 342 | 404 | 278 | 0 | 0 | 0 | 0 | 5-9 |
| W-84.05 | Prince George's County 450A Zone Water Main | 79,588 | 2,498 | 567 | 76,523 | 18,403 | 16,375 | 15,325 | 13,225 | 6,925 | 6,270 | 0 | 5-10 |
| W-93.01 | Konterra Town Center East Water Main | 2,121 | 67 | 714 | 1,340 | 814 | 526 | 0 | 0 | 0 | 0 | 0 | 5-11 |
| W-105.01 | Marlton Section 18 Water Main, Lake Marlton Avenue | 2,737 | 30 | 1 | 2,706 | 429 | 457 | 457 | 453 | 455 | 455 | 0 | 5-12 |
| W-111.05 | Hillmeade Road Water Main | 5,718 | 5,511 | 138 | 69 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 5-13 |
| W-120.14 | Timothy Branch Water Main | 3,381 | 618 | 1,782 | 981 | 981 | 0 | 0 | 0 | 0 | 0 | 0 | 5-14 |
| W-137.03 | South Potomac Supply Improvement, Phase 2 | 66,520 | 1,702 | 1,449 | 63,369 | 210 | 21,053 | 21,053 | 21,053 | 0 | 0 | 0 | 5-15 |
| | Projects Pending Close-Out | 36,674 | 35,582 | 1,092 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5-16 |
| | **TOTALS** | 293,581 | 82,483 | 20,625 | 182,193 | 36,484 | 55,457 | 40,853 | 35,064 | 7,380 | 6,955 | 8,280 | |

# Prince George's County HG415 Zone Water Main

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000012.02 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | Montgomery High Zone HG660A; Montgomery Main 495A; |
| Drainage Basins | |
| Planning Areas | Patuxent PA 15 |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 465 | 455 | 4 | 6 | 4 | 2 | | | | | |
| Land | 76 | 76 | | | | | | | | | |
| Construction | 2,928 | | 957 | 1,971 | 1,910 | 61 | | | | | |
| Other | 441 | | 144 | 297 | 287 | 10 | | | | | |
| **Total** | **3,910** | **531** | **1,105** | **2,274** | **2,201** | **73** | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 3,910 | 531 | 1,105 | 2,274 | 2,201 | 73 | | | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design, and construction of 1,500 feet of 24-inch diameter water main, new isolation valves, and 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, Montgomery County 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**

Not applicable.

**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 constraints.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $44 | 23 |
| Debt Service | $254 | 23 |
| Total Cost | $298 | 23 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

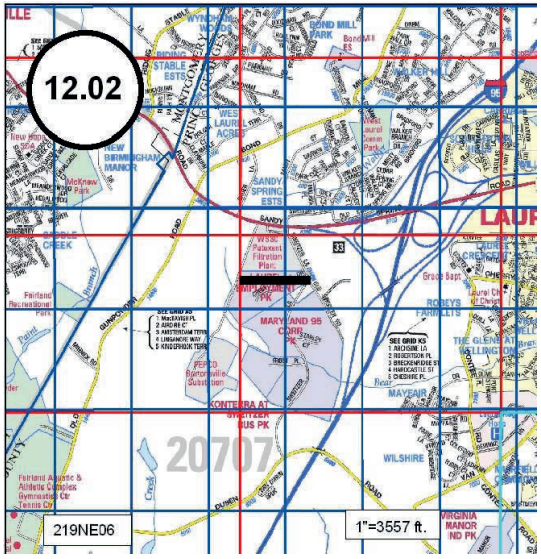
| | |
|---|---|
| Date First in Program | FY 11 |
| Date First Approved | FY 11 |
| Initial Cost Estimate | 1,074 |
| Cost Estimate Last FY | 3,718 |
| Present Cost Estimate | 3,910 |
| Approved Request Last FY | 2,136 |
| Total Expense & Encumbrances | 531 |
| Approval Request Year 1 | 2,201 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land and R/W to be acquired |
| Project Phase | Design |
| Percent Complete | 90 % |
| Estimated Completion Date | June 2022 |

| | |
|---|---|
| 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 - 000034.02 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 2,752 | 2,551 | 67 | 134 | 67 | 67 | | | | | |
| Land | 268 | 268 | | | | | | | | | |
| Construction | 18,069 | 69 | 5,000 | 13,000 | 7,000 | 6,000 | | | | | |
| Other | 1,819 | | 507 | 1,312 | 705 | 607 | | | | | |
| **Total** | **22,908** | **2,888** | **5,574** | **14,446** | **7,772** | **6,674** | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 11,454 | 1,444 | 2,787 | 7,223 | 3,886 | 3,337 | | | | | |
| SDC | 11,454 | 1,444 | 2,787 | 7,223 | 3,886 | 3,337 | | | | | |

**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 Department of the Environment; Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Prince George's County Government; Prince George's County Department of Permitting Inspection and Enforcement
Coordinating Projects: W - 000062.05 - Clinton Zone Water Storage Facility Implementation; W - 000062.06 - Rosaryville Water Storage Facility; W - 000084.05 - Prince George's County 450A Zone Water Main; W - 000137.03 - South Potomac Supply Improvement, Phase 2

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $472 | 23 |
| Debt Service | $745 | 23 |
| Total Cost | $1,217 | 23 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

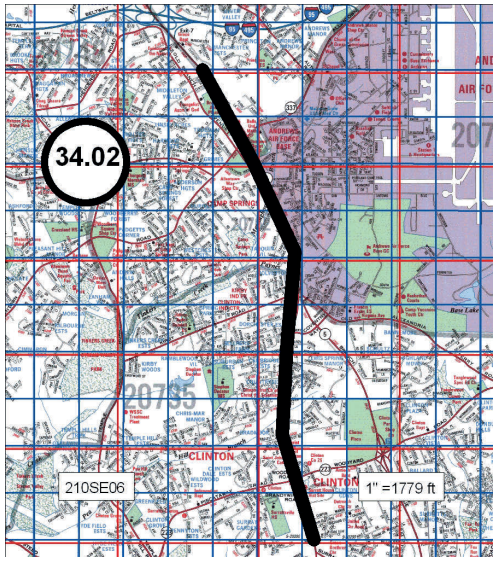
| | |
|---|---|
| Date First in Program | FY 08 |
| Date First Approved | FY 08 |
| Initial Cost Estimate | 10,350 |
| Cost Estimate Last FY | 23,930 |
| Present Cost Estimate | 22,908 |
| Approved Request Last FY | 6,766 |
| Total Expense & Encumbrances | 2,888 |
| Approval Request Year 1 | 7,772 |

**G. Status Information**

| | |
|---|---|
| Land Status | Public/Agency owned land |
| Project Phase | Design |
| Percent Complete | 100 % |
| Estimated Completion Date | June 2022 |

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

**H. Map**



# Branch Avenue Water Transmission Improvements

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000034.04 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 3,743 | 2,980 | 450 | 313 | 200 | 100 | 10 | 3 | | | |
| Land | 244 | 244 | | | | | | | | | |
| Construction | 37,038 | 18,740 | 3,498 | 14,800 | 3,000 | 8,500 | 3,000 | 300 | | | |
| Other | 1,906 | | 395 | 1,511 | 320 | 860 | 301 | 30 | | | |
| **Total** | **42,931** | **21,964** | **4,343** | **16,624** | **3,520** | **9,460** | **3,311** | **333** | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SDC | 42,931 | 21,964 | 4,343 | 16,624 | 3,520 | 9,460 | 3,311 | 333 | | | |

**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 estimates increased due to the complexity of the design and construction of the final phase of the project within a narrow right-of-way with many existing utilities.

**OTHER**

The project scope has remained the same. Expenditure and schedule projections shown in Block B above are a mix of construction cost, 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 has been 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. Phase III (BL5273B11) has been constructed by a WSSC contractor. Phase IV (BL5273F11) will be bid and constructed by WSSC as well. 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 Department of Natural Resources; Maryland Department of the Environment; Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission;(Mandatory Referral Process); Prince George's County Department of Public Works and Transportation; Prince George's County Government; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers
Coordinating Projects: W - 000062.05 - Clinton Zone Water Storage Facility Implementation; W - 000062.06 - Rosaryville Water Storage Facility

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $802 | 25 |
| Debt Service | | |
| Total Cost | $802 | 25 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

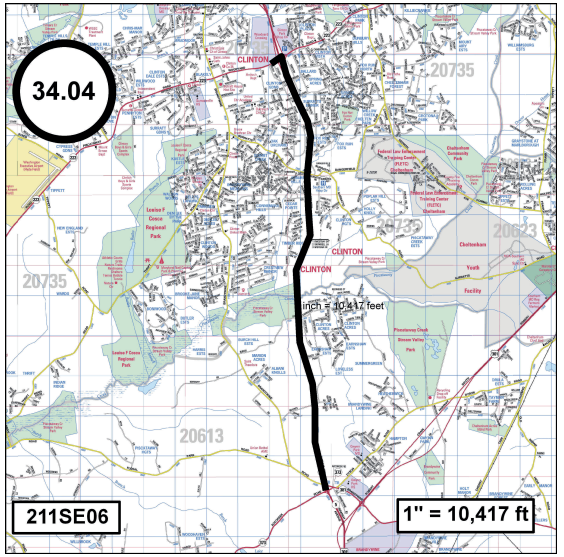
| | |
|---|---|
| Date First in Program | FY 14 |
| Date First Approved | FY 14 |
| Initial Cost Estimate | 23,705 |
| Cost Estimate Last FY | 38,155 |
| Present Cost Estimate | 42,931 |
| Approved Request Last FY | 10,714 |
| Total Expense & Encumbrances | 21,964 |
| Approval Request Year 1 | 3,520 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land and R/W to be acquired |
| Project Phase | Construction |
| Percent Complete | 65 % |
| Estimated Completion Date | April 2024 |

| | |
|---|---|
| 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 - 000034.05 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 721 | 527 | 120 | 74 | 74 | | | | | | |
| Land | 3 | 3 | | | | | | | | | |
| Construction | 3,052 | 2 | 2,050 | 1,000 | 1,000 | | | | | | |
| Other | 487 | | 326 | 161 | 161 | | | | | | |
| **Total** | **4,263** | **532** | **2,496** | **1,235** | **1,235** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 4,263 | 532 | 2,496 | 1,235 | 1,235 | | | | | | |

**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 preliminary design level estimates and are expected to change as design progresses.

