SEWER SYSTEM CERTIFICATION REPORT
FOR FISCAL YEAR ENDED JUNE 30, 2022
June 2023

FAIRFAX COUNTY WASTEWATER MANAGEMENT

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Table of Contents

List of Tables

List of Figures

List of Appendices

Executive Summary

In accordance with Fairfax County's Sewer Bond Resolution, Hazen and Sawyer (Hazen) has reviewed the status of the Wastewater Management Program and Integrated Sewer System and prepared the Sewer System Certification Report for the Fiscal Year (FY) ended June 30, 2022. The FY 2022 Sewer System Certification Report satisfies the requirements outlined in Section 713(b) of the Sewer Bond Resolution. This report confirms the system is operated and maintained in a satisfactory manner; and the budget is adequate to meet the operational, maintenance, debt service, and capital funding needs of the Integrated Sewer System for the next fiscal year.

Hazen evaluated the management, funding, operation, and maintenance of the Wastewater Management Program's three divisions: Wastewater Collection Division, Wastewater Treatment Division, and Wastewater Planning and Monitoring Division. This was accomplished primarily by interviewing staff; visiting the Robert P. McMath Building, three collection system pumping stations, and three metering stations; and collecting information about project work at the Noman M. Cole, Jr. Pollution Control Plant (NCPCP). The team also evaluated:

- Operating data from FY 2022
- Capital improvement plans, revenue, and bond information
- The 2023 Revenue Sufficiency and Rate Analysis Report on the five-year financial forecast
- The Annual Disclosure Report on sewer service charges
- The Annual Comprehensive Financial Report (ACFR).

The Wastewater Collection Division (WCD) continues to take a proactive approach towards maintenance and strives for continuous improvement in daily operation. The Pumping Stations Branch, Gravity Sewers Branch, and Projects and Assets Branch work collaboratively within WCD and across the Wastewater Management Program to provide exceptional planning, operation, and maintenance of the collection and conveyance system. Rehabilitation, maintenance, and expansion of the sewer collection system continues to be a focus for WCD.

The Wastewater Treatment Division (WTD) has an exemplary record of producing a high-quality effluent that surpasses regulatory requirements at a low unit cost relative to other advanced wastewater treatment plants in the region. The Engineering Support Branch, Operations Branch, Maintenance Branch, and Information Technology Services Branch work collaboratively within WTD and across the Wastewater Management Program to provide exceptional planning, operation, and maintenance of the NCPCP. WTD is recognized and awarded annually by numerous national, state, and local associations for their quality work. Rehabilitation and replacement of facilities that have reached the end of their useful service life at the plant continues to be a focus for WTD.

The Wastewater Planning and Monitoring Division (WPMD) continues to establish and manage the future requirements for the Wastewater Management Program regarding facility expansion needs. WPMD also analyzes funding levels for necessary equipment and facility replacement programs. The Engineering

Analysis and Planning Branch, Environmental Monitoring Branch, and Fiscal Control and Financial Planning Branch (Financial Monitoring Branch) work collaboratively within WPMD and across the Wastewater Management Program to provide exceptional planning, operation, and maintenance of the Integrated Sewer System. The Wastewater Management Program uses calculated financial indicators to ensure adequacy of its rates from a cash flow, business, and compliance standpoint. WPMD and the County Department of Finance work together annually to create an award-winning ACFR for the Integrated Sewer System. The County has received the Government Finances Officers Association of the United States and Canada (GFOA) certificate for FY 2021. The FY 2022 ACFR was completed during FY 2023 and is currently under review.

The Wastewater Management Program continues to meet its strategic planning goals as they relate to the financial reporting process. The Integrated Sewer System did not issue any new bonds in FY 2022. The AAA Bond Ratings from Fitch, Standard & Poor's (S&P), and Moody's issued in FY 2017 were maintained by the Wastewater Management Program. These high credit ratings have enabled the County to sell bonds, as required, on behalf of the Wastewater Management Program at competitive interest rates. The Financial Monitoring Branch is responsible for issuing and managing debt to fund major capital projects including projects to improve the County's collection system, expansion and upgrade projects at NCPCP, and its portion of enhancement projects at Treatment by Contract facilities.

The Wastewater Management Program actively manages its outstanding debt by refinancing to take advantage of lower interest rates or retiring debt to manage its debt service coverage. The system complies with the Debt Service Coverage Ratio requirement of its bond resolution, and all forecasted coverage ratios for FY 2023 to FY 2028 exceed required levels. The five-year sewer rate plan approved by the County as part of the FY 2023 Adopted Budget Plan proposed to increase the sewer charges by 5.95% in FY 2023. The County's availability fees are consistent with the fundamental principle of "system buy-in" or "growth pays for growth" cost method. Under this method, the availability fee is designed to recover the incremental costs of infrastructure required for new customers to connect to the system.

Through conducting staff interviews, it was evident that the Wastewater Management Program has well-organized leadership that emphasizes long-term cost-effectiveness, productivity, participation by staff, and collaborative teamwork. Site visits confirmed that facilities were well-maintained and operated properly during FY 2022. Ongoing projects and initiatives highlight the continued focus and commitment of the Wastewater Management Program to operate and maintain the system moving forward.

1. Introduction

Section 713(b) of the Fairfax County Sewer Bond Resolution requires the County to retain an engineer annually to review the status of the Wastewater Management Program and the Integrated Sewer System and prepare a report to include:

- A description of the system and recommendations concerning the proper maintenance, repair, and operation of the system during the following bond year.
- Any necessary changes in services to be provided throughout the system during the following bond year.
- Any additions, improvements, renewals, or replacements that should be made during the following bond year.
- The estimated gross revenues necessary for such purposes.

Figure 1-1 shows the wastewater treatment plant service areas and pump stations in the Integrated Sewer System.

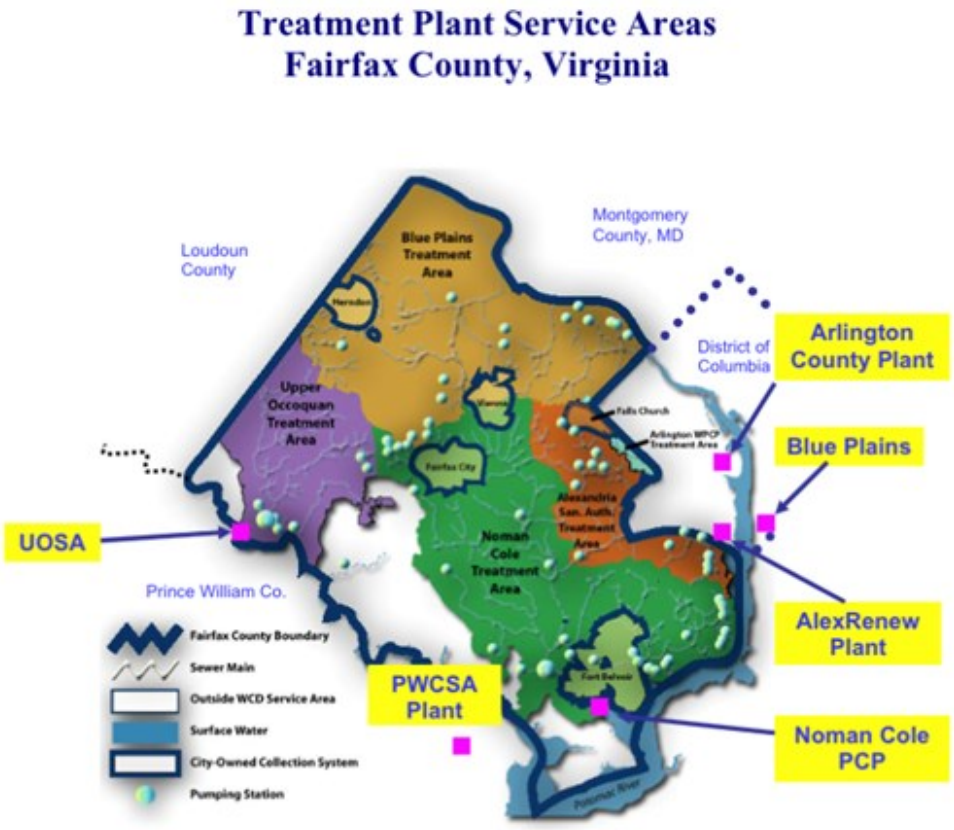


Figure 1-1: Integrated Sewer System, Fairfax County, VA (Annual Disclosure Report)

Hazen and Sawyer (Hazen) was retained to prepare the Sewer System Certification Report and document the status of the Integrated Sewer System during FY 2022, which ended on June 30, 2022. This report satisfies the requirements outlined in Section 713(b) of the Sewer Bond Resolution and ensures the system is operated and maintained in a satisfactory manner and the budget is adequate to meet the operational, maintenance and capital needs of the system for the next fiscal year. To prepare this report, the following tasks were performed:

- Interviewed key Wastewater Management Program personnel including Division Directors, Branch Chiefs, and selected personnel regarding FY 2022 activities and proposed FY 2023 efforts.
- Reviewed operation and maintenance related documents.
- Reviewed the ACFR for FY 2022.
- Reviewed budgetary information, including the FY 2023 adopted Budget, Capital Improvement Plan (FY 2023 – FY 2027), financial statements, and a sewer service charge/availability fee study.

- Reviewed the Annual Disclosure Report for FY 2022.
- Reviewed Wastewater Revenue Sufficiency and Rate Analysis Forecast Period Fiscal Year 2023 Through Fiscal Year 2028.
- Visited existing Integrated Sewer System facilities including the Noman M. Cole, Jr. Pollution Control Plant (NCPCP), the Robert P. McMath Facility, and select pumping stations and flow metering stations to assess general conditions and overall performance.

Each section of this report evaluates a different aspect or division within the Wastewater Management Program and Integrated Sewer System as follows:

- Section 2 evaluates the operation, maintenance, management activities and practices associated with the Wastewater Management Program and Integrated Sewer System.
- Section 3 provides a summary of program-wide performance indicators and awards.
- Section 4 examines the funding structure of the system and the FY 2022 budgets of the Wastewater Management Program.
- Section 5 summarizes the FY 2022 Capital Improvement Plan.
- Section 6 summarizes the current and future rates and revenues of the Wastewater Management Program and Integrated Sewer System.

2. Wastewater Management Program Operation, Maintenance and Management

The Wastewater Management Program encompasses wastewater collection, wastewater treatment, environmental monitoring, wastewater capacity planning, and management of financial operations and inter-jurisdictional agreements. The Wastewater Management Program operates under the Department of Public Works and Environmental Services (DPWES). The Wastewater Management Program provides integrated sewer collection and wastewater treatment services for Fairfax County residents and businesses, as well as for other neighboring jurisdictions through sales of service agreements.

2.1 Wastewater Management Organization

Wastewater Management Program functions are carried out by three divisions under the supervision of the Deputy Director of DPWES, as described in this section.

The County follows the High-Performance Organization model using a core team to provide leadership and management for the entire program. The Wastewater Management Leadership Team focuses on long-range planning, strategy, continuous improvement, wastewater capacity issues and financial management.

Three Divisions within DPWES are responsible for the operation, maintenance, and management of the Integrated Sewer System. Figure 2-1 shows the organization of the Wastewater Management Program. Each division is described below.

- **Wastewater Collection Division (WCD)** is responsible for the operation and maintenance of the sewers, force mains, pumping stations and metering stations; maintaining the asset management program; and overseeing the planning, design, and construction of Capital Improvement Program (CIP) projects for the collection system.
- **Wastewater Treatment Division (WTD)** is responsible for the operation and maintenance of the NCPCP facilities, maintaining the asset management program, and overseeing the planning, design, and construction of CIP projects for the treatment plant.
- **Wastewater Planning and Monitoring Division (WPMD)** is responsible for engineering planning and analysis, managing service agreements with nearby jurisdictions, financial management and planning, operation of the laboratory facility, public education, and outreach, as well as administering the Industrial Pretreatment Program for the County.

The work within these Divisions is distributed amongst ten branches, which are responsible for their assigned tasks and report to the Division Managers. As part of the overall integrated program approach, the Financial Monitoring Branch, the Information Technology Services Branch, the Human Resources/Organizational Development/Safety Section, and the Community Outreach and Education Program serve the needs of the overall Wastewater Management Program. Their functions are discussed in the following sections.

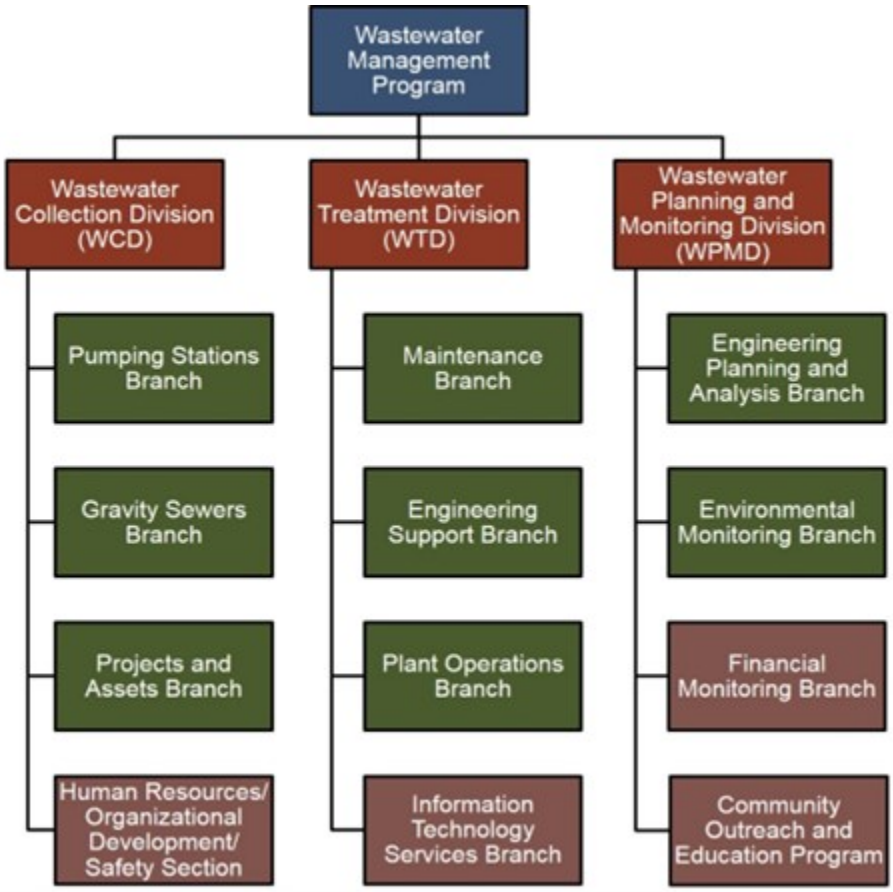


Figure 2-1:Organization of the Integrated Sewer System Wastewater Management Program

2.2 Wastewater Collection Division

2.2.1 Overview of Division

The Wastewater Collection Division (WCD) is responsible for the County's wastewater collection and conveyance system, which consists of the following components:

Wastewater Facilities:

- Approximately 3,300 miles of gravity sewers and force mains.
- 70 wastewater pumping stations.