**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 Government; Prince George's County Department of Permitting Inspection and Enforcement
Coordinating Projects: W - 000062.05 - Clinton Zone Water Storage Facility Implementation; W - 000062.06 - Rosaryville Water Storage Facility

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $118 | 22 |
| Debt Service | $277 | 22 |
| Total Cost | $395 | 22 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

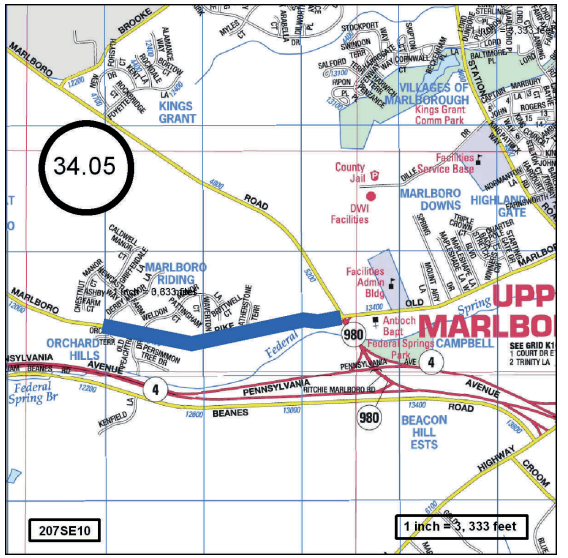
| | |
|---|---|
| Date First in Program | FY 14 |
| Date First Approved | FY 14 |
| Initial Cost Estimate | 5,234 |
| Cost Estimate Last FY | 4,302 |
| Present Cost Estimate | 4,263 |
| Approved Request Last FY | 2,990 |
| Total Expense & Encumbrances | 532 |
| Approval Request Year 1 | 1,235 |

**G. Status Information**

| | |
|---|---|
| Land Status | R/W acquired |
| Project Phase | Design |
| Percent Complete | 98 % |
| Estimated Completion Date | June 2021 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**



# Rosaryville Water Storage Facility

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000062.06 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | Southern 385B |
| Drainage Basins | |
| Planning Areas | Rosaryville PA 82A |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 600 | | | 200 | | | | | | 200 | 400 |
| Land | | | | | | | | | | | |
| Construction | 6,800 | | | | | | | | | | 6,800 |
| Other | 1,110 | | | 30 | | | | | | 30 | 1,080 |
| **Total** | **8,510** | | | **230** | | | | | | **230** | **8,280** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SDC | 8,510 | | | 230 | | | | | | 230 | 8,280 |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design, and construction of approximately 2.0 million gallons (MG) of water storage to serve the Rosaryville area in the Clinton Pressure Zone.

**JUSTIFICATION**

Clinton Pressure Zone HG385B serves a large and growing area of Southern Prince George's County. 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. 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); Finished Water Storage Analysis Report (June 2013).

**COST CHANGE**

Not applicable.

**OTHER**

The project scope was developed for the FY '21 CIP and has an estimated cost of $8,510,000. This project was split from project W-62.05, Clinton Zone Water Storage Facility Implementation which will be completed and placed in service in 2019. Expenditure and schedule projections shown are based upon planning level estimates and are expected to change once the project moves to design. No WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Prince George's County Department of Environmental Resources; Prince George's County Government
Coordinating Projects: W - 000034.02 - Old Branch Avenue Water Main; W - 000034.03 - Water Transmission Improvements 385B Pressure Zone; W - 000034.04 - Branch Avenue Water Transmission Improvements; W - 000034.05 - Marlboro Zone Reinforcement Main

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

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 21 |
| Date First Approved | FY 13 |
| Initial Cost Estimate | 8,510 |
| Cost Estimate Last FY | |
| Present Cost Estimate | 8,510 |
| Approved Request Last FY | |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | |

**G. Status Information**

| | |
|---|---|
| Land Status | Public/Agency owned land |
| Project Phase | Design |
| Percent Complete | 0 % |
| Estimated Completion Date | June 2030 |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| Environmental Regulation | |
| Population Served | |
| Capacity | 2.0 MG |

**H. Map**

# Ritchie Marlboro Road Transmission Main & PRV

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000084.02 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | Prince George's High HG450A; Southern 385B |
| Drainage Basins | |
| Planning Areas | Westphalia & Vicinity PA 78 |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 1,534 | 1,504 | 20 | 10 | 10 | | | | | | |
| Land | 2 | 2 | | | | | | | | | |
| Construction | 8,091 | 7,441 | 600 | 50 | 50 | | | | | | |
| Other | 102 | | 93 | 9 | 9 | | | | | | |
| **Total** | **9,729** | **8,947** | **713** | **69** | **69** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SDC | 9,729 | 8,947 | 713 | 69 | 69 | | | | | | |

**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**

Project cost increased to reflect value of WSSC provided pipe.

**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 Department of Natural Resources; Maryland State Highway Administration; Maryland Water Management Administration; Maryland-National Capital Park & Planning Commission; Prince George's County Government; 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 & Other | | |
| Maintenance | $386 | 22 |
| Debt Service | | |
| Total Cost | $386 | 22 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

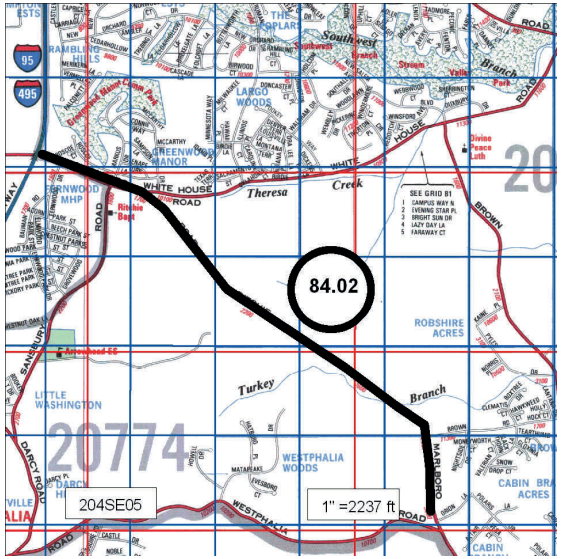
| | |
|---|---|
| Date First in Program | FY 08 |
| Date First Approved | FY 08 |
| Initial Cost Estimate | 2,496 |
| Cost Estimate Last FY | 6,877 |
| Present Cost Estimate | 9,729 |
| Approved Request Last FY | 25 |
| Total Expense & Encumbrances | 8,947 |
| Approval Request Year 1 | 69 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land Acquired |
| Project Phase | Construction |
| Percent Complete | 96 % |
| Estimated Completion Date | August 2020 |

| | |
|---|---|
| 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 - 000084.03 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 432 | 147 | 93 | 192 | 66 | 64 | 62 | | | | |
| Land | | | | | | | | | | | |
| Construction | 2,202 | 827 | 434 | 941 | 316 | 314 | 311 | | | | |
| Other | 249 | | 79 | 170 | 57 | 57 | 56 | | | | |
| **Total** | **2,883** | **974** | **606** | **1,303** | **439** | **435** | **429** | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 2,883 | 974 | 606 | 1,303 | 439 | 435 | 429 | | | | |

**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: W - 000084.04 - Westphalia Town Center Water Main

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $224 | |
| Debt Service | | |
| Total Cost | $224 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

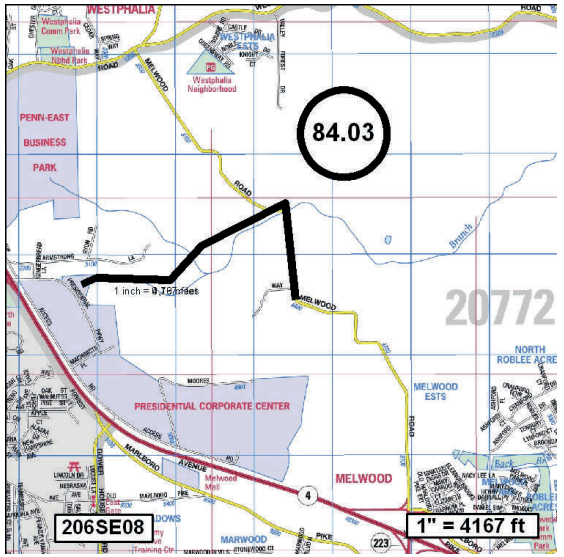
| | |
|---|---|
| Date First in Program | FY 08 |
| Date First Approved | FY 08 |
| Initial Cost Estimate | 1,600 |
| Cost Estimate Last FY | 2,689 |
| Present Cost Estimate | 2,883 |
| Approved Request Last FY | 438 |
| Total Expense & Encumbrances | 974 |
| Approval Request Year 1 | 439 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 75 % |
| Estimated 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 - 000084.04 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 207 | 26 | 39 | 142 | 67 | 49 | 26 | | | | |
| Land | | | | | | | | | | | |
| Construction | 1,361 | 613 | | 748 | 230 | 302 | 216 | | | | |
| Other | 140 | | 6 | 134 | 45 | 53 | 36 | | | | |
| **Total** | **1,708** | **639** | **45** | **1,024** | **342** | **404** | **278** | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 1,708 | 639 | 45 | 1,024 | 342 | 404 | 278 | | | | |

**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 Government; Prince George's County Department of Permitting Inspection and Enforcement
Coordinating Projects: W - 000084.03 - Smith Home Farms Water Main

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $139 | |
| Debt Service | | |
| Total Cost | $139 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

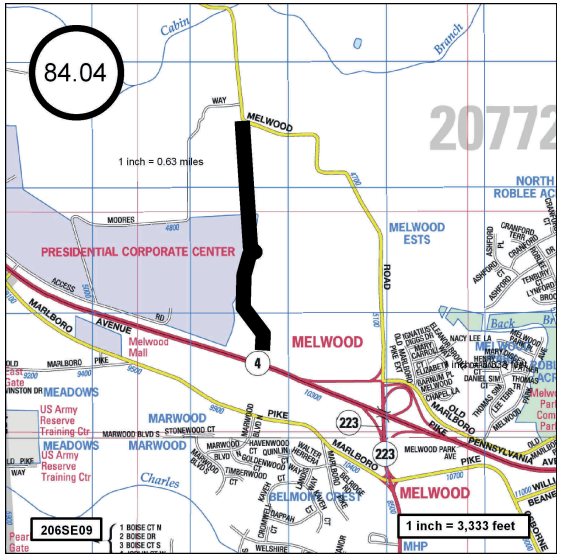
| | |
|---|---|
| Date First in Program | FY 14 |
| Date First Approved | FY 14 |
| Initial Cost Estimate | 1,396 |
| Cost Estimate Last FY | 1,578 |
| Present Cost Estimate | 1,708 |
| Approved Request Last FY | 327 |
| Total Expense & Encumbrances | 639 |
| Approval Request Year 1 | 342 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 40 % |
| Estimated 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 - 000084.05 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 3,815 | 2,498 | 540 | 777 | 302 | 95 | 95 | 95 | 95 | 95 | |
| Land | | | | | | | | | | | |
| Construction | 72,101 | | | 72,101 | 17,225 | 15,500 | 14,500 | 12,500 | 6,500 | 5,876 | |
| Other | 3,672 | | 27 | 3,645 | 876 | 780 | 730 | 630 | 330 | 299 | |
| **Total** | **79,588** | **2,498** | **567** | **76,523** | **18,403** | **16,375** | **15,325** | **13,225** | **6,925** | **6,270** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 79,588 | 2,498 | 567 | 76,523 | 18,403 | 16,375 | 15,325 | 13,225 | 6,925 | 6,270 | |

**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**

Not applicable.

**OTHER**

The project scope has remained the same. Expenditure and schedule projections 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. Land costs are included in WSSC Project W-202.00.

**COORDINATION**

Coordinating Agencies: Maryland Department of Natural Resources; Maryland Historical Trust; Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission;(Mandatory Referral Process); National Park Service; Prince George's County Department of Public Works and Transportation; Prince George's County Government; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers;Joint Base Andrews military base; Washington Metropolitan Area Transit Authority
Coordinating Projects: W - 000034.02 - Old Branch Avenue Water Main; W - 000137.03 - South Potomac Supply Improvement, Phase 2

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $592 | 27 |
| Debt Service | $5,177 | 27 |
| Total Cost | $5,769 | 27 |
| Impact on Water and Sewer Rate | $0.01 | 27 |

**F. Approval and Expenditure Data (000's)**

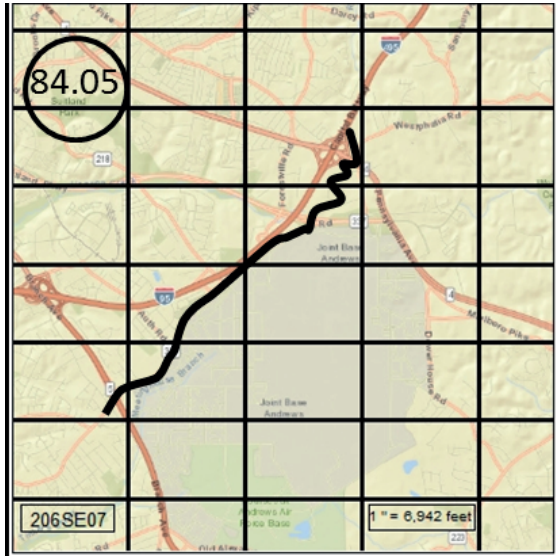
| | |
|---|---|
| Date First in Program | FY 13 |
| Date First Approved | FY 13 |
| Initial Cost Estimate | 374 |
| Cost Estimate Last FY | 79,578 |
| Present Cost Estimate | 79,588 |
| Approved Request Last FY | 643 |
| Total Expense & Encumbrances | 2,498 |
| Approval Request Year 1 | 18,403 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land and R/W to be acquired |
| Project Phase | Design |
| Percent Complete | 70 % |
| Estimated Completion Date | June 2026 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | 0 |

**H. Map**



# Konterra Town Center East Water Main

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000093.01 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | Prince George's 415A |
| Drainage Basins | |
| Planning Areas | Northwestern Area PA 60 |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 300 | 67 | 81 | 152 | 92 | 60 | | | | | |
| Land | | | | | | | | | | | |
| Construction | 1,553 | | 540 | 1,013 | 616 | 397 | | | | | |
| Other | 268 | | 93 | 175 | 106 | 69 | | | | | |
| **Total** | **2,121** | **67** | **714** | **1,340** | **814** | **526** | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 2,121 | 67 | 714 | 1,340 | 814 | 526 | | | | | |

**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 bounded 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 (October 19, 2018).

**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 - 000028.18 - Konterra Town Center East Sewer

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $271 | |
| Debt Service | | |
| Total Cost | $271 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

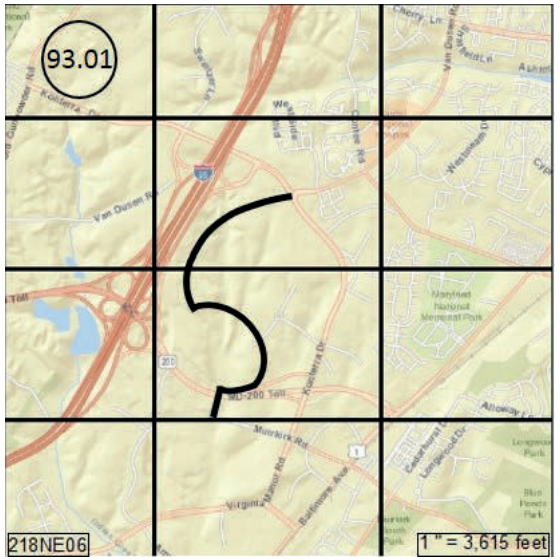
| | |
|---|---|
| Date First in Program | FY 09 |
| Date First Approved | FY 09 |
| Initial Cost Estimate | 610 |
| Cost Estimate Last FY | 2,107 |
| Present Cost Estimate | 2,121 |
| Approved Request Last FY | 714 |
| Total Expense & Encumbrances | 67 |
| Approval Request Year 1 | 814 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 3 % |
| Estimated 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 - 000105.01 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 415 | 30 | 1 | 384 | 44 | 68 | 68 | 68 | 68 | 68 | |
| Land | | | | | | | | | | | |
| Construction | 1,969 | | | 1,969 | 329 | 329 | 329 | 326 | 328 | 328 | |
| Other | 353 | | | 353 | 56 | 60 | 60 | 59 | 59 | 59 | |
| **Total** | **2,737** | **30** | **1** | **2,706** | **429** | **457** | **457** | **453** | **455** | **455** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 2,737 | 30 | 1 | 2,706 | 429 | 457 | 457 | 453 | 455 | 455 | |

**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**

The expenditures and schedule have been updated 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 Systems Extension Permit. Estimated completion date is developer dependent. No WSSC rate supported debt will be used for this project.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $159 | |
| Debt Service | | |
| Total Cost | $159 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

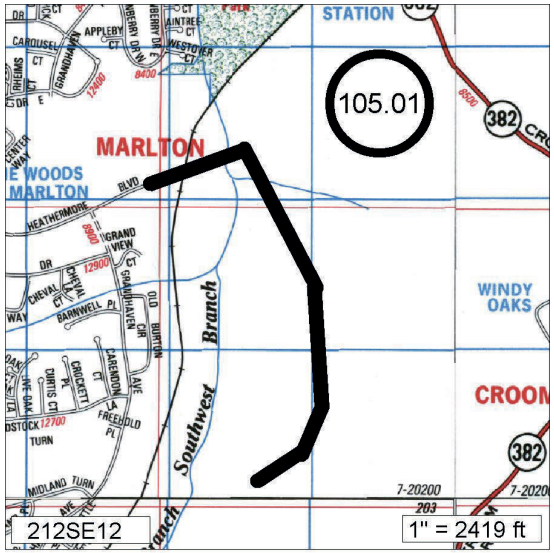
| | |
|---|---|
| Date First in Program | FY 02 |
| Date First Approved | FY 02 |
| Initial Cost Estimate | 398 |
| Cost Estimate Last FY | 2,657 |
| Present Cost Estimate | 2,737 |
| Approved Request Last FY | 417 |
| Total Expense & Encumbrances | 30 |
| Approval Request Year 1 | 429 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Design |
| Percent Complete | 20 % |
| Estimated 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 - 000111.05 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 561 | 531 | 20 | 10 | 10 | | | | | | |
| Land | 5 | 5 | | | | | | | | | |
| Construction | 5,125 | 4,975 | 100 | 50 | 50 | | | | | | |
| Other | 27 | | 18 | 9 | 9 | | | | | | |
| **Total** | **5,718** | **5,511** | **138** | **69** | **69** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SDC | 5,718 | 5,511 | 138 | 69 | 69 | | | | | | |

**D. Description & Justification**

**DESCRIPTION**

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.

**JUSTIFICATION**

The purpose of this project is to provide adequate pressure in response to growth in the Bowie area.
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.

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. Expenditures and schedule projections shown in Block B are based upon actual bid. No WSSC rate supported debt will be used for this project.

**COORDINATION**

Coordinating Agencies: AMTRAK; Maryland Department of Natural Resources; Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; Prince George's County Government; 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 & Other | | |
| Maintenance | $215 | 22 |
| Debt Service | | |
| Total Cost | $215 | 22 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

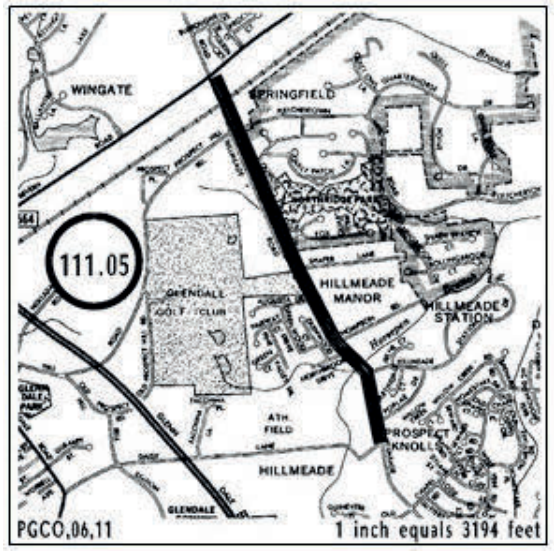
| | |
|---|---|
| Date First in Program | FY 98 |
| Date First Approved | FY 98 |
| Initial Cost Estimate | 1,898 |
| Cost Estimate Last FY | 5,431 |
| Present Cost Estimate | 5,718 |
| Approved Request Last FY | 25 |
| Total Expense & Encumbrances | 5,511 |
| Approval Request Year 1 | 69 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land Acquired |
| Project Phase | Construction |
| Percent Complete | 98 % |
| Estimated Completion Date | July 2020 |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**



# Timothy Branch Water Main

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000120.14 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 935 | 618 | 159 | 158 | 158 | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 2,086 | | 1,391 | 695 | 695 | | | | | | |
| Other | 360 | | 232 | 128 | 128 | | | | | | |
| **Total** | **3,381** | **618** | **1,782** | **981** | **981** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 3,381 | 618 | 1,782 | 981 | 981 | | | | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design, and construction of 5,750 feet of 16-inch water main to serve the Timothy Branch project, parts 6, 9, and 22.

**JUSTIFICATION**

Timothy Branch Hydraulic Planning Analysis DA9381Z92 (Amended April 18, 2019).

**COST CHANGE**

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

**OTHER**

The project scope has changed. The project length has increased to coordinate with the Hydraulic Planning Analysis Amendment approved April 18, 2019. 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: Not Applicable

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $170 | |
| Debt Service | | |
| Total Cost | $170 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

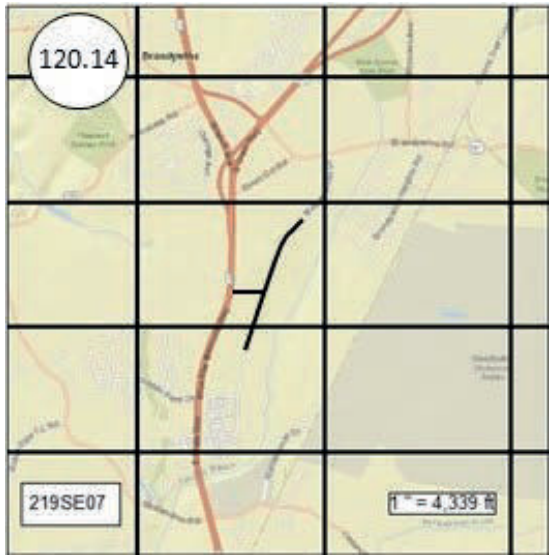
| | |
|---|---|
| Date First in Program | FY 94 |
| Date First Approved | FY 94 |
| Initial Cost Estimate | 176 |
| Cost Estimate Last FY | 2,056 |
| Present Cost Estimate | 3,381 |
| Approved Request Last FY | 262 |
| Total Expense & Encumbrances | 618 |
| Approval Request Year 1 | 981 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Planning |
| Percent Complete | 100 % |
| Estimated Completion Date | Developer Dependent |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| 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 - 000137.03 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | Potomac 290B; Prince George's High HG450A; Rosecroft |
| Drainage Basins | |
| Planning Areas | Henson Creek PA 76B |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 3,432 | 1,702 | 1,380 | 350 | 200 | 50 | 50 | 50 | | | |
| Land | | | | | | | | | | | |
| Construction | 60,000 | | | 60,000 | | 20,000 | 20,000 | 20,000 | | | |
| Other | 3,088 | | 69 | 3,019 | 10 | 1,003 | 1,003 | 1,003 | | | |
| **Total** | **66,520** | **1,702** | **1,449** | **63,369** | **210** | **21,053** | **21,053** | **21,053** | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 43,903 | 1,123 | 956 | 41,824 | 139 | 13,895 | 13,895 | 13,895 | | | |
| SDC | 22,617 | 579 | 493 | 21,545 | 71 | 7,158 | 7,158 | 7,158 | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the design and construction of 4.4 miles of 42-inch diameter ductile iron transmission main, 6.0 miles of distribution mains (diameters ranging from 10 to 16-inches), and a new flow control valve and vault. The project will replace 3.5 miles of existing 42-inch diameter PCCP transmission main located within the Henson Creek corridor and will replace parallel aged distribution infrastructure located along the project limits.

**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**

Not applicable.