- Three pump and haul facilities.
- 57 permanent flow metering stations.
- 150 grinder pumps and associated pressure sewer systems.
- Robert P. McMath Facility (Wastewater Maintenance Headquarters).

Other County Facilities:

- Two stormwater pumping facilities.
- One stormwater flood control facility.
- One water reuse pumping station and distribution system.
- Five rain gauge stations.

WCD had 139 permanent staff positions for FY 2022 with no new positions planned for FY 2023. All WCD employees work out of the Robert P. McMath Facility in Burke, Virginia. The organizational structure of WCD includes the Director's Office, Human Resources Section, and three branches: Gravity Sewers, Pumping Stations, and Projects and Assets.

In February of 2023, Hazen met with the Director of WCD along with the Branch Chiefs of the Pumping Stations Branch (PSB), the Gravity Sewers Branch (GSB), and the Projects and Assets Branch (PAB) to discuss the operation of the Division. The discussions focused on WCD's activities in FY 2022 and planned activities for FY 2023 and beyond, as well as the responsibilities and goals of each branch, and the organizational structure, operational and maintenance procedures, and available resources in place to meet those goals. Section 2.2.2 details initiatives and projects representative of their activities for FY 2022 onward.

WCD recognizes the importance of alignment with industry best practices and has invested significant resources into alignment with International Asset Management (IAM) and National Association of Sewer System Companies (NASSCO) trainings, certification and program adherence as part of organization's best management practices. WCD's asset management and planning engineers are required or encouraged to become certified by IAM and NASSCO based on their roles. The training and certifications have afforded WCD's asset management program the ability to modernize at a rapid pace and align with industry best practices.

2.2.2 Wastewater Collection Division Ongoing Initiatives

WCD is responsible for initiatives related to rehabilitation and repair of the existing system, investment in staff and equipment, maintenance tracking, standardization, and monitoring. Descriptions of these efforts are included below.

- **Inflow/Infiltration (I/I) and Flow Monitoring**: The WCD in-house I/I and flow monitoring work enables the Wastewater Management Program to be proactive in diagnosing problem areas. The I/I program has continued to focus on locating problem pipes in the system's older sewer service areas, which are then addressed by the comprehensive sewer rehabilitation program. The completion of the echo-level sensor pilot has led to continued use of echo-level sensors at I/I hotspot locations, the development of a

flow monitoring plan, and two additional pilot studies that began in FY 2020. Meters are used for billing, reactive and supporting data collation for various CIP projects.

- **Asset Management**: A robust wastewater asset management program improves the quality of wastewater service delivery to Fairfax County businesses and residents. The Projects and Assets Branch (PAB) is developing an asset management framework to align with the Institute of Asset Management recommended practices. The PAB continued improving a comprehensive risk model for the linear collection system to better understand risk throughout the system, identify high risk assets, and to identify and prioritize potential CIP projects based on conditions and capacity. In FY 2022, the framework was expanded to include vertical assets prioritization.

- **Pump Station Condition Assessment Initiative:** In FY20, the pump station condition assessment and asset inventory program was expanded to include inventory of all the assets in the pump stations. The additional scope also included the creation of digital dashboards to report the condition data and other metrics for WCD staff use. In FY 2022, PAB contracted inspection and condition assessment of 14 pump stations and developed inspection plans for this initiative.

- **Computerized Maintenance Management System (CMMS):** DPWES began the implementation of a new CMMS to replace the current InforEAM system used by WCD and the Stormwater Management Division. WCD selected a new system in FY 2021. Implementation of the new CMMS is ongoing and will be completed in FY24.

- **Small Diameter Communities:** WCD, in coordination with the Director's office, has started an outreach program with two communities with small diameter private laterals. The intent is to inform those communities about the contractual obligations with the County and develop guidance plans for them to maintain their assets. In FY 2022, they prepared HOA presentations, used survey and GIS tools to determine boundaries, and prepared outreach information packets.

- **Stream Crossing Initiative:** Upon a successful completion of a FY20 pilot initiative, PAB initiated a program to field inspect expanded creek crossings starting with the most critical assets. In FY 2022, PAB engaged a contractor to perform field inspections.

- **Supervisory Control and Data Acquisition (SCADA) Initiatives:** The WCD SCADA system is vital to providing remote monitoring and has limited remote control capability of pump operation at all 70 wastewater pumping stations. Several initiatives have been implemented to ensure dependability and uninterrupted operation for many years to come. Programmable Logic Controllers (PLC) and upgraded Human Machine Interface (HMI) screens have been installed as part of pumping station rehabilitations to provide user friendly graphics, monitoring and operation at the facilities, and remote pump operation, ultimately providing a more reliable and efficient operating system. This initiative is

ongoing, as additional existing pumping stations undergo rehabilitation. New M340 PLC units and touchscreens are installed in every fully rehabilitated station. County personnel have completed the update to existing controls with new processors and touchscreens at approximately 59 pumping stations. The outstanding pumping stations will require assistance from an outside contractor.

- **Sewer Academy:** This is an initiative developed by WTD and WCD to build a standardized training programs for a wide array of disciplines (industrial electricians, mechanical crews, operators, etc.). The goal is to improve recruitment, development and retention of talent that understands and becomes invested in the County's system. WCD collaborated with department of human resources (DHR) to agree on creating three new apprenticeship classifications with three trades: Electrical, Mechanical and Instrumentation. These positions are scheduled to be created and utilized starting in FY 2023.

- **Asset Locating and GIS Updates:** In FY 2022, PAB developed a program to pilot locating sewer mains in Lincoln-Lewis-Vannoy neighborhood served by a low pressure system. The objective of this initiative was to pilot various locating technologies and update asset inventory in the area.

2.2.3 Pumping Stations Branch

The Pumping Stations Branch (PSB) is composed of three groups: Mechanical, Electrical, and Instrumentation. The preventive and corrective maintenance performed by the PSB is critical to the reliable operation of the facilities. The following sub-sections detail the responsibilities and initiatives of the PSB.

Pumping Stations Operations

The PSB is responsible for the operation and maintenance of the County's pumping stations, low-pressure systems, flow meters, and the Robert P. McMath Facility. Each day, the staff, which includes the Branch Chief, two business operation managers, three supervisors, industrial electricians, instrumentation technicians, mechanical technicians, and engineering technicians work to monitor, repair, and identify future needs associated with keeping these facilities in good working order. The pumping stations' SCADA system provides remote monitoring, alarm management, and limited control capabilities for the pumping stations on a Local Area Network. System design is compatible with the SCADA system at the NCPCP.

The PSB is also responsible for identifying potential pumping station upgrades and rehabilitation. The Branch identifies potential costs for rehabilitation projects and submits them for inclusion in the annual CIP and budget review. The PSB maintains backup power generators, located at pumping stations throughout the County service area, to ensure continuation of wastewater pumping and flow during power outages. The PSB maintains odor control at pumping stations and works with communities to find odor mitigation strategies if residential concerns arise. An example project is the completed odor control study

for the Difficult Run Pumping Station, for which odor control is scheduled to begin construction in FY 2023 and be substantially completed in early FY 2024.

Flow Metering

The Instrumentation Group within the PSB, with support from external contractors, maintains the flow metering program. Flow metering responsibilities include monitoring and recording wastewater flows entering and leaving the Fairfax County sewer system for inter-jurisdictional billings, flow confirmation, and detecting I/I in the sewer lines.

The Instrumentation Group operates 57 permanent flow metering stations ranging in size from approximately 0.01 to 30 million gallons per day (MGD). Many of the flow meters belong to other jurisdictions but are maintained and calibrated by the Instrumentation Group and external contractors. All flow metering stations owned by Fairfax County in the Wastewater Management Program are equipped with flow metering systems. The Instrumentation Group is also responsible for five rain gauges throughout the County and uses data from 15 additional rain gauges managed by the Maintenance and Stormwater Management Division. This extensive flow metering and rain gauge network allows the Wastewater Management Program to monitor wastewater flows every 15 minutes via SCADA and evaluate the sewer system's response to wet weather events.

In addition to the permanent flow metering stations and rain gauges, WCD has approximately 25 battery-operated temporary flow meters, 10 of which are a part of the Route 1 Embark Study. These "portable" meters can be installed in the collection system where needed to enhance I/I identification and reduction efforts. Temporary meters were used in the Tysons Corner and Reston areas in FY 2022. The Instrumentation Group and external contractor maintain and calibrate the meters regularly to ensure they provide accurate and consistent flow data. Areas with major I/I issues are isolated and permanent flow meters are installed to monitor I/I.

Pumping Station Branch Initiatives

The PSB uses weekly safety tailgate meetings covering a variety of topics including finalizing lockout/tag out procedures, issuing personal locks and safety locks, ensuring everyone is equipped with personal protection equipment (PPE) and gas monitors, and training on variable frequency drives (VFDs). The PSB is in the process of providing high visibility arc flash rated work uniforms and arc flash training for staff.

The PSB provided training opportunities for County staff in FY 2022 on the following topics:

- Arc Flash Training (NFPA 70E)
- Backflow preventer certification.
- Valve maintenance and repair training.
- E-One grinder system training.
- CPR, first aid, and Automated External Defibrillator (AED) annual training.
- Fire extinguisher annual training.
- Stormwater Pollution Prevention (SWPP) annual training.
- PLC programming and troubleshooting training.

- Cross training within WCD to provide professional and personal growth opportunities.

An internal work order management system using InforEAM was implemented in FY 2021 to improve the quality of the data that is collected in the field and submitted as a work order. The improved quality of the information and ease of work order tracking will aid in the setup of Cityworks.

The PSB has continued to develop standard operating procedures for pumping station operations including mechanical, instrumentation and electrical maintenance needs.

The PSB continued maintenance of two stormwater pumping facilities and one stormwater flood control facility in FY 2023: the new Alexandria Tide Gate, the new Alexandria Stormwater Pumping Station, and the Huntington Levee. The PSB also provided support County-wide for pumping and sewage grinding needs at locations including, but not limited to, the Historic Colvin Run Mill in Great Falls, VA and the I-95 Landfill Complex in Lorton, VA.

The PSB, as part of a division wide effort, is working towards reducing its carbon footprint through reduced energy consumption and increased pollution prevention. As part of this effort, the PSB is replacing light bulbs with LED bulbs, reducing the idling time for County vehicles, and performing internal audits to ensure compliance with peak shaving/energy audit initiative goals. In FY 2021, PSB worked with Capital Facilities staff to develop a facilities manual that standardizes the design of pump stations. In FY 2022, these updates to the facilities manual are ongoing . The PSB has been continuing energy audits on each future pump station rehabilitation in FY 2022, and carbon footprint reduction strategies continue to be applied.

2.2.4 Gravity Sewers Branch

The Gravity Sewers Branch (GSB) provides routine sewer cleaning, visual inspections, and maintenance of the 3,250-mile sanitary sewer system. For areas of Fairfax County that are not served by the sanitary sewer system, i.e., the 21,610 individual onsite sewage disposal systems outside of the approved sewer service areas, the Wastewater Management Program provides a septage disposal facility at the NCPCP. This facility receives approximately one million gallons per month of hauled waste, largely from individual septic tank systems, portable toilets, and from the County's approximately 3,808 food service establishments whose grease traps require routine pump-outs. The GSB is also responsible for managing the County's septage pump and haul operations and hauled wastewater operations for two residential neighborhoods as well as the Town of Clifton.

The GSB's cleaning and maintenance program includes tracking, scheduling, and conducting routine inspection and/or cleaning of line segments. Staff adjust the cleaning frequency according to needs and inspect problematic sewer lines at higher frequencies.

A total of 570 miles of sewer lines were cleaned in FY 2022. Greater efforts in sewer inspection and cleaning activities resulted in a decrease in the number of overflows and backups in the system. WCD determines the number of occurrences per 100 miles and tracks this as one of the measured performance indicators. Table 2-1 shows the total number of occurrences (divided into backups and overflows) for the GSB in the last seven years. Fairfax County gravity sewers consistently have fewer occurrences of

backups and overflows than the median level, established in a study conducted by the American Water Works Association (AWWA) and Water Environment Foundation (WEF), and was below the 25th percentile for each of the last nine fiscal years. Occurrences are infrequent due to the County's aggressive cleaning, maintenance, and lining programs.

Table 2-1 : Maintenance-Related Backups and Overflows in the Collection System

Fiscal Year	Backups	Overflows	Total Occurrences	Occurrences Per 100 Miles	WEF Median Per 100 Miles
FY 2014	15	21	36	1.09	4.3
FY 2015	16	12	28	0.85	4.3
FY 2016	12	23	37	1.12	4.3
FY 2017	19	17	36	1.09	4.3
FY 2018	17	20	37	1.12	4.3
FY 2019	9	18	27	0.82	4.3
FY 2020	10	10	20	0.61	4.3
FY 2021	8	19	27	0.82	4.3
FY 2022	10	23	33	1.00	4.3

2.2.5 Projects and Assets Branch

The Projects and Assets Branch is composed of five groups: Asset Management Program, Capital Improvement Program, Rehabilitation and Inspections Group, Closed Circuit Television (CCTV) Group, and Miss Utility Group.