**OTHER**

The project scope remains the same. The Phase 1 alignment study was completed in April 2017. Notice to Proceed for Phase 2 (Design) was issued in February 2018. Schedule and expenditure projections for Phase 2 are preliminary design estimates and may change based upon design constraints, site-specific conditions, and stream restoration requirements for Henson Creek. Land costs are included in WSSC Project W-202.00.

**COORDINATION**

Coordinating Agencies: Maryland Department of Natural Resources; Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Prince George's County Government; Prince George's County Department of Permitting Inspection and Enforcement; U.S. Army Corps of Engineers; Washington Gas Light Company
Coordinating Projects: W - 000034.02 - Old Branch Avenue Water Main; W - 000084.05 - Prince George's County 450A Zone Water Main

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $1,075 | 25 |
| Debt Service | $2,856 | 25 |
| Total Cost | $3,931 | 25 |
| Impact on Water and Sewer Rate | $0.01 | 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 | 66,759 |
| Present Cost Estimate | 66,520 |
| Approved Request Last FY | 651 |
| Total Expense & Encumbrances | 1,702 |
| Approval Request Year 1 | 210 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land and R/W to be acquired |
| Project Phase | Design |
| Percent Complete | 30 % |
| Estimated Completion Date | June 2024 |

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

**H. Map**

## PROJECTS PENDING CLOSE-OUT

**Prince George's Water Projects**

**(ALL FIGURES IN THOUSANDS)**

| Agency Number | Project Name | Estimated Total Cost | Expenditures Thru FY'19 | Estimated Expenditures FY'20 | Remarks |
|---|---|---|---|---|---|
| W-34.03 | Water Transmission Improvements 385B Pressure Zone | $14,320 | $13,765 | $555 | Project completion expected in FY'20. |
| W-62.05 | Clinton Zone Water Storage Facility Implementation | 10,036 | 9,681 | 355 | Project completion expected in FY'20. |
| W-65.10 | St. Barnabas Elevated Tank Replacement | 12,318 | 12,136 | 182 | Project completion expected in FY'20. |
| | **TOTALS** | $36,674 | $35,582 | $1,092 | |

# Section 6 - Prince George's County Sewer Projects

DATE: October 1, 2019

# FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

**PRINCE GEORGE'S COUNTY SEWER PROJECTS**

| AGENCY NUMBER | PROJECT NAME | EST. TOTAL COST | EXPEND THRU 19 | EST. EXPEND 20 | TOTAL SIX YEARS | EXPENDITURE SCHEDULE | | | | | | BEYOND SIX YEARS | PAGE NUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YR 1 21 | YR 2 22 | YR 3 23 | YR 4 24 | YR 5 25 | YR 6 26 | | |
| S-27.08 | Westphalia Town Center Sewer Main | 1,523 | 829 | 487 | 207 | 141 | 54 | 12 | 0 | 0 | 0 | 0 | 6-2 |
| S-28.18 | Konterra Town Center East Sewer | 8,484 | 6,492 | 0 | 1,992 | 1,992 | 0 | 0 | 0 | 0 | 0 | 0 | 6-3 |
| S-43.02 | Broad Creek WWPS Augmentation | 188,381 | 177,807 | 10,408 | 166 | 166 | 0 | 0 | 0 | 0 | 0 | 0 | 6-4 |
| S-68.01 | Landover Mall Redevelopment | 1,381 | 25 | 105 | 1,251 | 649 | 414 | 47 | 47 | 47 | 47 | 0 | 6-5 |
| S-75.21 | Mattawoman WWTP Upgrades | 20,394 | 0 | 3,190 | 15,488 | 3,630 | 4,928 | 3,762 | 1,584 | 792 | 792 | 1,716 | 6-6 |
| S-77.20 | Parkway North Substation Replacement | 8,535 | 1,377 | 5,663 | 1,495 | 1,357 | 138 | 0 | 0 | 0 | 0 | 0 | 6-7 |
| S-86.19 | Southlake Subdivision Sewer | 820 | 214 | 222 | 384 | 187 | 197 | 0 | 0 | 0 | 0 | 0 | 6-8 |
| S-96.14 | Piscataway WRRF Facility Upgrades | 160,304 | 24,728 | 39,350 | 96,226 | 28,284 | 39,674 | 26,860 | 1,408 | 0 | 0 | 0 | 6-9 |
| S-131.05 | Pleasant Valley Sewer Main, Part 2 | 910 | 24 | 212 | 674 | 419 | 174 | 81 | 0 | 0 | 0 | 0 | 6-10 |
| S-131.07 | Pleasant Valley Sewer Main, Part 1 | 1,854 | 98 | 495 | 1,261 | 1,029 | 232 | 0 | 0 | 0 | 0 | 0 | 6-11 |
| S-131.10 | Fort Washington Forest No. 1 WWPS Augmentation | 4,451 | 3,425 | 1,004 | 22 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 6-12 |
| S-157.02 | Western Branch WRRF Process Train Improvements | 14,859 | 480 | 330 | 14,049 | 880 | 880 | 3,465 | 3,465 | 3,465 | 1,894 | 0 | 6-13 |
| | Projects Pending Close-Out | 52,684 | 52,449 | 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 6-14 |
| | **TOTALS** | 464,580 | 267,948 | 61,701 | 133,215 | 38,756 | 46,691 | 34,227 | 6,504 | 4,304 | 2,733 | 1,716 | |

# Westphalia Town Center Sewer Main

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000027.08 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 187 | 115 | 34 | 38 | 22 | 11 | 5 | | | | |
| Land | | | | | | | | | | | |
| Construction | 1,245 | 714 | 389 | 142 | 101 | 36 | 5 | | | | |
| Other | 91 | | 64 | 27 | 18 | 7 | 2 | | | | |
| **Total** | **1,523** | **829** | **487** | **207** | **141** | **54** | **12** | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 1,523 | 829 | 487 | 207 | 141 | 54 | 12 | | | | |

**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**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $92 | |
| Debt Service | | |
| Total Cost | $92 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

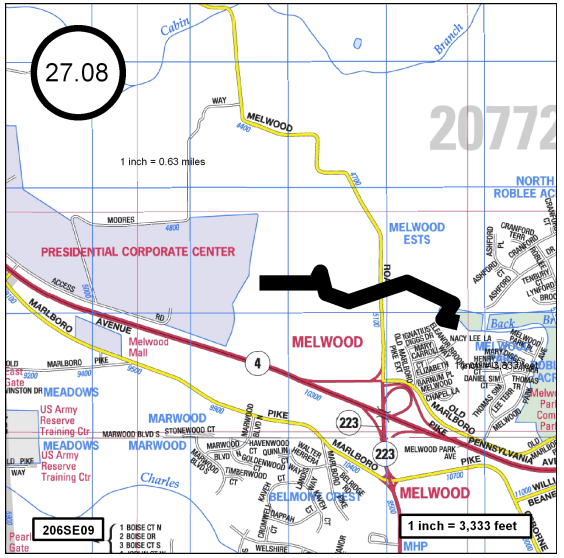
| | |
|---|---|
| Date First in Program | FY 14 |
| Date First Approved | FY 14 |
| Initial Cost Estimate | 378 |
| Cost Estimate Last FY | 876 |
| Present Cost Estimate | 1,523 |
| Approved Request Last FY | 133 |
| Total Expense & Encumbrances | 829 |
| Approval Request Year 1 | 141 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 40 % |
| Estimated 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 - 000028.18 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 3,203 | 2,977 | | 226 | 226 | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 5,021 | 3,515 | | 1,506 | 1,506 | | | | | | |
| Other | 260 | | | 260 | 260 | | | | | | |
| **Total** | **8,484** | **6,492** | | **1,992** | **1,992** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 8,484 | 6,492 | | 1,992 | 1,992 | | | | | | |

**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 (October 19, 2018).

**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 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 - 000093.01 - Konterra Town Center East Water Main

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $292 | |
| Debt Service | | |
| Total Cost | $292 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

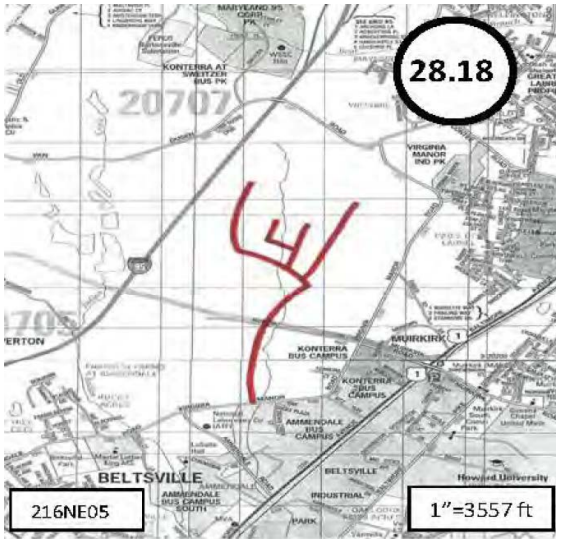
| | |
|---|---|
| Date First in Program | FY 09 |
| Date First Approved | FY 09 |
| Initial Cost Estimate | 833 |
| Cost Estimate Last FY | 7,136 |
| Present Cost Estimate | 8,484 |
| Approved Request Last FY | |
| Total Expense & Encumbrances | 6,492 |
| Approval Request Year 1 | 1,992 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 72 % |
| Estimated Completion Date | Developer Dependent |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| Environmental Regulation | |
| Population Served | 11,300 |
| Capacity | 8.11 MGD |

**H. Map**



# Broad Creek WWPS Augmentation

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000043.02 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 27,865 | 26,284 | 1,550 | 31 | 31 | | | | | | |
| Land | 177 | 177 | | | | | | | | | |
| Construction | 159,833 | 151,346 | 8,360 | 127 | 127 | | | | | | |
| Other | 506 | | 498 | 8 | 8 | | | | | | |
| **Total** | **188,381** | **177,807** | **10,408** | **166** | **166** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 32,024 | 30,227 | 1,769 | 28 | 28 | | | | | | |
| SDC | 156,357 | 147,580 | 8,639 | 138 | 138 | | | | | | |

**D. Description & Justification**

**DESCRIPTION**

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 Water Resource Recovery Facility. 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 WRRF, a concrete storage facility was constructed in the upper existing polishing pond, allowing intermittent storage of excess sewage until flow levels 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 reflect emergency generators that were installed in the event of power outages.

**JUSTIFICATION**

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.
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).

**COST CHANGE**

Not applicable.

**OTHER**

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. Three contracts have been completed. The final contract is in the construction phase.

**COORDINATION**

Coordinating Agencies: Maryland Department of Natural Resources; Maryland Department of the Environment; Maryland State Highway Administration; Maryland-National Capital Park & Planning Commission; National Park Service; Prince George's County Department of Environmental Resources; Prince George's County Government; U.S. Army Corps of Engineers; U.S. Environmental Protection Agency, Region III
Coordinating Projects: S - 000096.14 - Piscataway WRRF Facility Upgrades

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $495 | 22 |
| Debt Service | $2,083 | 22 |
| Total Cost | $2,578 | 22 |
| Impact on Water and Sewer Rate | $0.01 | 22 |

**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 | 182,032 |
| Present Cost Estimate | 188,381 |
| Approved Request Last FY | 3,821 |
| Total Expense & Encumbrances | 177,807 |
| Approval Request Year 1 | 166 |

**G. Status Information**

| | |
|---|---|
| Land Status | R/W acquired |
| Project Phase | Construction |
| Percent Complete | 90 % |
| Estimated Completion Date | September 2020 |

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

**H. Map**

MAP NOT AVAILABLE

# Landover Mall Redevelopment

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000068.01 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 236 | 25 | 37 | 174 | 78 | 47 | 13 | 12 | 12 | 12 | |
| Land | | | | | | | | | | | |
| Construction | 970 | | 55 | 915 | 487 | 313 | 28 | 29 | 29 | 29 | |
| Other | 175 | | 13 | 162 | 84 | 54 | 6 | 6 | 6 | 6 | |
| **Total** | **1,381** | **25** | **105** | **1,251** | **649** | **414** | **47** | **47** | **47** | **47** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 1,381 | 25 | 105 | 1,251 | 649 | 414 | 47 | 47 | 47 | 47 | |

**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 & Other | | |
| Maintenance | $86 | |
| Debt Service | | |
| Total Cost | $86 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

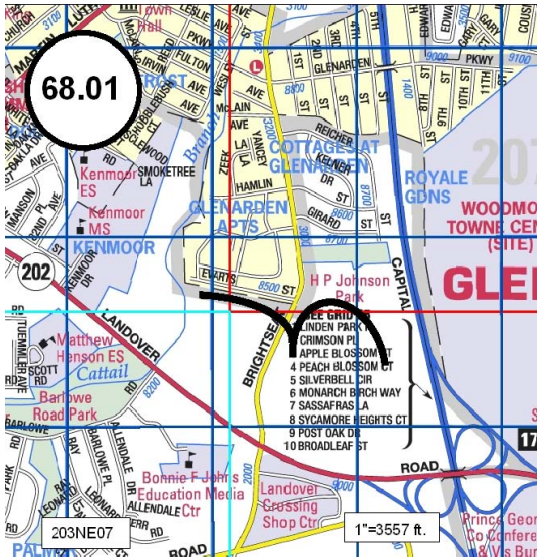
| | |
|---|---|
| Date First in Program | FY 11 |
| Date First Approved | FY 11 |
| Initial Cost Estimate | 1,108 |
| Cost Estimate Last FY | 1,344 |
| Present Cost Estimate | 1,381 |
| Approved Request Last FY | 631 |
| Total Expense & Encumbrances | 25 |
| Approval Request Year 1 | 649 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Planning |
| Percent Complete | 20 % |
| Estimated Completion Date | Developer Dependent |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| Environmental Regulation | |
| Population Served | 3,347 |
| Capacity | 5.63 MGD |

**H. Map**



# Mattawoman WWTP Upgrades

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000075.21 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | |
| Drainage Basins | Mattawoman 21 |
| Planning Areas | Accokeek PA 83; Brandywine & Vicinity PA 85A; Cedarville & |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | | | | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 18,540 | | 2,900 | 14,080 | 3,300 | 4,480 | 3,420 | 1,440 | 720 | 720 | 1,560 |
| Other | 1,854 | | 290 | 1,408 | 330 | 448 | 342 | 144 | 72 | 72 | 156 |
| **Total** | **20,394** | | **3,190** | **15,488** | **3,630** | **4,928** | **3,762** | **1,584** | **792** | **792** | **1,716** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 20,394 | | 3,190 | 15,488 | 3,630 | 4,928 | 3,762 | 1,584 | 792 | 792 | 1,716 |

**D. Description & Justification**

**DESCRIPTION**

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 WWTP. Current projects include: Influent/Effluent Pump Station Upgrades, SCADA/Plant Automation, Electrical System Replacement, In-Plant Water System Improvement, Flow Equalization Study, Clarifier and Thickener Upgrades, Belt Filter Press Replacement, Effluent Force Main Improvements, and Primary Clarifiers 1-4 Demolition.

**JUSTIFICATION**

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.
Agreement dated October 22, 1980; Agreement Addendum No. 1 dated April 15, 2004.

**COST CHANGE**

The schedule and expenditure estimates reflect the latest information provided by Charles County.

**OTHER**

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 WEEF'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.

**COORDINATION**

Coordinating Agencies: Charles County Government
Coordinating Projects: Not Applicable

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $1,327 | |
| Total Cost | $1,327 | |
| 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 | 760 |
| Cost Estimate Last FY | 17,237 |
| Present Cost Estimate | 20,394 |
| Approved Request Last FY | 4,174 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 3,630 |

**G. Status Information**

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

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | 3 MGD for WSSC |

**H. Map**

MAP NOT AVAILABLE

# Parkway North Substation Replacement

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000077.20 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 1,124 | 850 | 174 | 100 | 80 | 20 | | | | | |
| Land | | | | | | | | | | | |
| Construction | 6,477 | 527 | 4,750 | 1,200 | 1,100 | 100 | | | | | |
| Other | 934 | | 739 | 195 | 177 | 18 | | | | | |
| **Total** | **8,535** | **1,377** | **5,663** | **1,495** | **1,357** | **138** | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 8,535 | 1,377 | 5,663 | 1,495 | 1,357 | 138 | | | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design, and construction of electrical upgrades for the Parkway WRRF 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 WRRF during construction.

**JUSTIFICATION**

Asset Management Program, CNPV #48, Business Case recommendation requires immediate replacement of electrical equipment to maintain level of services at the WRRF.

**COST CHANGE**

Cost has increased based on cost estimate by Design Builder at time of award.

**OTHER**

The project scope has remained the same. Project to be awarded under Design-Build delivery method. "Planning, Design & Supervision" cost includes Owner's Advisor. Construction cost will include Design-Builder's design work. The schedule and expenditure projections shown in Block B above are estimates based upon the award of the Preliminary Phase of the Design-Build contract. Preliminary planning work was conducted under ESP project S-627.15, Parkway North Substation.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $555 | 23 |
| Total Cost | $555 | 23 |
| Impact on Water and Sewer Rate | | |

**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 | 6,133 |
| Present Cost Estimate | 8,535 |
| Approved Request Last FY | 2,473 |
| Total Expense & Encumbrances | 1,377 |
| Approval Request Year 1 | 1,357 |

**G. Status Information**

| | |
|---|---|
| Land Status | Public/Agency owned land |
| Project Phase | Design |
| Percent Complete | 11 % |
| Estimated Completion Date | July 2021 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# Southlake Subdivision Sewer

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000086.19 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 204 | 184 | 13 | 7 | 4 | 3 | | | | | |
| Land | | | | | | | | | | | |
| Construction | 537 | 30 | 180 | 327 | 159 | 168 | | | | | |
| Other | 79 | | 29 | 50 | 24 | 26 | | | | | |
| **Total** | **820** | **214** | **222** | **384** | **187** | **197** | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 820 | 214 | 222 | 384 | 187 | 197 | | | | | |

**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 Southlake 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. The project name was changed from Karington to Southlake at the request of the developer. No WSSC rate supported debt will be used for this project.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $20 | |
| Debt Service | | |
| Total Cost | $20 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

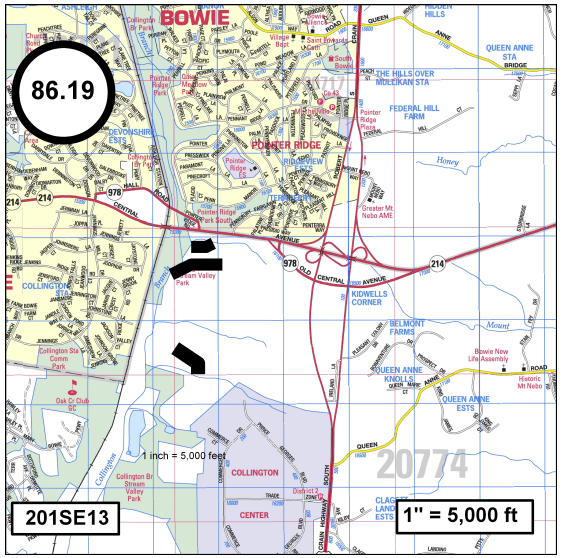
| | |
|---|---|
| Date First in Program | FY 08 |
| Date First Approved | FY 08 |
| Initial Cost Estimate | 801 |
| Cost Estimate Last FY | 692 |
| Present Cost Estimate | 820 |
| Approved Request Last FY | 182 |
| Total Expense & Encumbrances | 214 |
| Approval Request Year 1 | 187 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Design |
| Percent Complete | 100 % |
| Estimated Completion Date | Developer Dependent |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| Environmental Regulation | |
| Population Served | 2,102 |
| Capacity | 1.7 to 2.87 MGD |

**H. Map**



# Piscataway WRRF Facility Upgrades

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000096.14 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | |
| Drainage Basins | Piscataway Creek 4 |
| Planning Areas | Accokeek PA 83 |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 27,934 | 14,844 | 2,871 | 10,219 | 1,502 | 4,595 | 3,981 | 141 | | | |
| Land | | | | | | | | | | | |
| Construction | 125,914 | 9,884 | 34,605 | 81,425 | 25,435 | 33,190 | 21,600 | 1,200 | | | |
| Other | 6,456 | | 1,874 | 4,582 | 1,347 | 1,889 | 1,279 | 67 | | | |
| **Total** | **160,304** | **24,728** | **39,350** | **96,226** | **28,284** | **39,674** | **26,860** | **1,408** | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 160,304 | 24,728 | 39,350 | 96,226 | 28,284 | 39,674 | 26,860 | 1,408 | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design, and construction of improvements at the Piscataway WRRF 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.

**JUSTIFICATION**

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.
FY 2012 Piscataway WRRF Asset Management Plan, GHD, Inc. (March 2011); Piscataway WRRF Facility Plan, AECOM (January 2014); FY 2019 Wastewater Treatment System Asset Management Plan (December 2016).

**COST CHANGE**

Cost increased based upon the revised Engineer's Estimate for the electrical upgrades and due to site constraints with multiple projects underway.

**OTHER**

The project scope has remained the same. Expenditure and schedule projections shown in Block B represent estimates at the bid ready design or construction stage for all projects. These costs may change based upon site conditions and actual bids received. The Office of Asset Management has determined the priority of the recommended projects.

**COORDINATION**

Coordinating Agencies: Maryland Department of Natural Resources; Maryland Department of the Environment; Prince George's County Department of Environmental Resources; Prince George's County Government; U.S. Army Corps of Engineers
Coordinating Projects: A - 000103.00 - Energy Performance Program; S - 000043.02 - Broad Creek WWPS Augmentation; S - 000103.02 - Piscataway Bioenergy; S - 000170.08 - Septage Discharge Facility Planning & Implementation

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $10,428 | 25 |
| Total Cost | $10,428 | 25 |
| Impact on Water and Sewer Rate | $0.02 | 25 |

**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 | 147,648 |
| Present Cost Estimate | 160,304 |
| Approved Request Last FY | 38,229 |
| Total Expense & Encumbrances | 24,728 |
| Approval Request Year 1 | 28,284 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 7 % |
| Estimated Completion Date | December 2023 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | 30 MGD |

**H. Map**

MAP NOT AVAILABLE

# Pleasant Valley Sewer Main, Part 2

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000131.05 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 160 | 24 | 63 | 73 | 56 | 10 | 7 | | | | |
| Land | | | | | | | | | | | |
| Construction | 634 | | 121 | 513 | 308 | 141 | 64 | | | | |
| Other | 116 | | 28 | 88 | 55 | 23 | 10 | | | | |
| **Total** | **910** | **24** | **212** | **674** | **419** | **174** | **81** | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 910 | 24 | 212 | 674 | 419 | 174 | 81 | | | | |

**D. Description & Justification**

**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.

**JUSTIFICATION**

Estates of Pleasant Valley Hydraulic Planning Analysis (Amended March 2010).

**COST CHANGE**

Not applicable.