Asset Management Program

The mission of the Asset Management Program (AMP) is to analyze asset information from maintenance, inspection, and field condition assessment to perform system risk modeling, perform decision support analysis, and to determine assets for improvement and maintenance recommendations. The data-driven work performed by this group is designed to ultimately guide WCD in maintenance and improvement decisions.

The AMP is also responsible for regulatory compliance tracking and reporting.

Capital Improvement Program

The mission of the Capital Improvement Program (CIP) is to plan, develop, and maintain an optimized 10-year capital improvement plan for WCD. The engineers in CIP use information and guidance provided by the AMP to study and analyze areas of substantial risk and in need of improvement. The studies are used to scope planned capital improvement projects to be included in the 10-year capital improvement plan. CIP engineers assign and coordinate capital improvement projects with Capital Facilities for design and construction. The CIP engineers participate in and provide general oversight of projects to ensure the

engineering and operational goals of WCD are met throughout each stage of the project. CIP coordinates with all WCD branches and other agencies involved with projects to ensure all parties are satisfied with the outcome.

Rehabilitation and Inspections Group

The Rehabilitation and Inspections Group is responsible for managing the rehabilitation of Fairfax County's sanitary sewer lines and manholes in an effective and efficient manner. The Group strives to rehabilitate gravity and force main sanitary sewer lines and manholes to maintain their structural integrity, eliminate I/I, prevent sanitary sewer backups and overflows, and prolong the life of the County's sanitary sewer system. The Group also provides customer service to homeowners, plumbers, contractors, and other County agencies.

In FY 2022, 75,945 linear feet (LF) of 8-inch through 15-inch diameter gravity sewers were rehabilitated using cured-in-place pipe (CIPP) repair. Figure 2-2 shows the LF of pipe by diameter that was repaired using trenchless technologies in FY 2022. In addition to the trenchless repairs, several point repairs including removal of cross bores were completed using open cut methods.

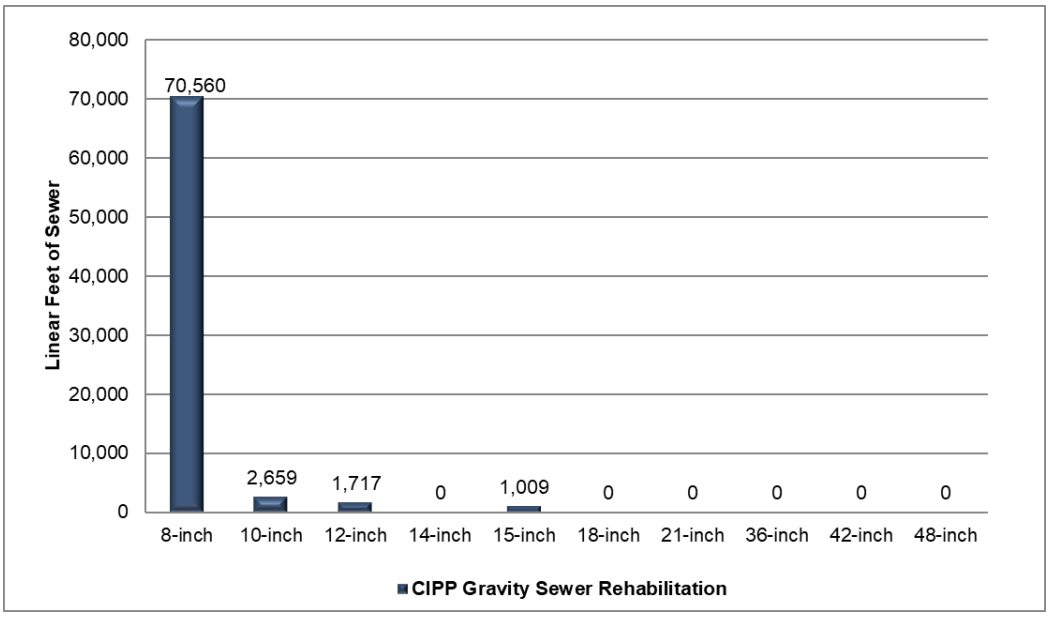


Figure 2-2 :Trenchless Sewer Rehabilitation Completed in FY 2022

A private contractor is used to clear sewer easements of small trees and branches to allow crews access for inspection and maintenance activities.

Figure 2-3 illustrates the total annual length of easement cleared in the past 11 fiscal years. Additionally, the group inspects new assets installed by third parties to ensure adherence to the Public Facilities Manual (PFM) and for acceptance into the County's sewer system.

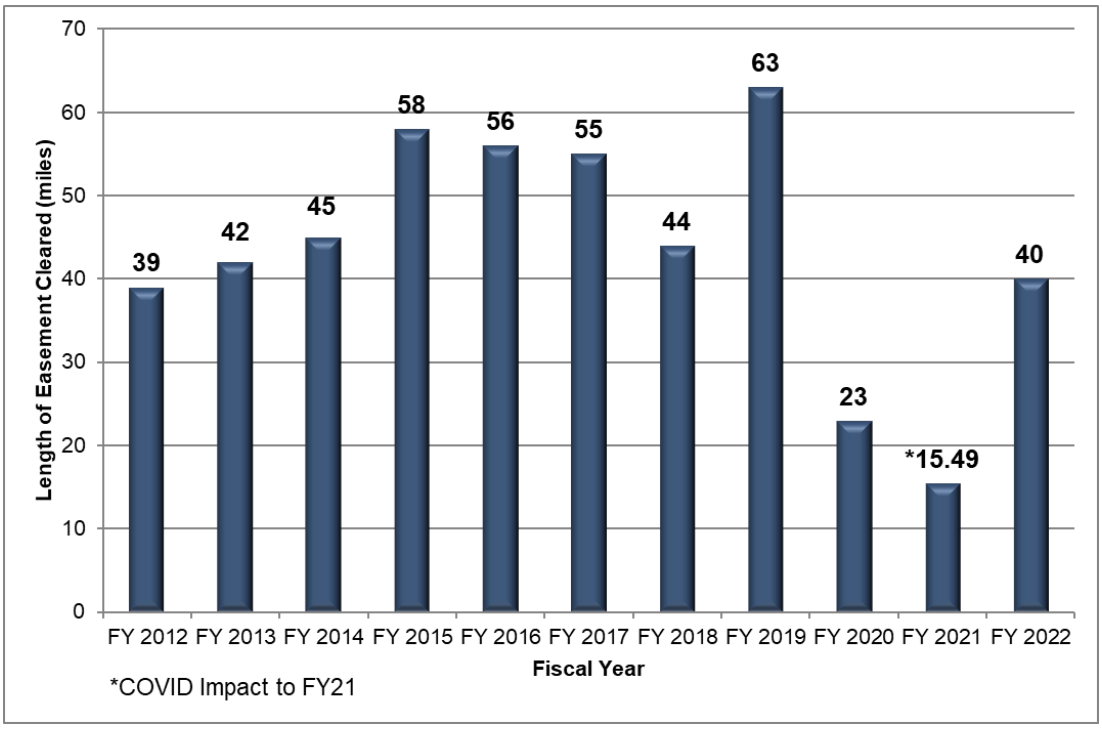


Figure 2-3: Length of Sewer Easement Cleared

Closed Circuit Television (CCTV) Group

The CCTV Group's primary functions are to detect defects in the sanitary sewer system using specialized CCTV equipment and to make repair recommendations. The Group inspects older sewer lines for possible infiltration, deterioration, loss of structural integrity, and blockages that may lead to sewer overflows or backups. In the event of an overflow or sewer backup, a team with inspection equipment is dispatched to determine the cause of the event, and recommended solutions are provided by the staff to prevent recurrence. The CCTV Group is also responsible for inspecting all new sanitary sewer lines. Using the guidelines set out in the Fairfax County PFM, inspectors ensure that only properly constructed sewer lines and manholes are accepted into the County's sewer system. A total of 137 miles of pipe were inspected through CCTV in FY 2022. In FY 2021, the CCTV Group contracted out services and worked to ensure consistency among contractors and WCD staff in coding criteria used for risk model. The contractor inspected an additional 106 miles of pipe in FY 2022.

Miss Utility Group

The Miss Utility Group locates and marks Fairfax County's sanitary sewers and water reuse lines in accordance with the Virginia Underground Utility Damage Prevention Act and the rules and guidelines set forth by the State Corporation Commission. The service is provided to ensure that no damage occurs to Fairfax County's sanitary sewer and water reuse lines during any excavation in which there is a valid

Miss Utility request. In FY 2022, the Group processed 182,298 Miss Utility requests. Of the total number of Miss Utility requests processed in FY 2022, 40,940 or 22.5% of all requests required field locates. To accomplish their tasks, the Miss Utility Group uses specialized ticket screening software called TELDIG Utility. The Miss Utility Group will be transitioning to a locating company starting in FY 2023.

Wastewater Collection Division Capital Projects

The following sections provide a summary of capital improvement projects that are either in study/design or under construction during FY 2022 or planned for FY 2023. Funding level details for each type of project including pumping stations, sewer metering, collection system replacement and rehabilitation, and the sewer sag program are provided in Section 5.5.3. The timing and funding of projects presented in the CIP appear to be adequate to maintain anticipated service levels.

Gravity Sewer Projects

- ***In Study/Design***
    - Condition Assessment, Cleaning, and Improvements of Large Diameter Sewers - Ongoing program to inspect large diameter sewers. Structural deterioration in these sewers will be addressed by creating rehabilitation projects to increase the life of the asset.
    - Carderock Gravity Sewer Rehabilitation - The pipe being rehabilitated carries flows from Scotts Run Interceptor sewer to Potomac Interceptor owned by DC Water. Design includes rehabilitation of approximately 1,300 LF of 30-inch pipe. Design began in FY 2019 and continued through FY 2022. Construction is anticipated to begin in FY 2023.
    - Celadon Sewer Replacement - The project involves the replacement of approximately 1,700 LF of 6-inch sewer pipe. Design began in FY 2019 and continued through FY 2021. Construction is anticipated to begin in FY 2023.
    - Indian Run Sewer Reinforcement - The project addresses exposed pipe within a stream valley. The goal is to relocate the pipe segments to a new location where they are not prone to stream erosion. Design began in FY 2019 and continued through FY 2022. Construction is anticipated to begin in FY 2023.
    - Little Pimmit Run Sewer Relocation - The project will accomplish sewer realignment and elimination of approximately 5,000 LF of 8-inch to 21-inch high-risk sanitary sewer crossings. Project is being completed in coordination with the Stormwater Planning Division. The study began in FY 2021, and design is anticipated to begin in FY 2023.
    - Sewer Sag Package #2- This project will replace 6 sewers with severe sags across the County. The design began in FY 2021, and construction is anticipated to begin in FY 2023.
    - Little Pimmit Run Sewer Relocation - The project will accomplish sewer realignment and elimination of approximately 5,000 LF of 8-inch to 21-inch high-risk sanitary sewer crossings. Project is being completed in coordination with the Stormwater Planning Division. The study began in FY 2021, and design is anticipated to begin in FY 2023.

- Accotink Gravity Sewer Capacity Improvements- This project will provide needed capacity relief on the Accotink interceptor to convey 2045 flows. The study began in FY 2021, and design is anticipated to begin in FY 2023.
- Chain Bridge Vault Site Safety Upgrades- The project addresses safety upgrades to the sewer siphon vault located near Chain Bridge Road in Arlington, Virginia. The design began in FY 2022 and construction is anticipated to begin in FY 2024.
- Springfield Estates Pump Station Abandonment- This project is abandoning the Springfield Estates Pump Station and replacing it with 2,000 LF of gravity sewer. The study began in FY 2021, with design beginning in FY 2022. The design is set to be completed in FY 2023.
- Merrifield Capacity Upgrades- This project aims to upsize approximately 600 LF of 12-inch diameter gravity sewer serving the Merrifield area. Project study was initiated in FY 2021 with design beginning in FY 2021. The design is set to be completed in FY 2023.
- West Springfield Stream Crossing- This project replaces 150 LF of 8-inch gravity sewer. The design began in FY 2022. Construction is set to be completed in FY 2024.
- Augusta Lane Sewer Line Improvement- This project replaced a 189 LF section of 10-inch gravity Sewer. Design began in FY 2022. Construction is set to be completed in FY 2023.
- Pohick Phase 1 Sewer Rehabilitation- Project to rehabilitate 6,457 LF of sanitary sewer with CIPP lining. Study began in FY 2020. Design is set to begin in FY 2023.

- ***Under Construction***

  - CIPP Rehabilitation - Ongoing CIPP rehabilitation of gravity sewers (8-inch to 15-inch in diameter) and manholes.
  - Old Mill Sewer Replacement - The project is addressing a capacity issue with the existing pipe. The design entails replacement of approximately 1,100 LF of 10-inch slip lined pipe with a new 16-inch pipe. Design began in FY 2019 and continued through FY 2021. Construction is anticipated to be completed in FY 2023.
  - Sewer Sag Replacement – Package #1 - This project will replace 1,200 LF of 8-inch defective sewer pipes (containing sags) located in and along roadways at five locations in the County. Design began in FY 2019, construction began in FY 2021 and completion is planned for early FY 2022.
  - Little Hunting Creek Sewer Sag - Rehabilitation of 12-inch sanitary sewer line due to severe sag. This is the first project from the Sewer Sag Evaluation Preliminary Engineering Report (PER). Project design was completed in FY 2019. Construction began in FY 2020 and is planned to be completed in FY 2023.
  - Crooks Branch- This project replaced two 8-inch sewer line crossing Crook Branch (approximately 436 LF) and rehabilitate 4 manholes. Project study began in FY 2021 with design completed in FY 2022. Construction was completed in FY 2022.