**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.

**COORDINATION**

Coordinating Agencies: Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Prince George's County Government; Prince George's County Department of Permitting Inspection and Enforcement
Coordinating Projects: S - 000131.07 - Pleasant Valley Sewer Main, Part 1

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $56 | |
| Debt Service | | |
| Total Cost | $56 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

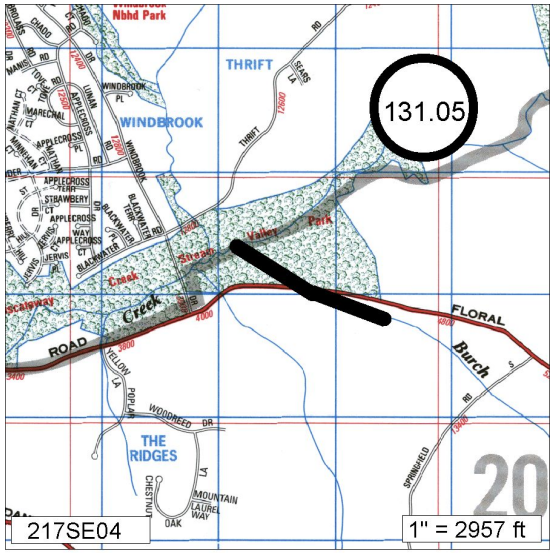
| | |
|---|---|
| Date First in Program | FY 05 |
| Date First Approved | FY 05 |
| Initial Cost Estimate | 586 |
| Cost Estimate Last FY | 902 |
| Present Cost Estimate | 910 |
| Approved Request Last FY | 406 |
| Total Expense & Encumbrances | 24 |
| Approval Request Year 1 | 419 |

**G. Status Information**

| | |
|---|---|
| Land Status | R/W acquired |
| Project Phase | Design |
| Percent Complete | 60 % |
| Estimated Completion Date | Developer Dependent |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| Environmental Regulation | |
| Population Served | 2,000 |
| Capacity | 3.5 MGD |

**H. Map**



# Pleasant Valley Sewer Main, Part 1

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000131.07 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | |
| Drainage Basins | Piscataway Creek 4 |
| Planning Areas | Accokeek PA 83 |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 399 | 98 | 164 | 137 | 113 | 24 | | | | | |
| Land | | | | | | | | | | | |
| Construction | 1,225 | | 266 | 959 | 781 | 178 | | | | | |
| Other | 230 | | 65 | 165 | 135 | 30 | | | | | |
| **Total** | **1,854** | **98** | **495** | **1,261** | **1,029** | **232** | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 1,854 | 98 | 495 | 1,261 | 1,029 | 232 | | | | | |

**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: Maryland-National Capital Park & Planning Commission; Potomac Electric Power Company; Prince George's County Government
Coordinating Projects: S - 000131.05 - Pleasant Valley Sewer Main, Part 2

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $202 | |
| Debt Service | | |
| Total Cost | $202 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

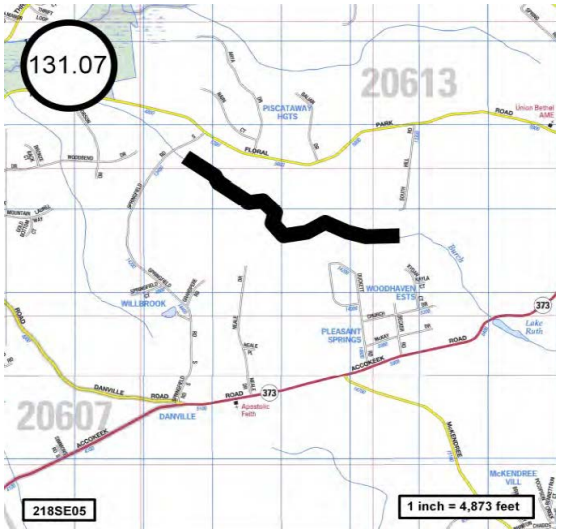
| | |
|---|---|
| Date First in Program | FY 10 |
| Date First Approved | FY 10 |
| Initial Cost Estimate | 1,303 |
| Cost Estimate Last FY | 1,761 |
| Present Cost Estimate | 1,854 |
| Approved Request Last FY | 999 |
| Total Expense & Encumbrances | 98 |
| Approval Request Year 1 | 1,029 |

**G. Status Information**

| | |
|---|---|
| Land Status | Land and R/W to be acquired |
| Project Phase | Design |
| Percent Complete | 80 % |
| Estimated 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 - 000131.10 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 907 | 897 | 10 | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 3,411 | 2,528 | 863 | 20 | 20 | | | | | | |
| Other | 133 | | 131 | 2 | 2 | | | | | | |
| **Total** | **4,451** | **3,425** | **1,004** | **22** | **22** | | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 4,451 | 3,425 | 1,004 | 22 | 22 | | | | | | |

**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 in Block B are based upon actual bid. Planning began in March 2014 for the Fort Washington Estates WWPS with construction to start in FY2019.

**COORDINATION**

Coordinating Agencies: Maryland Department of the Environment; Maryland-National Capital Park & Planning Commission; Prince George's County Department of Environmental Resources; Prince George's County Government; U.S. Environmental Protection Agency, Region III
Coordinating Projects: Not Applicable

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $73 | 21 |
| Debt Service | $290 | 21 |
| Total Cost | $363 | 21 |
| 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 | 1,454 |
| Cost Estimate Last FY | 4,578 |
| Present Cost Estimate | 4,451 |
| Approved Request Last FY | 707 |
| Total Expense & Encumbrances | 3,425 |
| Approval Request Year 1 | 22 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Construction |
| Percent Complete | 25 % |
| Estimated Completion Date | March 2020 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | 825 |
| Capacity | 0.7 MGD |

**H. Map**

MAP NOT AVAILABLE

# Western Branch WRRF Process Train Improvements

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000157.02 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| 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'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 3,445 | 480 | 300 | 2,665 | 800 | 800 | 300 | 300 | 300 | 165 | |
| Land | | | | | | | | | | | |
| Construction | 10,107 | | | 10,107 | | | 2,850 | 2,850 | 2,850 | 1,557 | |
| Other | 1,307 | | 30 | 1,277 | 80 | 80 | 315 | 315 | 315 | 172 | |
| **Total** | **14,859** | **480** | **330** | **14,049** | **880** | **880** | **3,465** | **3,465** | **3,465** | **1,894** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 14,859 | 480 | 330 | 14,049 | 880 | 880 | 3,465 | 3,465 | 3,465 | 1,894 | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design, and construction of improvements at the Western Branch WRRF required to rehabilitate aging structures within the process treatment trains. Improvements are to the clarifiers, aeration system as well as concrete structure and walkway rehabilitation.

**JUSTIFICATION**

The Plant was originally built in the early 1970s. Weathering and corrosion of concrete structures and metal equipment require rehabilitation and replacement to extend the useful life and maintain safe access and operation of the process treatment trains.
This project was evaluated through the Asset Management Needs Planning process under ESP Project Number S-647.46. A treatment train structural condition assessment was performed by WSSC's Engineering and Environmental Services Division as part of the needs planning process.

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. The expenditure and schedule projections shown in Block B are planning level estimates and may change based upon site conditions and design constraints. Planning work began in FY'18 under ESP project S-647.46, Western Branch WRRF Process Train Improvements.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $967 | 27 |
| Total Cost | $967 | 27 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 20 |
| Date First Approved | FY 20 |
| Initial Cost Estimate | 14,859 |
| Cost Estimate Last FY | 14,859 |
| Present Cost Estimate | 14,859 |
| Approved Request Last FY | 3,520 |
| Total Expense & Encumbrances | 480 |
| Approval Request Year 1 | 880 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Design |
| Percent Complete | 0 % |
| Estimated Completion Date | June 2026 |

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

**H. Map**

MAP NOT APPLICABLE

## PROJECTS PENDING CLOSE-OUT

**Prince George's Sewer Projects**

**(ALL FIGURES IN THOUSANDS)**

| Agency Number | Project Name | Estimated Total Cost | Expenditures Thru FY'19 | Estimated Expenditures FY'20 | Remarks |
|---|---|---|---|---|---|
| S-57.92 | Western Branch Facility Upgrade | $52,672 | $52,437 | $235 | Project completion expected in FY'20. |
| S-75.19 | Brandywine Woods Wastewater Pumping Station | 0 | 0 | 0 | Project canceled. |
| S-75.20 | Brandywine Woods WWPS Force Main | 12 | 12 | 0 | Project canceled. |
| | **TOTALS** | $52,684 | $52,449 | $235 | |

# Section 7 - Information Only Projects

DATE: October 1, 2019

# FINANCIAL SUMMARY

(ALL FIGURES IN THOUSANDS)

**INFORMATION ONLY PROJECTS**

| AGENCY NUMBER | PROJECT NAME | EST. TOTAL COST | EXPEND THRU 19 | EST. EXPEND 20 | TOTAL SIX YEARS | EXPENDITURE SCHEDULE | | | | | | BEYOND SIX YEARS | PAGE NUM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | YR 1 21 | YR 2 22 | YR 3 23 | YR 4 24 | YR 5 25 | YR 6 26 | | |
| W-1.00 | Water Reconstruction Program | 721,454 | 0 | 70,232 | 651,222 | 72,494 | 85,068 | 101,030 | 115,018 | 131,051 | 146,561 | 0 | 7-3 |
| S-1.01 | Sewer Reconstruction Program | 425,442 | 0 | 53,218 | 372,224 | 55,495 | 59,657 | 61,447 | 63,290 | 65,192 | 67,143 | 0 | 7-4 |
| A-101.04 | Laboratory Services Building Expansion | 21,844 | 21 | 1,243 | 20,580 | 1,276 | 9,525 | 9,779 | 0 | 0 | 0 | 0 | 7-5 |
| A-102.00 | Engineering Support Program | 132,000 | 0 | 18,000 | 114,000 | 18,000 | 18,000 | 18,000 | 20,000 | 20,000 | 20,000 | 0 | 7-6 |
| A-103.00 | Energy Performance Program | 20,236 | 0 | 3,094 | 17,142 | 7,595 | 4,841 | 3,331 | 1,375 | 0 | 0 | 0 | 7-7 |
| W-105.00 | Water Storage Facility Rehabilitation Program | 18,700 | 0 | 550 | 18,150 | 1,650 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | 0 | 7-8 |
| W-107.00 | Specialty Valve Vault Rehabilitation Program | 8,957 | 0 | 391 | 6,595 | 1,132 | 2,214 | 1,213 | 1,266 | 443 | 327 | 1,971 | 7-9 |
| A-109.00 | Advanced Metering Infrastructure | 99,603 | 980 | 3,039 | 95,584 | 20,687 | 30,906 | 30,906 | 13,085 | 0 | 0 | 0 | 7-10 |
| A-110.00 | Other Capital Programs | 500,045 | 0 | 68,862 | 431,183 | 70,610 | 66,021 | 67,227 | 73,927 | 77,442 | 75,956 | 0 | 7-11 |
| S-300.01 | D'Arcy Park North Relief Sewer | 941 | 91 | 275 | 575 | 290 | 285 | 0 | 0 | 0 | 0 | 0 | 7-12 |
| | **TOTALS** | 1,949,222 | 1,092 | 218,904 | 1,727,255 | 249,229 | 279,817 | 296,233 | 291,261 | 297,428 | 313,287 | 1,971 | |

## Information Only Projects
### New Projects Listing
**(ALL FIGURES IN THOUSANDS)**

| Agency Number | Project Name | Total Project Cost | Budget Year Cost | Page Number |
|---|---|---|---|---|
| A-101.04 | Laboratory Services Building Expansion | $21,844 | $1,276 | 7-5 |
| A-110.00 | Other Capital Programs | 500,045 | 70,610 | 7-11 |
| | **TOTALS** | $521,889 | $71,886 | |

# Water Reconstruction Program

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000001.00 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 106,361 | | 11,034 | 95,327 | 11,798 | 12,058 | 14,489 | 16,126 | 19,353 | 21,503 | |
| Land | | | | | | | | | | | |
| Construction | 526,277 | | 49,938 | 476,339 | 51,143 | 62,227 | 73,928 | 84,905 | 96,147 | 107,989 | |
| Other | 88,816 | | 9,260 | 79,556 | 9,553 | 10,783 | 12,613 | 13,987 | 15,551 | 17,069 | |
| **Total** | **721,454** | | **70,232** | **651,222** | **72,494** | **85,068** | **101,030** | **115,018** | **131,051** | **146,561** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 721,454 | | 70,232 | 651,222 | 72,494 | 85,068 | 101,030 | 115,018 | 131,051 | 146,561 | |

**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 '21 are as follows: design and construction of main replacement and associated water house connection renewals, 25 miles - $54.8M; cathodic protection - $1.5M; design and construction of large water service replacements - $11.0M; emergency contracts at depots - $5.2M. 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 2021 Enterprise Asset Management Plan, the number of miles of water main replacement was maintained at 25 miles per year.
Flow studies, water system modeling, and field surveys are routinely conducted. The annual Buried Water Assets System Asset Management Plan identifies the business risk exposure of the water distribution system. FY 2021 Enterprise Asset Management Plan (May 2019).