Pumping Station and Forcemain Projects

- ***In Study/Design***
    - Accotink Pumping Station - Rehabilitation of the Accotink Pumping Station. Preliminary design efforts began in FY 2019 and continued through FY 2020. Design began in FY 2021. Construction completion is anticipated in FY 2026.
    - Holmes Run Pumping Station - Rehabilitation of the Holmes Run Pumping Station. Preliminary design efforts began in FY 2018 and continued through FY 2022. Construction is anticipated to begin in FY 2023.
    - Savile Lane Pump Station Rehabilitation - Rehabilitation of Savile Lane Pump Station (formerly called Central Intelligence Agency Pump Station). Design began in FY 2019 and continued through FY 2021. Construction is anticipated to begin in FY 2023.
    - Mt. Vernon Terrace Force Main - Rehabilitation of 6-inch cast iron force main and improvements to the influent gravity sewer. Design was completed in FY 2020. Construction completion is anticipated in FY 2025.
    - Wellington I Force Main Replacement - Rehabilitation of 6-inch ductile iron force main. Design began in FY 2019. Construction is anticipated to begin in FY 2022 and to be completed in FY 2023.
    - Riverwood Force Main Rehabilitation - Replacement of 6-inch cast iron force main and installation of an emergency bypass structure. Design began in FY 2019. Construction is anticipated to begin in FY 2023.
    - Tysons West Pump Station and Force Main - Study of the new 25 MGD Tysons West Pump Station to address new capacity needs in Tysons Corner began in FY 2020. Design began in FY 2021 and construction is set to begin in FY 2023.
    - Tysons East Pump Station and Force Main - Study of the new 10 MGD Tysons East Pump Station to address new capacity needs in Tysons Corner began in FY 2020. Study was completed in FY 2022 and land acquisition is currently underway.
    - Jones Point Pump Station and Force Main - Rehabilitation of aging pump station and associated facilities. Study began in FY 2021. Design is anticipated to begin in FY 2023.
    - Difficult Run Pump Station Grit and Odor Control Improvements - Design of a new diversion structure to eliminate grit buildup in the wet well, Addition of two dry-pit submersible pumps, as well as modifications of the odor control system. Design began in FY 2021. Construction is anticipated to start in FY 2023.
    - Wellington I Pump Station Rehabilitation- A project that is intended to rehabilitate the aging infrastructure at the pump station. Study began in FY 2021, design is set to begin and be completed in FY 2023
    - Wellington I Force Main Replacement - Rehabilitation of 6-inch ductile iron force main. Design began in FY 2019. Construction is anticipated to begin in FY 2022 and to be completed in FY 2023.
    - Freund House Pump Station Screen Replacement- A project to replace the screening facilities at Freund House Pump Station. Design began in FY 2022 and will be completed in FY 2023. Construction is estimated to begin in FY 2024.

- Little Hunting Creek Force Main- Project to replace the 30-inch diameter, 4,556 LF Little Hunting Creek Force Main. Study began in FY 2020, design began in FY 2021 and is set to be completed in FY 2023.
- Oak Marr Pump Station Rehabilitation- A project that is intended to rehabilitate the aging infrastructure at the pump station. Study began in FY 2021, design completed in FY 2022. Construction is estimated to begin in FY 2023.
- Lakevale Estates Collection Improvements- A project that is intended to alleviate the capacity concerns downstream of the Lakevale Pump Station by extending the forcemain. Study began in FY 2022, design is anticipated to begin in FY 2023.
- LLV System Improvements Phase 1- A project to address increased sewer breaks over the year and rehabilitate aging infrastructure. Study began in FY 2022, with design beginning in FY 2023.
- Penderbrook and Wesley House Pump Station- A project to rehabilitate two pump stations consisting of replacement of major equipment and necessary upgrades to accommodate flow increase. Study began in FY 2022, with design to begin in FY 2023.

- ***Under Construction***

  - Ravenwood Pump Station and Force Main Replacement - Replacement of the Ravenwood Pump Station and Force Main Design began in FY 2019, and construction started in FY 2020. This project was completed in FY 2022
  - Wellington II pumping station, force main, and adjacent gravity line- Construction began in FY 2021, continued through FY 2022 and is anticipated to be completed in FY 2023.
  - Langley School PS- Rehabilitation of the Langley School PS and replacement of the Langley School Pump Station Force Main. The Study began in FY 2022 with the design completed in FY 2022. Construction began in FY 2022 and is anticipated to be completed in FY 2023.

Miscellaneous Projects

- ***In Study/Design***

  - Flow Meter Vaults Rehabilitation - Rehabilitation of meter vaults for structural, electrical, and mechanical deficiencies. Construction of several sites was completed in FY 2021. Design for additional sites is anticipated to begin in FY 2022, construction is anticipated to begin in FY 2024.
  - Lake Barcroft/Holmes Run Odor Study - An evaluation began in FY 2018 to address odors in the Holmes Run basin around Lake Barcroft. Future odor control projects will be implemented based on field investigation and sampling as well as recommendations made as the study is finalized. Study was completed in FY 2022 and design is anticipated to be completed in FY 2024.

- Long Branch Pumping Station and Alexandria Pumping Station Diesel Tank Upgrade - Underground fuel storage tanks will be moved above ground. Construction was completed in FY 2022.
- Surveying Missing Manhole Inverts- Project to survey 807 pipes with missing inverts to update GIS and support hydraulic modeling. Study began in FY 2022 and is set to be completed in FY 2023.
- Wastewater Utility Management Plan- Project to complete Wastewater Utility Management Plan that includes strategic planning, master planning, hydraulic modeling, condition assessment, and capital improvement program creation. The project began in FY 2021 and is set to be completed in FY 2024.

2.2.6 Wastewater Collection Division Facilities Inspection

Pumping Stations

On May 8, 2023, Hazen conducted site inspections to assess the general condition and operability of three pumping stations. The PSB provided a summary of all the pumping stations with the location, capacity, date of original construction and date of major rehabilitation or modification. Hazen used this information, as well as discussions with PSB personnel, to select three pumping stations with the objective of inspecting pumping stations that represent the wide range of assets maintained by WCD. A summary of ongoing, proposed or recently completed projects and observations from the inspections is provided below:

Rivertowers Pumping Station

- Built in 1963, 2.0 MGD capacity
- Emergency generator located inside the pump station structure.
- Pump station can be bypassed and is not high on the rehabilitation list

Accotink Pump Station

- Built in 1980, 37.0 MGD capacity with odor control system
- Station is currently under slated to be upgraded, with designs being developed and construction to be completed by FY 2026. The major components will be rehabilitated.
- Installing dry-pit submersible pumps with reduced voltage soft starters.
- New electrical room to be built with the pump station rehabilitation.

50/66 Main Pumping Station

- Built in 1980, 2.95 MGD capacity with manual charcoal odor control system
- In FY 2014 the pump station underwent a major rehabilitation.
- The pump station is in good condition.

Figure 2-4 through Figure 2-9 are photographs taken during the site visits to the three pumping stations.

Figure 2-4: Rivertowers Pumping Station External Appearance

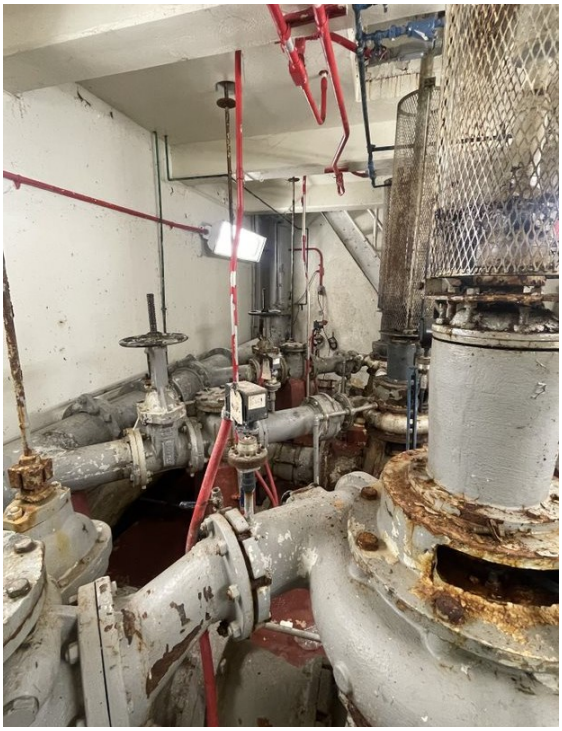


Figure 2-5: Rivertowers Pumping Station General Condition

Figure 2-6: Accotink Pumping Station Wet Well General Condition

Figure 2-7: Accotink Pumping Station General Condition

Figure 2-8: 50/66 Main Pump Station General Condition

Figure 2-9: 50/66 Main Pump Station External Appearance

Robert P. McMath Facility

WCD administrative offices and maintenance shops are in the Robert P. McMath Facility at 6000 Fred's Oak Road in Burke, Virginia. The facility serves as a staging area for WCD operations and is also used for equipment storage (with the old Upper Cub Run wastewater plant site providing additional storage area). This well-maintained facility is approximately 30 years old. Hazen conducted a site inspection of the facility on May 8, 2023. WCD completed design of a new building to replace the Robert P. McMath Facility, which will house multiple County departmental offices, a welding shop, an electrical shop, and the sign department. Completion of the new building is anticipated in CY 2025. Figure 2-10 shows the construction phasing planned for the new facility.

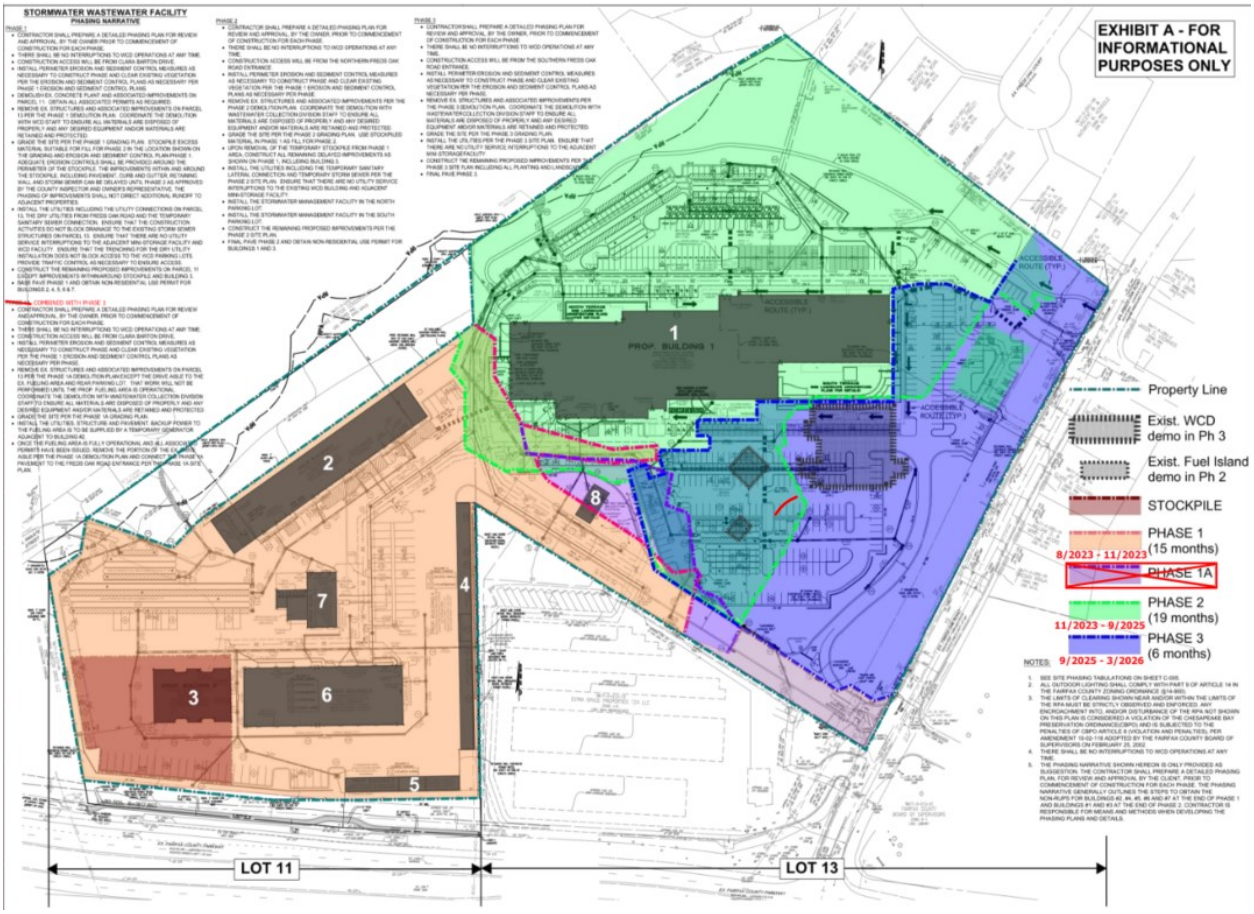


Figure 2-10: Stormwater and Wastewater Facility Construction Phasing

Flow Monitoring Stations

On May 2, 2022, Hazen conducted site inspections for three flow monitoring stations to assess their general condition and operability. The PSB provided a summary of Fairfax County flow monitoring stations with the location, capacity, and type of flow monitoring device installed. Hazen used this information, as well as discussions with PSB personnel, to select three flow monitoring stations with the objective of inspecting flow monitoring stations that represent the wide range of assets maintained by WCD. A summary of observations from each metering station is provided below:

Pickett Road

- Type: 12-inch Parshall Flume.
- Network: 3G Communication Technology.
- Electric power is provided at the site, with a power panel providing power to the meter.
- There is an adjacent valve vault with two gate valves and a bypass for the station.

Ranger Road

- Type: 3-inch Parshall Flume.
- Network: 3G Communication Technology.
- Rehabilitation is planned for FY 2023 or FY 2024 due to aging infrastructure. Improvements include replacement of the control cabinet, potential solar panel placement, and concrete work in the vault structure to fix the meter insert in the throat section of the parshall flume. Additionally, there are fallen and dead trees in the vicinity of the station that may fall and impact the security fence installed.

Rust Road

- Type: 8-inch Palmer Bowlus
- Network: 3G Communication Technology.
- Meter vault is recently rehabilitated and is maintained in proper condition. The sealed battery for the meter is located in the cabinet at the site.

Figure 2-11 through Figure 2-16 are photographs taken during the site visits to the three flow metering stations.

Figure 2-11: Pickett Road Flow Metering Station

Figure 2-12: 12-inch Parshall Flume

Figure 2-13: Ranger Road Flow Metering Station

Figure 2-14: Ranger Road 3-inch Parshall Flume

Figure 2-15: Rust Road Flow Metering Station

Figure 2-16: Rust Road 8-inch Palmer Bowlus

2.3 Wastewater Treatment Division

2.3.1 Overview of Division

The Wastewater Treatment Division (WTD) operates and maintains the NCPCP located in Lorton, Virginia, as shown in Appendix A – NCPCP Site Plan. The staff at the plant is organized into four branches: Engineering Support, Operations, Maintenance, and Information Technology Services. WTD had 135 positions in FY 2022.

All four branches of WTD work continually and effectively to treat wastewater and produce a high-quality treated effluent meeting all Virginia Department of Environmental Quality (DEQ) permit requirements continually and effectively. WTD also oversees the Water Reclamation Facilities, which produce Level I reclaimed water for irrigation and industrial uses in the County.

Major upgrades, initiatives, and compliance items performed this fiscal year include the following:

NCPCP Upgrades

- **Biosolids Program (Solids Processing Contracts I, II, III, and IV):** The Biosolids Program continued in FY 2022 as follows:
    - Phase I included replacement of the venturi scrubbers on the incinerators to achieve compliance with the new Sewage Sludge Incineration Maximum Available Control Technology (SSI MACT) requirements that went into effect March 2016. Phase I construction began in FY 2014 and was completed in FY 2018.
    - Phase II, the Interim Biosolids project, consists of rehabilitation and improvements to infrastructure in need of immediate work due to condition and safety considerations. The work includes rehabilitation of the thickened sludge storage and mixing equipment, odor control facilities, and lime conditioning facilities. Phase II construction started in FY 2017 and was completed in FY 2021. This Phase II project won the 2020 APWA Mid-Atlantic chapter's Project of the Year Award for the category of Environment.
    - Phase III focuses on the rehabilitation of the existing incineration system and supporting biosolids processing infrastructure. Phase III construction started in FY 2020 and is anticipated to be completed in FY 2026.
    - Phase IV includes several additional upgrades and infrastructure renewals including replacing the biosolids dewatering system. Design is on hold and will be resumed in FY 2023 with construction starting in FY 2027.

- **Primary and Secondary Infrastructure Reinvestment and Optimization Program:** A comprehensive evaluation of primary and secondary processes began in FY 2016 to assess the needs for rehabilitation of existing infrastructure in conjunction with capacity expansion. This evaluation included the flash mix tanks, primary settling tanks, activated sludge processes, secondary clarifiers, aeration facilities, and associated chemical addition facilities for a 30-year planning horizon with design average flows up to 80 MGD. Due to the complexity of the program, the program is divided into three phases:

- Phase I began in FY 2018 and included multiple pilot studies to investigate options to improve the treatment process within a limited footprint. In FY 2019, a demonstration scale aerobic granular sludge pilot was constructed for operation over a 10-month period. Findings from the demonstration scale pilot provided information for Phase II and capacity expansion.
- Phase II design began in FY 2018 and includes rehabilitation and/or modification of existing facilities to extend service life and reduce risk. Construction of Phase II was awarded in August 2022 with construction activity currently in progress. Substantial completion of this phase is scheduled for March 2027.
- The schedule for Phase III design for capacity expansion depends on the outcomes of Phases I and II.

- **Motor Control Center and Distribution Center Replacement:** This project includes the replacement and upgrade of 15 480V distribution centers, 20 motor control centers, multiple programmable logic controllers, and associated electrical appurtenances throughout the NCPCP. The project will reduce arc flash exposure risk, improve safety, and reinvest in the existing electrical equipment. The design phase was completed in FY 2016, and construction is scheduled for completion in FY 2023. This project received the LEED Silver Certification for the new Building V. The project received the 2023 APWA Mid-Atlantic Chapter's Project of the Year Award for the category of Environment More than $75 Million.

- **Raw Wastewater Pumping Station Rehabilitation:** This project involves the evaluation and infrastructure renewal of raw wastewater pumping at the NCPCP, including two existing pumping stations, the B3 flow equalization facility, underground infrastructure, and associated processes and systems. This project is being implemented through the construction manager at risk (CMAR) method and completed in two separate packages, Package 1 (B3) and Package 2 (B4). Preliminary engineering and design of this project commenced in FY 2020.

  - Package 1 (B3) involves demolition of existing 6" header and wall cleaning system on EQ Tanks No. 1-4, demolition of WWR Pumps and above grade WWR piping in Tanks No. 1-5, replacement of sump pumps and 36" valves in the existing 5 valve vaults, replacement of 1-ton jib crane, installation of Odor Control System for Tank No. 1, installation of aluminum cover for Tank No. 1, replacement of B3 MCC, RIO panel with PLC and HVAC improvements in B3 Building. Construction started in November 2021 and final completion is anticipated by August 2023.
  - Package 2 (B4) consists of a new pump station with a firm capacity of 210 MGD and the associated 60-inch force mains along with an odor control system, relocating the main electric feed lines into the plant site and providing new control switches, decommissioning and demolition of the existing raw wastewater pumping facilities, improvements to the B2 equalization pump station, increasing the number of parking lots and providing EV charging stations, improvement to the QQ1 pump station, and improvement to the facility entrance and traffic flows. Package 2 is currently in design, and construction is anticipated to begin in FY 2024.

- **Disinfection Rehabilitation:** This project involved the replacement of the existing sodium hypochlorite disinfection system with UV disinfection. The project included the design and construction of several new systems and facilities at the NCPCP, including an UV disinfection system, an additional outfall pipe, filter backwash pumping station and storage tanks, an advanced plant water (APW) pumping station, a water reuse pumping station, chlorine contact tanks for APW and reuse disinfection, a post-aeration facility, and an auxiliary chemical building. Design commenced in FY 2016. Project construction under a CMAR contract began in FY 2017 and was completed in FY 2022. This project received an Envision Gold award from the Institute for Sustainable Infrastructure. This project also received the 2022 APWA Mid-Atlantic Chapter's Project of the Year Award for the category of Environment $25 Million - $75 Million.

- **APW/ County Water System Optimization:** The project will develop hydraulic model for Advanced Plant Water (APW) system and county water (CW) system at the Noman Cole Pollution Control Plant site, including field verification and field testing to calibrate the model. After the model is calibrated, it can then be used to optimize the water systems based on pressure and demands. The current scope is for pre-design/study phase only with anticipated completion date of June 2024.

- **Accotink Odor Control**: Design of the Accotink Odor Control Facility located at the Noman M. Cole, Jr., Pollution Control Plant is underway. The County has characterized nuisance odors and recommended a biotower/ carbon unit for the mitigation of off-site plant odors at the Septage Receiving Facility, improving the quality of life in the community with respect to odors. Other improvements include replacement of equipment that has reached its useful life, safety improvements, stormwater diversion, and electrical and communications upgrades. Construction is anticipated to start in FY 2023 and be completed in FY 2025.

- **Major Sustaining Program:** This is a project to identify and address rehabilitation needs for the tertiary processes. Condition assessment of the affected facilities began in FY 2020. Based on initial assessment results and urgency of needs, the major sustaining program is anticipated to be completed in several design and construction packages, including immediate needs, current needs and future needs. Detailed scope and timing will be determined and finalized based on equipment condition, asset management program results and influent flow and nutrient increases. The initial design packages, focused on the FF Filtration Facility, is anticipated to start design in FY 2023.

- **Activated Sludge Effluent (ASE) Pump Station:** This project involves rehabilitation of the ASE Pump Station, removal and replacement of six (6) vertical turbine pumps, removal and replacement of seven (7) cast-iron sluice gates and seven (7) actuators, removal and replacement of fourteen (14) valves and six (6) actuators. which conveys secondary effluent to the Moving Bed Biological Reactor Facility. Design has been completed, and construction started on August 2022, and is anticipated to complete in 2026.

- **Odor Control Master Plan Update:** Results and recommendations from the updated odor control master plan process are being implemented as part of the Accotink Odor Control and Raw Wastewater Pumping Station B3 CIP projects.

- **Modernization of Support and Administrative Facilities:** This project includes design of upgrades to non-process facilities including maintenance shops, amenities areas, Lab area and IT spaces. In addition, the scope also includes adding 5 trailers at the back of the plant to accommodate the maintenance group during the construction and prepare the site plan for parking lot. Project design is currently on going and the construction is anticipated to start in FY 2023 with a completion date in FY 2026.

Administrative Initiatives

- **Performance Measure Tracking:** WTD continues to track operating costs (dollars per million gallons), odor complaints, and compliance with permitted effluent discharge limitations. WTD benchmarks against its own performance record and other comparable advanced wastewater treatment plants in Northern Virginia. The unit cost of wastewater treatment at the NCPCP was $1,900 per million gallons in FY 2022. This is the lowest unit cost of any advanced wastewater treatment plant in Northern Virginia.

- **Operations/Maintenance Workforce Planning:** Senior staff succession planning and institutional knowledge transfer continues to be a focus for WTD. There were 11 new hires in FY 2022 in Operations and Maintenance roles. WTD also continues to improve employee competencies to prepare employees for new higher-level technical positions. In FY 2022, 7 employees within the Operations and Maintenance Branches earned promotions.

- **Professional Licensure and Certifications:** WTD staff have a wide range of skill sets and expertise, and many positions require a professional license or certification. In FY 2022, over 100 professional licenses and certifications were held by WTD staff including Professional Engineers, Wastewater Operators, HVAC Mechanic, Licensed Electricians, Plumbers, Incinerator Operators, ISA certifications, Soil and Erosion Control certifications, and Envision certifications, among others. Developing, strengthening, and expanding staff skill sets and knowledge are priorities of WTD's strategic workforce planning initiatives.

- **Energy Savings:** In FY 2022, the plant reduced its electricity usage by 2.4 percent. Also in FY 2022, WTD enrolled in the U.S. Department of Energy's (DOE) Sustainable Wastewater Infrastructure of the Future (SWIFT) initiative. As a result, WTD began development of an energy management system in alignment with the DOE's 50001 Ready program. WTD received a 50001 Ready certificate of recognition in FY 2023. In FY 2022, WTD purchased renewable energy credits to offset 10% of its greenhouse gas emissions from electricity. In FY 2023, this was increased to 25%. As a result of these and other

actions, WTD was able to reduce its greenhouse gas emissions by 2.7% in CY 2021 over the previous year.

- **Electrical Curtailment:** WTD continued to participate in an electrical load shedding/curtailment program. In FY 2022, payments were approximately $54,000 per quarter for committing to curtail about 5 MW. The program also provided payments of $600 per quarter for energy efficiency improvements. These energy efficiency payments will end in FY 2023.

- **Asset Management:** Asset management continues to be a focus area for WTD and the Wastewater Management Program in general. WTD manages rehabilitation and replacement of most of its assets in-house with internal resources. An Asset Management Team (AMT) was formed in 2004. The AMT is composed of representatives of all branches within WTD. WTD currently uses an Enterprise Asset Management (InforEAM) as its Computerized Maintenance Management System (CMMS) to track physical assets, their maintenance schedules, and the maintenance records at the plant. Since the 1990s, the CMMS database has been continually updated to reflect the physical changes that were made when assets were added, replaced, or rehabilitated as part of CIP projects, or when assets were repaired as part of an in-house maintenance activity. Most of the equipment Operations and Maintenance (O&M) manuals have been scanned and uploaded to the CMMS database for immediate access by all staff at the plant, which is especially useful to maintenance staff and the AMT. WTD is tracking monthly maintenance costs of equipment using the CMMS database to optimize available resources. A Criticality Matrix composed of Consequence of Failure (COF) and Likelihood of Failure (LOF) is used to update project prioritization for the CIP projects, which helps guide infrastructure renewal strategies and decisions. In FY 2022 the AMT revised the COF and LOF criteria to include items such as physical condition, performance and reliability, regulatory compliance, financial impact, and public confidence.

- **Predictive Maintenance:** in FY 2022 the AMT began using oil and vibration analyses to prioritize equipment maintenance.

- **Maintenance Training:** In FY 2022. The Maintenance Branch divided its staff into six mechanics shops. Each group participated in periodical rotational training to improve process knowledge related to level of service.

Regulatory/Compliance Items

- **Environmental Management System (EMS):** Since 2010, WTD, as part of the Wastewater Management Program, participated in DEQ's Virginia Environmental Excellence Program (VEEP) at the highest Extraordinary Environmental Enterprise (E4) status. E4 status is awarded to enterprises with an active, fully implemented EMS and requires yearly internal audits as well as third party audits every three years. Continuing participation in the VEEP program requires reapplication every three years, at which time

the status is reevaluated and awarded. The current E4 status was received in late CY 2019, and the next renewal application process will occur in FY 2023.

- **Training:** Increasing operator competency and certification levels continue to be goals of WTD. As of May 2022, there were 49 licensed plant operators at the NCPCP. Continuing education and training for plant operations staff has been emphasized in the past year using both onsite and remote training programs. The computer-based training center in the Administration Building allows all computer-based training to be conducted in-house. Specialty training offered onsite and offsite, to maintain competency in specific skill areas was also provided. The NCPCP training manual is continually updated. The average number of training hours per employee for FY 2022 was 25 hours.

- **Waste Load Allocation:** In CY 2021, WTD met its waste load allocations for Total Nitrogen (TN) and Total Phosphorus (TP). The facility observed an annual TN discharge load of 291,513 lb vs. the allocated load of 612,158 lb. The facility discharged an annual TP load of 9,113 lb, against the allocated load of 36,729 lb.