**COST CHANGE**

Program costs reflect the latest expenditure and schedule estimates based on the recommendations from the FY 2021 Enterprise Asset Management Plan.

**OTHER**

The water reconstruction program has been ongoing since 1979. Funding in the six-year program period is subject to Spending Affordability Guideline limits. The following work accomplishments through FY '18 summarize the magnitude of the reconstruction effort: 1,839 miles rehabilitated or replaced; 237 large water service/meters replaced. It is anticipated water reconstruction activity will be a perpetual element of future work programs.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $46,932 | |
| Total Cost | $46,932 | |
| Impact on Water and Sewer Rate | $0.10 | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | |
| Date First Approved | |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 815,164 |
| Present Cost Estimate | 721,454 |
| Approved Request Last FY | 75,784 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 72,494 |

**G. Status Information**

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

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# Sewer Reconstruction Program

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000001.01 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 39,302 | | 4,460 | 34,842 | 5,212 | 5,581 | 5,748 | 5,921 | 6,099 | 6,281 | |
| Land | | | | | | | | | | | |
| Construction | 347,464 | | 43,920 | 303,544 | 45,238 | 48,653 | 50,113 | 51,615 | 53,166 | 54,759 | |
| Other | 38,676 | | 4,838 | 33,838 | 5,045 | 5,423 | 5,586 | 5,754 | 5,927 | 6,103 | |
| **Total** | **425,442** | | **53,218** | **372,224** | **55,495** | **59,657** | **61,447** | **63,290** | **65,192** | **67,143** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 285,442 | | 33,218 | 252,224 | 35,495 | 39,657 | 41,447 | 43,290 | 45,192 | 47,143 | |
| State Aid | 140,000 | | 20,000 | 120,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | |

**D. Description & Justification**

**DESCRIPTION**

This program 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 program's projected work units and expenditure levels for FY '21 are as follows: 20 miles of mainline design & construction - $29.7M; 6 miles of lateral line construction and associated sewer house connection renewals - $23.6M; emergency repairs - $2.3M. Note: The specific mix and type of sewer reconstruction may vary in any given year depending on identified system defects. 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. Comprehensive Basin Studies, Sewer System Evaluation Surveys, Line Blockage Assessments, field surveys, closed circuit TV inspections, and/or other activities investigating specific portions of the collection system. Annual Buried Wastewater Assets System Asset Management Plan. FY2021 Enterprise Asset Management Plan (May 2019).

**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 '18 summarize the magnitude of this reconstruction effort: sewer main reconstruction, 503 miles; and sewer house connection renewals, 22,429. It is anticipated that sewer reconstruction activity will be a perpetual element of future work programs.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $18,568 | |
| Total Cost | $18,568 | |
| Impact on Water and Sewer Rate | $0.04 | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | |
| Date First Approved | |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 496,842 |
| Present Cost Estimate | 425,442 |
| Approved Request Last FY | 64,684 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 55,495 |

**G. Status Information**

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

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# Laboratory Services Building Expansion

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| A - 000101.04 | | Add |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | |
| Drainage Basins | |
| Planning Areas | |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 3,862 | 21 | 1,130 | 2,711 | 1,160 | 800 | 751 | | | | |
| Land | | | | | | | | | | | |
| Construction | 15,998 | | | 15,998 | | 7,859 | 8,139 | | | | |
| Other | 1,984 | | 113 | 1,871 | 116 | 866 | 889 | | | | |
| **Total** | **21,844** | **21** | **1,243** | **20,580** | **1,276** | **9,525** | **9,779** | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 21,844 | 21 | 1,243 | 20,580 | 1,276 | 9,525 | 9,779 | | | | |

**D. Description & Justification**

**DESCRIPTION**

This project provides for the planning, design, and construction of a 12,405 square-foot expansion to the Consolidated Laboratory Facility to accommodate the increased analytical workload, ensure that all data meets requirements set forth by the regulators, and to improve the safety of WSSC's employees and customers.

**JUSTIFICATION**

WSSC's Consolidated Laboratory Facility is an MDE-certified laboratory constructed in 2000 to meet the original laboratory program of a maximum of 500,000 tests per year. During the past 19 years, WSSC has experienced a significant increase in the analytical workload, number of employees, and number of instruments, and also added new functions with the creation of the Water Quality Division. The historical workload of 500,000 tests per year is expected to grow to over 750,000 tests per year in the coming years.

Currently, WSSC depends on subcontract laboratories for critical and regulatory analysis that cannot be handled in-house due to space, infrastructure, and instrument constraints. Lack of control and supervision by qualified WSSC staff on the regulatory samples tested in subcontract laboratories has resulted in errors in the past that could potentially lead to a citation/violation for WSSC. Additionally, increased analytical time involved with subcontract analysis may delay response to critical water contamination events, which could jeopardize the safety of WSSC's customers. An MDE Laboratory audit recommended having separate rooms for analyzing wastewater and drinking water microbiological samples. Lab Expansion Business Case Evaluation, CDM Smith (March 2019).

**COST CHANGE**

Not applicable.

**OTHER**

The present project scope was developed for the FY 2021 CIP and has an estimated cost of $21,844,000. The expenditure and schedule projections shown in Block B are planning level estimates and may change based upon site conditions and design constraints. The Water Quality Division is in the process of implementing a Water Quality Surveillance and Response System to continuously monitor and respond to drinking water contamination events on a real-time basis from a centralized Water Quality Control Center. The Water Quality Division also manages the Contamination Rapid Response Team (CRRT) and the response to all water quality related customer complaints. Planning work began in FY 2019 under ESP project A-852.03, Laboratory Services Building Expansion.

**COORDINATION**

Coordinating Agencies: Maryland Department of the Environment; Montgomery County Government; Prince George's County Government; U.S. Environmental Protection Agency, Region III
Coordinating Projects: Not Applicable

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $1,421 | 24 |
| Total Cost | $1,421 | 24 |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 21 |
| Date First Approved | FY 21 |
| Initial Cost Estimate | 21,844 |
| Cost Estimate Last FY | |
| Present Cost Estimate | 21,844 |
| Approved Request Last FY | |
| Total Expense & Encumbrances | 21 |
| Approval Request Year 1 | 1,276 |

**G. Status Information**

| | |
|---|---|
| Land Status | Public/Agency owned land |
| Project Phase | Design |
| Percent Complete | 0 % |
| Estimated Completion Date | June 2023 |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | 750,000 tests annually |

**H. Map**

MAP NOT APPLICABLE

# Engineering Support Program

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| A - 000102.00 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | | | | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 118,000 | | 16,000 | 102,000 | 16,000 | 16,000 | 16,000 | 18,000 | 18,000 | 18,000 | |
| Other | 14,000 | | 2,000 | 12,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | |
| **Total** | **132,000** | | **18,000** | **114,000** | **18,000** | **18,000** | **18,000** | **20,000** | **20,000** | **20,000** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 132,000 | | 18,000 | 114,000 | 18,000 | 18,000 | 18,000 | 20,000 | 20,000 | 20,000 | |

**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) FY 2021 Enterprise Asset Management Plan (May 2019).

**COST CHANGE**

Not applicable.

**OTHER**

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

**COORDINATION**

Coordinating Agencies: Not Applicable
Coordinating Projects: Not Applicable

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $8,587 | |
| Total Cost | $8,587 | |
| Impact on Water and Sewer Rate | $0.02 | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 87 |
| Date First Approved | FY 87 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 128,000 |
| Present Cost Estimate | 132,000 |
| Approved Request Last FY | 18,000 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 18,000 |

**G. Status Information**

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

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# Energy Performance Program

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| A - 000103.00 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 3,445 | | 416 | 3,029 | 1,411 | 800 | 568 | 250 | | | |
| Land | | | | | | | | | | | |
| Construction | 14,950 | | 2,397 | 12,553 | 5,493 | 3,600 | 2,460 | 1,000 | | | |
| Other | 1,841 | | 281 | 1,560 | 691 | 441 | 303 | 125 | | | |
| **Total** | **20,236** | | **3,094** | **17,142** | **7,595** | **4,841** | **3,331** | **1,375** | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 19,936 | | 2,794 | 17,142 | 7,595 | 4,841 | 3,331 | 1,375 | | | |
| Contributions/Other | 300 | | 300 | | | | | | | | |

**D. Description & Justification**

**DESCRIPTION**

This program provides for the planning, design, and construction of projects to replace and upgrade energy consuming equipment and systems at all Commission facilities to reduce energy consumption 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, wastewater pumps, water pump/valve/motor replacement, 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 and then compared to the actual energy savings to quantify the savings.

**JUSTIFICATION**

Past Projects: Phases I-A through 1-D were implemented through various Energy Services Companies (ESCO) and Power Purchase Agreement (PPA) procurement mechanisms. Detailed engineering audits, supply analysis, engineering, and planning of equipment and operations upgrades were undertaken to develop an energy efficient and guaranteed savings program. The implementation phases involved detailed design, construction, maintenance, savings monitoring, energy/energy-related savings guarantees and, for solar and wind, power purchase agreements. The upgrades were implemented at WSSC's water and wastewater treatment and pumping facilities as well as offices and depots.
Phase F: awarded in February 2018, includes Energy Conservation Measures for LED lighting upgrades at the RGH Headquarters building, Potomac and Patuxent WFPs, Parkway, Seneca, Piscataway and Damascus WRRFs, as well Anacostia and Gaithersburg Depots and Mill Branch, Hyattsville and Horsepen WWPSs. Energy Conservation Measures for building envelope upgrades and HVAC controls tuning are also included. Energy efficiency rebates are anticipated from BGE and PEPCO, totaling $300,000. Phase II-F projects will be the last utilizing the ESCO contracting mechanism. The remaining recommended Phase II-F Energy Conservation Measures: Piscataway WRRF Aeration system upgrades; Parkway WRRF mixer replacements; and Potomac WFP LCI Drives replacement are moving forward as standalone projects implemented by WSSC.
WSSC will continue to identify energy savings efforts through the implementation of energy audit calculations and methods utilized in the previous phases of the program. Future projects may include the replacement or upgrade of treatment process equipment at our WRRFs and WFPs. All future projects will be validated via the AMP Project Needs Validation Process (PNVP) prior to moving forward.
The Khepra Group, Potomac Water Filtration Plant Pump Systems Evaluation (May 2008).