- **Nutrient Credit Sales:** In CY 2021, the plant sold 320,620 lb of Total Nitrogen (123,528 lb of Class A, 197,092 lb of Class B, and 25 lb private exchange) that resulted in $8,646 in credits on the Virginia Nutrient Exchange. In CY 2021, the plant sold 27,616 lb of Total Phosphorus (7,411 lb of Class A and 20,205 lb of Class B) that resulted in $9,128 in credits on the Virginia Nutrient Exchange.

2.3.2 Engineering Support Branch

The Engineering Support Branch (ESB) provides support in the following areas: capital improvement, regulatory compliance, energy management, environmental management, sustainability, process engineering and other cross-branch services, such as emergency response, safety, and security. ESB is made up of three groups: Capital Improvement Program (CIP), Regulatory Compliance and Sustainability, and Operations Support. Highlights of ESB activities completed in FY 2022 and those planned for FY 2023 are described in the following sections.

Capital Improvement Program (CIP)

- **Capital Improvement Plan (CIP) Annual Budgeting:** The WTD CIP annual budgeting process is based upon a system defined in the 2009 NCPCP Master Plan. The process provides a comprehensive, repeatable, responsive, and objective means of planning the NCPCP CIP program. The program is projected a minimum of 10 years from the planning fiscal year and identifies anticipated expenditures beyond the 10-year planning period. The planning team, led by the CIP Program Manager (ESB Branch Chief), includes representatives from all aspects of the CIP program including WTD operations, maintenance, and IT branches; capital facilities CIP program support staff, and the WPMD financial management group. Major steps include:

- Capture updates to reflect changes in the industry, regulatory environment, financial aspects of the Wastewater Management Program, and other factors that may influence the capital program.
- Adjust to and validate benefit criteria and scoring. For FY 2022, planning criteria included life, health, and safety; regulatory compliance; risk reduction; and financial, environmental, and local community criteria. After a project is updated, it is scored based on the benefit criteria.
- Revise existing projects and create new projects as needed. The projects are captured at a high level on project sheets that include project goals, description, drivers, high level schedules and estimates, and status in the CIP budget.
- Update the 10-year planning forecast to reflect changes in project cost, schedule, and addition or elimination of projects. The project schedule is based on multiple aspects, including asset condition, regulatory requirements, and CIP program implementation considerations.

- **Capital Improvement Project Management:** ESB provides program and project management of the CIP program. In FY 2022 extensive work was accomplished in the following areas.

  - **CIP Program:** In FY 2022, new program level health measures were established. They provide a more holistic view of the program's success. The selected measures are based on maintaining the facility's levels of service during and after construction, as well as monitoring progress and compliance with contractual requirements and County wide initiatives. This effort received executive endorsement and its implementation has improved monitoring of the CIP program.
  - **Capital Infrastructure Training:** In FY 2022, the process for providing staff training on new capital infrastructure was optimized to better meet the needs of staff. These improvements streamlined the process to better match the training content to targeted learning groups as well as improve the timing impacts of the training.

Regulatory Compliance and Sustainability

The Engineering Support Branch provides services in regulatory compliance and sustainability to NCPCP as follows:

- **Regulatory Compliance:** Reports and plans that were prepared and submitted to Virginia DEQ and EPA or maintained onsite during FY 2022 are shown below:

  - The Virginia Pollutant Discharge Elimination System (VPDES) Permit (VA0025364) expires October 31, 2024.
  - The Industrial Stormwater Permit (VAR051411) expired on June 30, 2024. ESB staff submitted a request to DEQ to add outfall #6 with a revised SWPPP in November 2022. DEQ approved a request of adding outfall #6 and the updated SWPPP in December 2022. The semi-annual fuel quality certification reports were submitted to DEQ in January 2022 and July 2022, for a reporting period of July 1, 2021 and December 31, 2021 and January 1, 2022 and June 30, 2022, respectively.

- The Sewage Sludge Incinerator deviation report was submitted to DEQ in January 2022 for a reporting period of July 1, 2021 to December 31, 2021 and was submitted in July 2022 for the reporting period of January 1, 2022 to June 30, 2022.
- The annual water reclamation and reuse report for CY 2021 was submitted to DEQ in February 2022.
- Stack testing was not performed on Incinerators P1 and P2, as they have been under rehabilitation throughout CY 2022. Both incinerators are anticipated to be available for testing in CY 2023. Additionally, stack testing was omitted, per a DEQ guideline, on Incinerator P3 during CY 2022. However, WTD conducted stack testing as required by SSI MACT for Incinerator P4 and fugitive emission tests on Ash Handling Units at K2 in September 2022. All tests were found to be in compliance with SSI MACT.
- The Biosolids 503 reporting for CY 2021 was submitted to EPA in February 2022.
- The Title V Annual Compliance Certification for CY 2021 was submitted to DEQ in February 2022.
- The Tier II Emergency and Hazardous Chemical Inventory Report at NCPCP was submitted electronically to the Local Emergency Planning Commission in February 2022. Additionally, the hard copy was submitted to Virginia Emergency Response Council in late February 2022.
- The Annual Air Certification Statement was submitted to DEQ in April 2022.
- The ESB staff updated the Hazardous Materials Management Plan (HMMP), Oil Discharge Contingency Plan (ODCP), and Spill Prevention Control and Countermeasures (SPCC) Plan at NCPCP in January 2022. The ESB staff submitted the Oil Discharge Contingency Plan (ODCP) to DEQ in May 2022 to renew the plan to be expired in August 2022.

- **Sustainability:** During FY 2022 ESB staff:
  - Evaluated and analyzed energy (electricity, natural gas, and diesel) consumption at the NCPCP as part of the 50001 ready program..
  - Completed the Greenhouse Gas Inventory at NCPCP for CY 2021 in April 2021.
  - Represented NCPCP in the Environmental Management System Team of the Wastewater Management Program.
  - Managed the nutrient trading program, including nitrogen and phosphorus, for NCPCP.
  - Managed the Spill Response Plan at NCPCP and provided the spill response training to both staff and contractors at the NCPCP.

Operations Support

The Engineering Support Brach provided support services to the Operations Branch at the NCPCP in FY 2022. ESB staff:

- Participated in the Monthly Operations Leadership meeting to provide updates and coordination pertaining to regulatory compliance and environmental management.
- Participated in daily process meetings to provide support pertaining to treatment processes.

- Provided daily support in process monitoring, troubleshooting, and optimization to ensure efficient, effective, and compliant operations.
- Continued to develop, review, and maintain the treatment process setting sheets and operator log sheets.
- Prepared and maintained a monthly report for emergency generator usage as required by the minor New Source Review (mNSR) permit.
- Prepared and maintained a monthly report as required by the State Operating Permit.
- Coordinated the update of Standard Operating Procedures (SOP) on an as-needed basis.
- Provided administrative support pertaining to operator training and license examination.
- Coordinated voluntary power curtailment events and provided monthly report to CPower.
- Developed specifications and purchased equipment using the County procurement system as requested by the Operations Branch.

2.3.3 Operations Branch

The Operations Branch is responsible for the daily operation, monitoring, and control of the liquid process, solids processes, residuals disposal, and reclaimed water production at the NCPCP on a continuous (24/7) basis. Included in these responsibilities are sampling; process monitoring and control; record keeping and reporting; in-house operator training; reviews of engineering, planning, and design projects; treatment system project planning; and coordination with engineers on design, construction activities and start-ups.

In FY 2022, the NCPCP consistently produced a high-quality effluent that met the effluent discharge permit requirements as shown in the following paragraphs. There were no effluent discharge violations during this period. The NCPCP has received the Peak Performance award for the past 24 consecutive years. WTD continues to be a leader in protecting the Chesapeake Bay and considers maintaining this status an important initiative for FY 2023.

The list below provides a comparison of the permit limits and the actual monthly average discharge concentrations for key effluent discharge parameters in FY 2022. The text below presents monthly average discharge concentrations for key regulated parameters. The NCPCP operates an enhanced nutrient removal process that not only achieves the required nutrient removal load requirements, but also acts as a revenue source as excess nutrient credits are sold on the Virginia Nutrient Exchange.

1. Flow
    a. Discharge Limits = 67 mgd
    b. FY 2022 Annual Average = 37.93 mgd
2. 5-day Carbonaceous Biochemical Oxygen Demand (CBOD5)
    a. Discharge Limits = 5 mg/L
    b. FY 2022 Annual Average = <2.0 mg/L

3. Total Suspended Solids (TSS)
    a. Discharge Limits = 6 mg/L
    b. FY 2022 Annual Average = 0.83 mg/L
4. Total Phosphorus (TP)
    a. Discharge Limits = 0.18 mg/L
    b. FY 2022 Annual Average = 0.08 mg/L
5. Total Nitrogen (TN)
    a. Discharge Limits = 3 mg/L
    b. FY 2022 Annual Average = 2.42 mg/L
6. Summer (April – October) Ammonia-Nitrogen (NH3-N)
    a. Discharge Limits = 1 mg/L
    b. FY 2022 Annual Average = 0.16 mg/L
7. Winter (November – March) Ammonia-Nitrogen (NH3-N)
    a. Discharge Limits = 2.2 mg/L
    b. FY 2022 Annual Average = 0.19 mg/L
8. Dissolved Oxygen (DO)
    a. Discharge Limits = >6 mg/L
    b. FY 2022 Annual Average = 8.5 mg/L
9. pH
    a. Discharge Limits = 6.0 – 9.0
    b. FY 2022 Annual Average = 7.4
10. Escherichia Coliform – Monthly geometric mean
    a. Discharge Limits = 126/100 mL
    b. FY 2022 Annual Average = 1/100 mL

The NCPCP is authorized to produce and distribute up to 6.6 MGD of Level 1 Reclaimed Water, as regulated under 9VAC25-740, for industrial and irrigation purposes in Fairfax County. The operations

staff is responsible for monitoring all components of the treatment and distribution system and ensuring that reclaimed water achieves the minimum treatment standards listed below.

1. Flow
    a. Treatment Standard = 6.6 mgd
    b. FY 2022 Annual Average = 1.62 mgd
2. 5-day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)
    a. Discharge Limits = 8 mg/L
    b. FY 2022 Annual Average = <2.0 mg/L
3. pH
    a. Discharge Limits = 6.0 – 9.0
    b. FY 2022 Annual Average = 7.4
4. Turbidity
    a. Treatment Standard = 5 NTU
    b. FY 2022 Annual Average = 0.66 NTU
5. Total Nitrogen (TN)
    a. Treatment Standard = 8 mg/L
    b. FY 2022 Annual Average = 2.42mg/L
6. Total Phosphorus (TP)
    a. Treatment Standard = 1 mg/L
    b. FY 2022 Annual Average = 0.08 mg/L
7. Total Residual Chlorine (After minimum contact time of 30 minutes at average flow or 20 minutes at peak flow)
    a. Treatment Standard = 1 mg/L
    b. FY 2021 Annual Average = 1.2 mg/L
8. *Escherichia Coliform* – Monthly geometric mean
    a. Treatment Standard = 24/100 mL
    b. FY 2021 Annual Average = 1/100 mL

In FY 2022, Fairfax County produced 594 million gallons of reclaimed water for use at the Covanta Energy Facility, Lower Potomac Public Park, and the Laurel Hill Golf Club. The sale of reclaimed water is a source of revenue for the County. In FY 2022 the County collected $248,154.76 for reuse water.

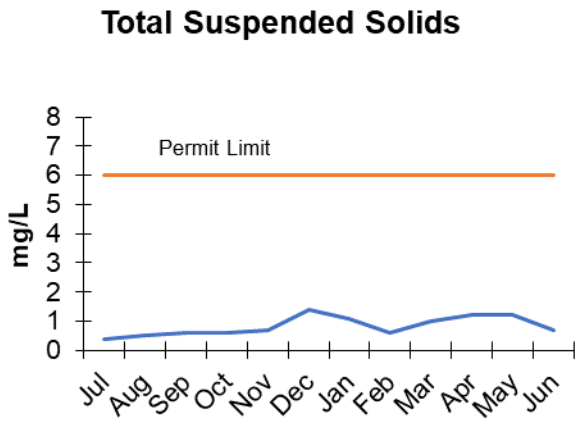


Figure 2-17: NCPCP FY 2022 TSS Effluent Quality

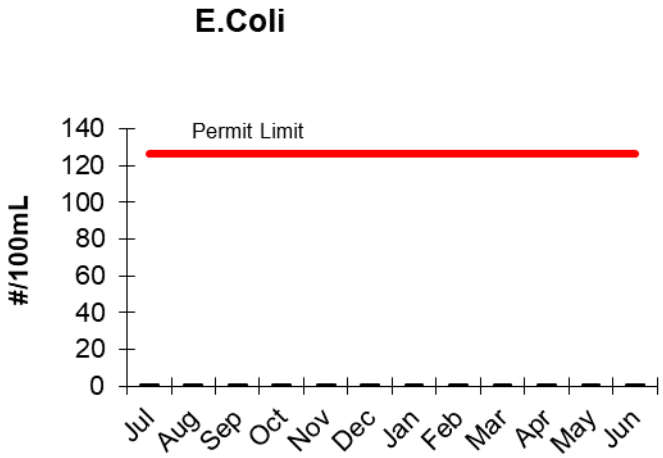


Figure 2-18: NCPCP FY 2022 E.coli Effluent Quality

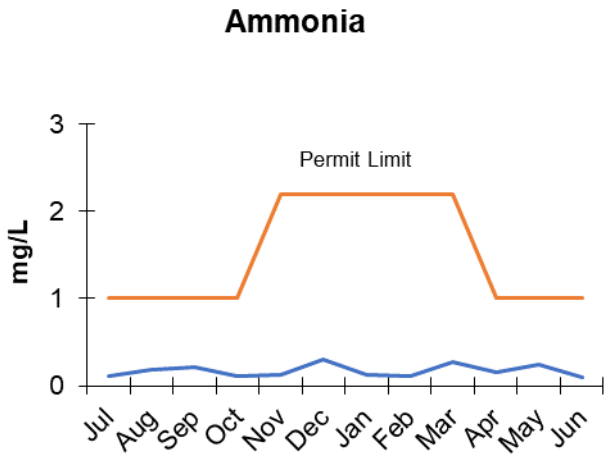


Figure 2-19: NCPCP FY 2022 Ammonia Effluent Quality

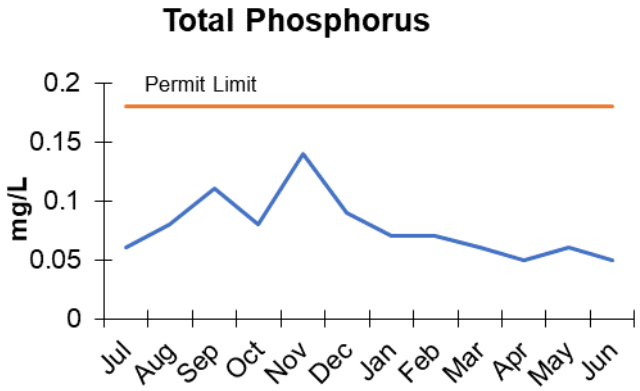


Figure 2-20: NCPCP FY 2022 Total Phosphorus Effluent Quality

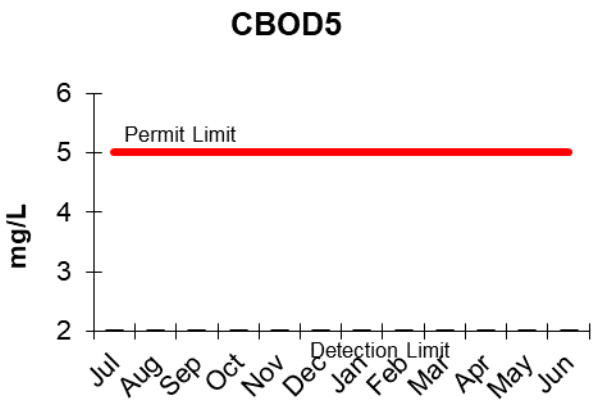


Figure 2-21: NCPCP FY 2022 CBOD5 Effluent Quality

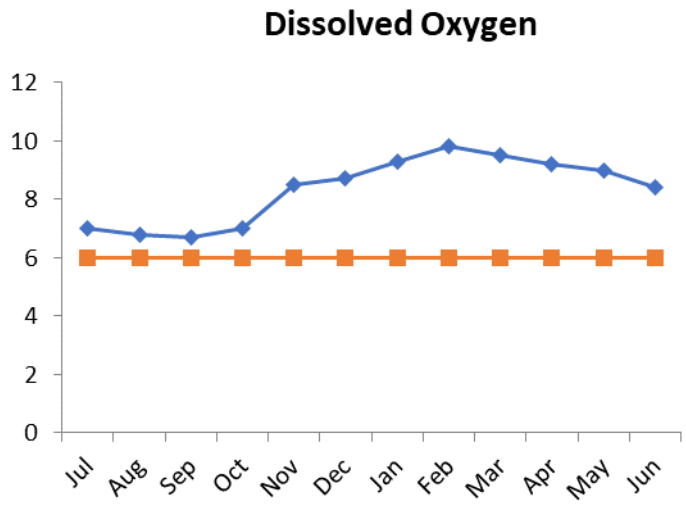


Figure 2-22: NCPCP FY 2022 Dissolved Oxygen Effluent Quality

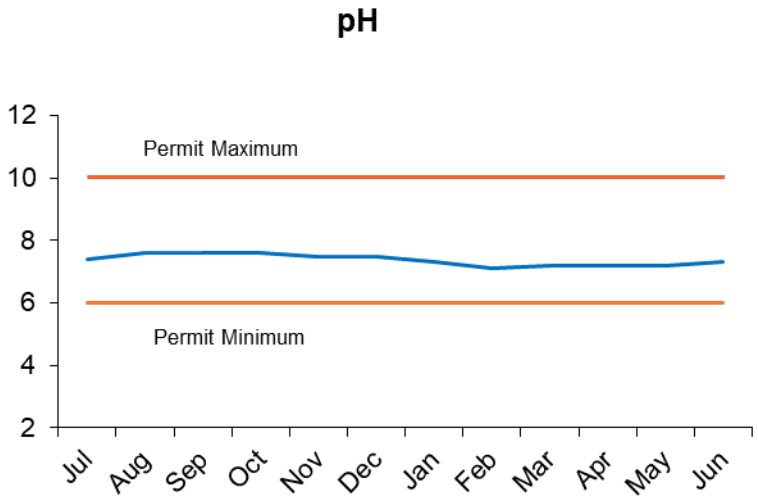


Figure 2-23: NCPCP FY 2022 pH Effluent Quality

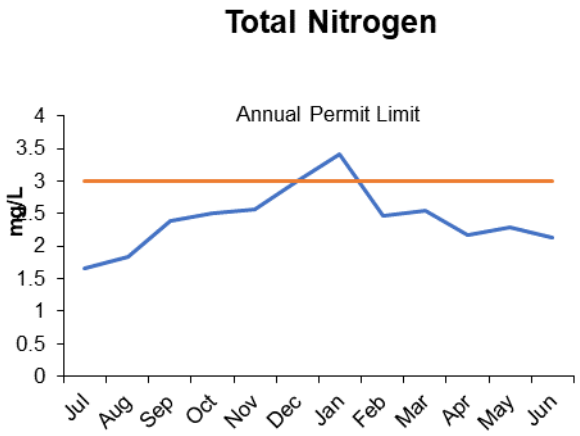


Figure 2-24: NCPCP FY 2022 Total Nitrogen Effluent Quality

2.3.4 Maintenance Branch

The Maintenance Branch at the NCPCP includes the Asset Management, Instrumentation, Electrical, HVAC, Mechanical, and Buildings and Grounds Sections. This Branch provides critical support through their preventive maintenance and corrective equipment repair/replacement, administrate, and construct in-house projects and asset management efforts to ensure NCPCP achieves a high level of reliability.

Highlights for projects completed in FY 2022 or planned for FY 2023 include the following:

- **HH1 Facility:** In FY 2023, maintenance staff will prepare the HH1 facility to be repurposed to the electric shop warehouse.
- **G Building- new upgraded oil system:** FY 2023, the maintenance branch will begin oil color coding for the WTD equipment and repurposing G building to host new oil Storage room. The branch has also started new Color Coding to improve the oil management and better serve the Plant equipment.
- **Laboratory Floor and Bathroom Upgrades:** Alongside the maintenance shop upgrades, the laboratory floor and bathrooms will be upgraded as well. This project is anticipated to go to bid near the end of 2022.
- **Secondary Rectangular Clarifier**: Replacement of the rotating mechanisms in Clarifiers 12-17 will be replaced in FY 2023. All expansion joints were replaced in FY 2021
- **ASE Pumping Station:** ASE Pump Nos. 4 and 5 will be repaired in FY 2023.
- **Roof Upgrades:** Roofs of RR, DD and B3 will be replaced in FY 2023
- **Odor Control Media Replacement:** The temporary odor control system located at R2 had its media replaced in FY 2023. Due to the small and temporary nature of the carbon odor control system at R2, the carbon media is replaced semi-annually.
- **Solids Handling Upgrades:** in FY 2021, maintenance staff replaced two cake pumps and the other two will be replaced in FY 2024. Rehabilitating the centrifuges on an annual basis, which will postpone $24 million in spending for seven years.
- **DD Blowers:** The plant is in the process of replacing the DD blowers. Expected delivery of the equipment is in FY 2024
- **Expansion Joints:** The Plant started a new program to upgrade and replace all expansion joints, starting with Secondary Clarifiers. Currently, replacing all expansion joints of ASTs and TC clarifiers in FY2023.
- **Tertiary Clarifiers:** Replaced TC2B and TC 3A mechanism in FY 2023 and expect to replace TC2A in FY 2024.
- **MBBR Invent Mixers:** Replaced 8 mixers with two new energy saving mixers in MBBR #2. This also includes new VFDs and new wiring for the new mixers.

2.3.5 Wastewater Treatment Division Facilities Inspection

Facilities at the plant include mechanical bar screens, sewage pumping, primary clarification, off-line flow equalization, activated sludge enhanced nutrient removal (ENR) treatment and settling, along with in-line flow equalization, secondary effluent pumping, post-anoxic denitrification through MBBR with methanol addition, chemical clarification, gravity filtration, filter effluent pumping, and UV disinfection. Primary and Waste Activated Sludge is thickened, dewatered, and incinerated onsite to produce dry ash;

and then hauled to and disposed of in a sanitary landfill. Screenings and grit are hauled to the Covanta Waste-to-Energy Facility. Pictures of the NCPCP work that was recently completed or will be in progress soon are provided in Figure 2-25 through Figure 2-30

Figure 2-25: HH2 Building UV Disinfection System

Figure 2-26: HH2 Building Electrical Room

Figure 2-27: Aerial Photo of UV Disinfection Project Completed Facilities

Figure 2-28: Temporary RSW line utilized to support Solids III Work

Figure 2-29: Centrifuges in K3 for replacement

Figure 2-30: Blowers in E2

2.4 Wastewater Planning and Monitoring Division

2.4.1 Overview of Division

The Wastewater Planning and Monitoring Division (WPMD) performs several technical and administrative functions for the Wastewater Management Program. These functions include:

- Review of system development and additional treatment capacity needs for both short- and long-term projections.
- Administration and management of the system's financial operations.
- Administration of contract capacity for the County's wastewater flows to inter-jurisdictional plants and other jurisdictions' flows to the County's plant.
- Evaluation of compliance for developer, Fairfax Water, VDOT, FCDOT, Stormwater, and extension and improvement plans.
- Provision of environmental laboratory support for the Wastewater Management Program and other County agencies.
- Management of the federal and state pretreatment requirements under the Clean Water Act and Virginia Water Control Act, and the County's Sanitary Sewers and Sewage Disposal Code (Chapter 67.1).
- Conduct of targeted outreach and education programs to engage and raise customer awareness and engender stakeholder support.

The Division includes three branches, the Engineering Analysis and Planning Branch, the Environmental Monitoring Branch, and the Financial Monitoring Branch, which are discussed in further detail in Sections 2.4.2, 2.4.3 and 2.5, respectively. There were 56 budgeted positions in the WPMD in FY 2023. All staff, except for Environmental Monitoring Branch personnel and warehouse personnel in the Financial Monitoring Branch, are located at the Fairfax County Government Center.

The Division, in coordination with WTD and WCD, supports asset management work for the entire Wastewater Management Program. The Asset Management Team (AMT) develops and implements a program-wide business process that supports the capital planning needs of the Wastewater Management Program. Based on the outlined methodologies of component assessment and criticality rating, the AMT identifies major infrastructure components within the Wastewater Management Program that require upgrades and develops an accurate repair and replacement budget.

2.4.2 Engineering Analysis and Planning Branch

The Engineering Analysis and Planning Branch is responsible for collection system planning, review and approval of sanitary sewer construction plans, wastewater connection fee assessment and collection, and evaluating rezoning and Comprehensive Plan changes to determine their impact relative to the capacity of

the sewer system, including the treatment plants. The Branch uses multiple hydraulic modeling tools including InfoSewer®, and Infoworks ICM a system-wide hydraulic model to evaluate the capacity of the system and plan for future use. The Engineering Analysis and Planning Branch reviews developer, Fairfax Water, VDOT, FCDOT, Stormwater construction plans, and the County's sanitary sewer extension and improvement plans to ensure compliance with the Fairfax County Public Facilities Manual, Board of Supervisors adopted sewer policy, and state regulations. As part of the plan review process, the Branch initiates and maintains the sanitary sewer reimbursement program, which provides an incentive to developers to install larger facilities to accommodate the ultimate buildout in the sewershed. Developers have shown an increased interest in aligning their project with the sanitary sewer reimbursement program.

In FY 2022 the Branch:

- Initiated workshops and Microsoft Teams meetings with subset of NVBIA/NAIOP members to increase transparency and improve process and procedures around sewer capacity analysis for new development.
- Increased hydraulic modeling and sewer capacity planning efforts to determine which areas required more in-depth analysis and monitoring. Results were communicated to internal wastewater stakeholders, including engineering staff as part of cross training, to eliminate information and expertise silos.
- Used system wide meter data to calibrate the all-pipes Infoworks Integrated Catchment Model (ICM) and inform sizing and timing of proposed CIP projects. Additional information about flow metering is discussed in further detail in Section 2.2.
- Continued quarterly meetings between WCD and WPMD to encourage knowledge transfer and maintain coordination.
- Completed sanitary sewer plan reviews, rezoning application reviews, and capacity reviews within allotted time including:
    - 5.60 miles of sanitary sewer approved.
    - 3.96 miles of sanitary sewer accepted.
    - 162 manholes accepted.
    - 269 plans reviewed.
    - 68 rezoning applications reviewed.
- Led review responsibility for FCDOT and VDOT plans that impact wastewater infrastructure including I-66 FAM, Route 1 RBT project, and 495 Next expansion.
- Acted as primary point of contact for public inquiries concerning sewer availability or issues regarding connections to sewer or installation of new facilities. The Branch often collaborates with other groups inside and outside of the Wastewater Management Program. In FY 2022 they continued to receive exceptional customer service feedback.

- Coordinated Plan Review and Sewer Acceptance with other County offices including the Site Development and Inspection Division, Site Application Center, Bonds and Agreement, Records Information Management, Building Division, Wastewater Permits, Wastewater Collection, Capital Facilities, and other jurisdictions.
- Continued to encourage diversification of knowledge base and inter-division networking to support career growth by conducting a field visit by WPMD staff.
- Continued staff training on InfoSewer® and Infoworks ICM and provided support to County's hydraulic modeling team.
- Continued to work with the Richmond Highway Embark (Route 1) project to ensure capacity and utility conflicts are addressed during design.
- Completed the Potomac Interceptor flow analysis study through MWCOG and started procurement work on a detailed follow-up analysis to focus on an identified hydraulic bottleneck downstream of Sully #1 PI connection.