**COST CHANGE**

Not applicable.

**OTHER**

The project scope has remained the same. Costs for monitoring and verification are included in the Operating Budget. 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: S - 000096.14 - Piscataway WRRF Facility Upgrades

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $1,297 | |
| Total Cost | $1,297 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 03 |
| Date First Approved | FY 03 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 25,105 |
| Present Cost Estimate | 20,236 |
| Approved Request Last FY | 5,898 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 7,595 |

**G. Status Information**

| | |
|---|---|
| Land Status | Public/Agency owned land |
| Project Phase | On-Going |
| Percent Complete | 0 % |
| Estimated Completion Date | On-Going |

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# Water Storage Facility Rehabilitation Program

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000105.00 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 4,600 | | 500 | 4,100 | 600 | 700 | 700 | 700 | 700 | 700 | |
| Land | | | | | | | | | | | |
| Construction | 12,400 | | | 12,400 | 900 | 2,300 | 2,300 | 2,300 | 2,300 | 2,300 | |
| Other | 1,700 | | 50 | 1,650 | 150 | 300 | 300 | 300 | 300 | 300 | |
| **Total** | **18,700** | | **550** | **18,150** | **1,650** | **3,300** | **3,300** | **3,300** | **3,300** | **3,300** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 18,700 | | 550 | 18,150 | 1,650 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | |

**D. Description & Justification**

**DESCRIPTION**

The Water Storage Facility Rehabilitation Program provides for the comprehensive rehabilitation of the Commission's more than 60 water storage facilities located throughout the WSSC service area holding over 200 million gallons of finished drinking water. The Program provides for structural metal and concrete foundation repairs, equipment upgrades to meet current OSHA standards, lead paint removal, security upgrades, advanced mixing systems to improve water quality, and altitude valve vault and supply pipe replacements.

**JUSTIFICATION**

Currently, there are more than 20 steel tanks whose last painting contract was finished 10 or more years ago. Many older tanks have accumulated significant layers of paint which have lost their bonding strength to the steel. Old coatings will be completely removed and costly lead abatement techniques will be required in many cases. The recommended practice is to do this extra work every third re-coating to extend the service life of the structure. Modern coating systems should extend the length of service between coatings from the current 10 years to somewhere between 15 to 20 years.

**COST CHANGE**

Program costs have been updated to reflect the schedule for the remaining tanks in the program.

**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 '21 will address the following water storage facilities: North Woodside, Pointer Ridge, and Greenbelt.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $1,216 | |
| Total Cost | $1,216 | |
| Impact on Water and Sewer Rate | | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 09 |
| Date First Approved | FY 09 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | 18,630 |
| Present Cost Estimate | 18,700 |
| Approved Request Last FY | 3,000 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 1,650 |

**G. Status Information**

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

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# Specialty Valve Vault Rehabilitation Program

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| W - 000107.00 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 1,846 | | 130 | 1,542 | 385 | 426 | 227 | 284 | 124 | 96 | 174 |
| Land | | | | | | | | | | | |
| Construction | 5,946 | | 210 | 4,196 | 600 | 1,500 | 828 | 817 | 262 | 189 | 1,540 |
| Other | 1,165 | | 51 | 857 | 147 | 288 | 158 | 165 | 57 | 42 | 257 |
| **Total** | **8,957** | | **391** | **6,595** | **1,132** | **2,214** | **1,213** | **1,266** | **443** | **327** | **1,971** |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 8,957 | | 391 | 6,595 | 1,132 | 2,214 | 1,213 | 1,266 | 443 | 327 | 1,971 |

**D. Description & Justification**

**DESCRIPTION**

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.

**JUSTIFICATION**

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. 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 290B Business Case Report (January 2016).

**COST CHANGE**

Not applicable.

**OTHER**

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 Program. 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 now complete. Land and rights-of-way costs are included in WSSC Project W-202.00.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $583 | |
| Total Cost | $583 | |
| 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 | 17,560 |
| Cost Estimate Last FY | 37,947 |
| Present Cost Estimate | 8,957 |
| Approved Request Last FY | 1,119 |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 1,132 |

**G. Status Information**

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

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# Advanced Metering Infrastructure

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

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 450 | 450 | | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 90,186 | 530 | 2,763 | 86,893 | 18,806 | 28,096 | 28,096 | 11,895 | | | |
| Other | 8,967 | | 276 | 8,691 | 1,881 | 2,810 | 2,810 | 1,190 | | | |
| **Total** | **99,603** | **980** | **3,039** | **95,584** | **20,687** | **30,906** | **30,906** | **13,085** | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 99,603 | 980 | 3,039 | 95,584 | 20,687 | 30,906 | 30,906 | 13,085 | | | |

**D. Description & Justification**

**DESCRIPTION**

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

**JUSTIFICATION**

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

**COST CHANGE**

Order of Magnitude cost estimates were increased for inflation.

**OTHER**

The project scope has remained the same. AMI will improve both customer service and operational efficiency. The expected results include: Monthly billing based on actual meter readings. This would reduce bill size to help customers stay current with their payments, help customers develop a greater awareness of their water consumption, and ensure that problems such as excessive consumption due to leaks are addressed more quickly; Active notification of customers with abnormal consumption that might signify leaks before they get high consumption bills; Reduced customer calls; Reduced field investigation visits; Provide opportunities to employ more sophisticated rate structures; Analysis of individual consumption patterns to detect meters suspected of wearing out, or perform meter sizing analysis to ensure that large meters are optimally sized; Monitoring of individual consumption to perform precise, targeted conservation enforcement during droughts; Opportunities to improve the monitoring and operation of the distribution system, in order to detect and reduce non-revenue water. Schedule and expenditure estimates are Order of Magnitude estimates originating from the March 2011 study. These estimates are expected to change based upon the latest technology available at the time the project is bid. The AMI project has been delayed until the replacement of the Commission's Customer Service Information System (CSIS) is completed. Implementation of the new customer billing software, Customer2Meter (C2M), and pilot testing of the latest meter technology is underway.

**COORDINATION**

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

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $6,479 | 25 |
| Total Cost | $6,479 | 25 |
| Impact on Water and Sewer Rate | $0.01 | 25 |

**F. Approval and Expenditure Data (000's)**

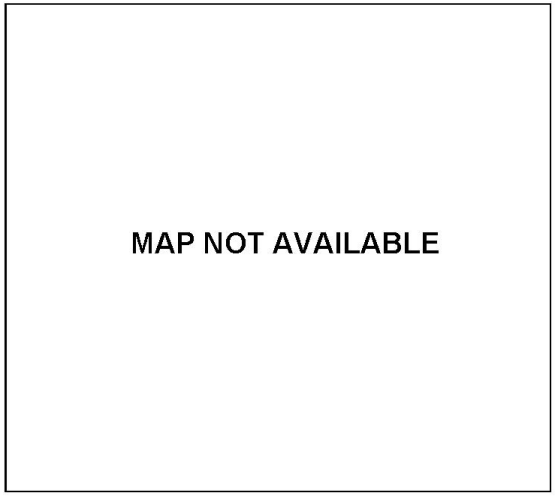
| | |
|---|---|
| Date First in Program | FY 13 |
| Date First Approved | FY 13 |
| Initial Cost Estimate | 86,000 |
| Cost Estimate Last FY | 96,750 |
| Present Cost Estimate | 99,603 |
| Approved Request Last FY | 17,577 |
| Total Expense & Encumbrances | 980 |
| Approval Request Year 1 | 20,687 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Planning |
| Percent Complete | 80 % |
| Estimated Completion Date | June 2024 |

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

**H. Map**



# Other Capital Programs

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| A - 000110.00 | | Add |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

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

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | | | | | | | | | | | |
| Land | | | | | | | | | | | |
| Construction | 239,400 | | 34,200 | 205,200 | 34,200 | 34,200 | 34,200 | 34,200 | 34,200 | 34,200 | |
| Other | 260,645 | | 34,662 | 225,983 | 36,410 | 31,821 | 33,027 | 39,727 | 43,242 | 41,756 | |
| **Total** | **500,045** | | **68,862** | **431,183** | **70,610** | **66,021** | **67,227** | **73,927** | **77,442** | **75,956** | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WSSC Bonds | 500,045 | | 68,862 | 431,183 | 70,610 | 66,021 | 67,227 | 73,927 | 77,442 | 75,956 | |

**D. Description & Justification**

**DESCRIPTION**

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

**JUSTIFICATION**

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

**COST CHANGE**

Not applicable.

**OTHER**

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

**COORDINATION**

Coordinating Agencies: Not Applicable
Coordinating Projects: Not Applicable

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | | |
| Debt Service | $32,529 | |
| Total Cost | $32,529 | |
| Impact on Water and Sewer Rate | $0.07 | |

**F. Approval and Expenditure Data (000's)**

| | |
|---|---|
| Date First in Program | FY 21 |
| Date First Approved | FY 21 |
| Initial Cost Estimate | |
| Cost Estimate Last FY | |
| Present Cost Estimate | 500,045 |
| Approved Request Last FY | |
| Total Expense & Encumbrances | |
| Approval Request Year 1 | 70,610 |

**G. Status Information**

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

| | |
|---|---|
| Growth | |
| System Improvement | 100% |
| Environmental Regulation | |
| Population Served | |
| Capacity | |

**H. Map**

MAP NOT APPLICABLE

# D'Arcy Park North Relief Sewer

| A. Identification and Coding Information | | |
|---|---|---|
| Agency Number | Project Number | Update Code |
| S - 000300.01 | | Change |

| | |
|---|---|
| PDF Date | October 1, 2019 |
| Date Revised | |

| | |
|---|---|
| Pressure Zones | |
| Drainage Basins | Western Branch 14 |
| Planning Areas | Suitland-District Heights & Vicinity PA 75A |

**B. Expenditure Schedule (000's)**

| Cost Elements | Total | Thru FY'19 | Estimate FY'20 | Total 6 Years | Year 1 FY'21 | Year 2 FY'22 | Year 3 FY'23 | Year 4 FY'24 | Year 5 FY'25 | Year 6 FY'26 | Beyond 6 Years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Planning, Design & Supervision | 282 | 91 | 99 | 92 | 48 | 44 | | | | | |
| Land | | | | | | | | | | | |
| Construction | 548 | | 140 | 408 | 204 | 204 | | | | | |
| Other | 111 | | 36 | 75 | 38 | 37 | | | | | |
| **Total** | **941** | **91** | **275** | **575** | **290** | **285** | | | | | |

**C. Funding Schedule (000's)**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Contributions/Other | 941 | 91 | 275 | 575 | 290 | 285 | | | | | |

**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: Local Community Civic Associations; Prince George's County Department of Environmental Resources; Prince George's County Government
Coordinating Projects: Not Applicable

| E. Annual Operating Budget Impact (000's) | | FY of Impact |
|---|---|---|
| Staff & Other | | |
| Maintenance | $22 | |
| Debt Service | | |
| Total Cost | $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 | 824 |
| Cost Estimate Last FY | 916 |
| Present Cost Estimate | 941 |
| Approved Request Last FY | 282 |
| Total Expense & Encumbrances | 91 |
| Approval Request Year 1 | 290 |

**G. Status Information**

| | |
|---|---|
| Land Status | Not Applicable |
| Project Phase | Design |
| Percent Complete | 20 % |
| Estimated Completion Date | Developer Dependent |

| | |
|---|---|
| Growth | 100% |
| System Improvement | |
| Environmental Regulation | |
| Population Served | |
| Capacity | 1.6 MGD |

**H. Map**