In FY 2023, the Branch plans to:

- Refine all pipes hydraulic modeling tool in Infoworks ICM with latest asset information, flow data, and development changes.
- Further refinement of a planning level hydraulic modeling tool through small scale master plan efforts (i.e., Western Fairfax analysis) for the entire system to respond to interagency requests for information on wastewater capacity for existing customers.
- Hire a new Engineer III and Senior Engineer III position to enhance the level of service of the sewer capacity planning effort and to develop processes and procedures for the newly revised (12/6/2023) reimbursement program.
- Coordinate with WCD asset management and stormwater planning staff on stream restoration projects that impact wastewater infrastructure.
- Compile County-wide sewershed and sub-sewershed data for employment and population using COG 9.2 TAZ forecast.
- Revisit and revise PFM Chapter 10 flow factors to reflect average wastewater generation factors that have been reduced by water saving fixtures. Provide additional guidance on how to evaluate existing infrastructure capacity to determine if pipe upsizing improvements are required.
- As a follow-up to the MWCOG Potomac Interceptor flow analysis, place multiple meters within the Sully # 1 sewershed to determine locations of higher inflow and infiltration as a precursor to an official SSES study.
- CIP review for potential financial impacts on neighboring jurisdictions.
- Update County GIS Meter layer to include all historical temporary and updated current meter locations. Meter layer expanded from 90 locations to 350+ locations allowing County staff to be informed of all locations of available meter data. Coordination with WCD to ensure this layer continues to be updated as new meters are installed will continue.

2.4.3 Environmental Monitoring Branch

The Environmental Monitoring Branch operates a certified Virginia Environmental Laboratory Accreditation Program (VELAP) at the NCPCP. The Branch also administers Pretreatment Program requirements/regulations under the Federal Clean Water Act and the Virginia Water Control Act to regulate the use of the Fairfax County wastewater conveyance and treatment systems. The Branch also manages the Wastewater Management Program's Outreach and Education activities.

2.4.3.1 Environmental Monitoring Laboratory Section

The Environmental Monitoring Laboratory (EML) conducts routine and specialized analyses necessary to meet and demonstrate permit compliance and supports process optimization needs at the NCPCP. The EML performs analyses for other County agencies including the Stormwater Management Program, the Division of Vehicle Services, and the Solid Waste Management Program. Furthermore, the EML provides analytical support for the Stormwater Management Program's lake monitoring initiative.

In addition, the EML supports regional ecosystem monitoring and sampling for the Gunston Cove Monitoring Program and the Chesapeake Bay Split Sampling Program (CSSP). The Gunston Cove monitoring efforts are part of a long-term study being conducted in partnership with George Mason University (GMU) to evaluate the best management practices implemented to minimize nutrient loading to County streams and tributaries of the Chesapeake Bay. The CSSP is an inter-laboratory testing program that validates water quality data generated by Chesapeake Bay monitoring programs and involves preparation of identical surface water samples for subsequent analysis at participating state, federal and academic water quality laboratories.

In FY 2022, the EML conducted nearly 43,000 water quality analyses (not including quality control samples, which require 5 to 10 times more analyses) in support of the Wastewater Management Program and other County programs. The EML continued support of the WTD in monitoring the operation and performance of the NCPCP, including conducting analyses required under the VPDES permits for effluent and stormwater discharge as well as the Water Reuse Program. This includes analytical support of plant treatment process modifications, improvements, and pilot studies.

The EML maintained certifications for all approved analytical testing methods through the renewal process administered through the VELAP and is certified in methods covering 265 analytes.

In FY 2022, based on the FY 2016 comprehensive review and assessment of its Laboratory Information System (LIMS), EML continued the implementation of upgrades to the laboratory's parsers equipment and field-IT capabilities to support the EML and Industrial Waste Section. Laboratory upgrades for FY 2022 included the purchase of a new InMotion Autosampler and new TKN HotBlock as well as testing of version 10 of LIMS.

Staff development and quality assurance remains a program priority for the EML and are necessary to maintain the VELAP certification and enhance laboratory capacity, capability, and reliability. The EML staff continue to participate and advance in the Upward Mobility Program, which fosters growth and progression of those in Environmental Technologist positions. The EML demonstrates the organizational

commitment to continual learning and improvement by providing cross training in aspects of advanced analytical methods and quality assurance processes.

In FY 2022, one chemistry student from George Mason University (GMU) participated in the Laboratory Technologist Internship Program. This program is a partnership with GMU and is used to recruit environmental science and chemistry students as possible future Environmental Technologists. Student interns are paired with a laboratory technologist who provides on-the-job training in the collection and analysis of wastewater and stormwater samples. EML is exploring options to expand the Laboratory Technologist Internship Program to Howard University and other historically black colleges and universities in FY 2022 and beyond.

2.4.3.2 Industrial Waste Section (IWS)

The IWS administers the Pretreatment Program for Fairfax County to ensure compliance with regulations under the Federal Clean Water Act, the Virginia State Water Control Act, and the County's Sanitary Sewers and Sewage Disposal Code (Chapter 67.1). This program prevents introduction of pollutants from users that may interfere with or pass through the treatment process, contaminate sewage sludge, damage infrastructure, and/or create a hazardous environment for maintenance and operations personnel. This program also facilitates and ensures industrial user compliance with wastewater discharge permits and specific one-time discharge requests and authorizations. In addition, the IWS ensures that users receiving reclaimed water from NCPCP are in full compliance with Virginia's Water Reclamation and Reuse Regulations, including the requirements for public notification and education, and facility operation and maintenance.

The IWS assists WCD in assessment of surface water quality impacts of Sanitary Sewer Overflow (SSO) events and illicit discharges to and from the collection system. In FY 2022, the IWS responded to several of these incidents in the County. WCD uses this monitoring information to determine if/when a public advisory notice should be posted to limit recreational activities during affected periods. It should be noted that the number of SSOs in the County's system is one of the lowest nationwide.

During FY 2022, the Pretreatment Program maintained full compliance with all applicable pretreatment requirements and continued its enhanced monitoring of hauled septage waste delivered to the designated receiving facility at the NCPCP. The NCPCP Septage Receiving Facility primarily received waste from haulers who service residential and commercial septic tanks, landfills (leachate), and restaurant grease traps/interceptors. The majority of the septage collected in the northern part of the County is being disposed of at the Upper Occoquan Service Authority's Regional Water Reclamation Plant in Centreville and the Blue Plains Advanced Wastewater Treatment Plant in Washington D.C. Both facilities are closer geographically to northern Fairfax County than the NCPCP Septage Receiving Facility.

The regulatory oversight of septage disposal in FY 2022 included onsite inspections, review of hauler waste manifests, and sample collection/analysis from selected haulers. Hauled waste inspection results, and manifest and sample analysis results are being used to assess the source of waste generated and ensure compliance with County municipal codes and inter-municipal agreements. This data was used to develop hauled septage fees, which were implemented at the NCPCP in FY 2020. Due to higher organic

and nutrient content, receipt and treatment of septage incurs costs that must be recovered to ensure equitable cost sharing with sewer users.

The County conducted a proactive odor evaluation of the SRF in FY 2020 to ensure minimal nuisance to the surrounding community. To stay current with odor mitigation strategies, the County began design of the Accotink Odor Control Facility in FY 2021, and construction is anticipated to begin in late FY 2023 or early FY 2024 and complete in FY 2025.

The Pretreatment Program fosters and promotes critical partnerships that greatly assist in leveraging resources to ensure protection of water quality throughout the County. In FY 2022, they continued to partner with the Stormwater Planning Division (SWPD) to identify and control illicit wastewater discharges to the County's municipal stormwater collection/conveyance system. The Pretreatment Program worked with illicit dischargers to ensure proper connection to the sanitary sewer system. Another effort involved enhanced coordination with the County's Land Development Services (LDS) to both identify sources of industrial wastewater from new facilities through review of building plans and recommend appropriate pretreatment measures and systems to ensure conformance and compliance. The Pretreatment Program collaborates with LDS and SWPD to improve the process for review and approval of plans for new cooling tower construction to specify the options for discharge to the County's municipal separate storm sewer system (MS4) or connection to the County's sanitary sewer system. In addition, the Pretreatment Program partners with WCD, SWPD, and the County Health Department, to enhance the DPWES's fats, oils, and grease (FOG) control program. SOPs for food service establishment inspection, compliance assessment, and corrective actions continue to be updated to improve program efficiency. Implementation resulted in reduced FOG discharge from restaurants and other food service facilities.

In FY 2022, the Pretreatment Program continued to develop short- and long-term initiatives to enhance its capacity to ensure viability and protect the County's collections system and treatment assets. These initiatives included:

- Testing and development of a database application to streamline implementation and enhance efficiencies in program planning and administration.
- Developing a template for inspections for Significant Industrial User permits.
- Conducting a system-wide assessment and mitigation of unsafe levels of hydrogen sulfide in the County's sanitary sewers to better protect workers and minimize infrastructure deterioration.
- Implementing a strategy for compliance with the U.S. Environmental Protection Agency's Dental Amalgam Rule, which regulates the discharge of dental amalgam containing mercury and silver to publicly owned treatment works.
- Implementing a PCB pollution minimization approved by DEQ in December 2020.

2.5 Fiscal Control and Financial Planning Branch (Financial Monitoring Branch)

While the Financial Monitoring Branch is organized under WPMD, it is responsible for overall financial management and financial planning of the Wastewater Management Program and continually analyzes the financial position of the Wastewater Management Program to maintain competitive rates, high bond ratings, and meet financial targets. In conjunction with the County's Department of Finance, this Branch produces the Wastewater Management Program's ACFR for the Integrated Sewer System that satisfies both generally accepted accounting principles and applicable financial reporting requirements.

The Wastewater Management Program was awarded a Certificate of Achievement for Excellence in Financial Reporting by the Government Finances Officers Association of the United States and Canada (GFOA) for the FY 2021 ACFR. The Certificate of Achievement is the highest recognition available in government accounting and financial reporting, and its attainment represents a significant accomplishment by a government entity and its management. The Wastewater Management Program's ACFRs are judged by an impartial panel to meet the high standards of the GFOA's program, to include demonstrating a constructive "spirit of full disclosure" to clearly communicate its financial story and motivate potential users and user groups to read the ACFR. The FY 2022 ACFR was completed during FY 2023 and is currently under review.

The Wastewater Management Program continues to meet its strategic planning goals as they relate to the financial reporting process. The system issued $192.0 million Sewer Revenue Bonds (Series 2021 A) and $24.2 million of Sewer Revenue Refunding Bonds (Series 2021 B) in FY 2021. The County was rated "AAA" by Fitch, "AAA" by Moody's, and "AAA" by Standard and Poor's for these 2021 bond issuances.

These high credit ratings have enabled the County to sell bonds on behalf of the Wastewater Management Program at competitive interest rates. The Branch is responsible for issuing and managing debt to fund major expansion and upgrade projects for the NCPCP and its portion of Treatment by Contract facilities.

The Financial Monitoring Branch is responsible for managing seven separate enterprise funds that are the basis for funding the Wastewater Management Program. These include Sewer Revenue, Sewer Operation and Maintenance, Sewer Bond Parity Debt Service, Sewer Bond Debt Reserve, Sewer Bond Subordinate Debt Service, Sewer Construction Improvements, and Sewer Bond Construction. Details of the sewer funds are described in Section 4.1. To ensure that the Wastewater Management Program provides high performance operation and service quality, the Branch closely monitors the following areas:

- Sewer services charges ($/1,000 gallons).
- Sewer base charges ($/quarterly bill).
- Availability fees (one-time charge).
- Treatment costs ($/MGD treated).
- Number of sewer system overflows (5-year rolling average).

- Odor complaints per year.

The Financial Monitoring Branch is also responsible for the annual submission of the Five-Year Capital Improvement Program (CIP). To ensure system revenues are adequate to support all the financial activities within the Wastewater Management Program, a five-year financial forecast is developed annually with the assistance of a financial services consultant. A five-year rate schedule is developed annually using a financial model designed to track several financial measures to ensure the County's rates remain competitive, support the bond rating, and provide funds for all the financial activities of the Wastewater Management Program. Financial indicators projected for FY 2023 and FY 2024, based on the approved FY 2022 Budget, are presented in Table 2-2. In recent years, the Branch has recommended a phase-in approach to increase rates for both the service charge ($/1,000 gal) and the quarterly base charge. Details of the proposed 5-year rate increases are presented in Appendix B.

Table 2-2: Calculated Financial Indicators

Financial Indicator	Target	FY 2023	FY 2024
Net Revenue Margin	37.0% to 50.0%	51%	52%
Days Working Capital	150 to 200 days	210	209
Debt Coverage Senior	Min 2.00x	2.96x	2.92x
Debt Coverage All-in (without Availability Charges)	1.80x to 2.20x	1.89x	1.94x
Affordability (% of median income spent on sewer bill)	Less than 1.2%	0.6%	0.6%
Debt to Net Plant in Service	Below 40.0% Never above 50.0%	37%	39%
Outstanding Debt per Connection	Max $3,000	$2,035	$2,174

Next Sewer Bond Sale Expected in FY 2024 - $165 million

This Branch is also responsible for the warehouse inventory and supply management for the overall Wastewater Management Program. The Property Managers at WCD and WTD are responsible for warehouse inventory and supply management for their respective divisions. WPMD operates the third highest valued inventory warehouse in the County. The results of the latest Consumable Inventory Audit of the WCD Line Maintenance stockroom was conducted in May 2020 showed an inventory accuracy rate of 100% with a gross value adjustment rate of 0%. The latest results of the Consumable Inventory Audit of the WTD Lower Potomac stockroom conducted in May 2020 showed an inventory accuracy rate of 100% with a gross value adjustment rate of 0%. The values for WCD and WTD exceed the County's standards of 96% and 3% for Inventory Accuracy and Gross Value Adjustments, respectively.

Starting July 1, 2019, the County consolidated the financial operation personnel for the stormwater and wastewater groups. This consolidation took place to streamline the payment capabilities of the stormwater and wastewater groups, allowing for redundancy for both groups. However, the funding sources for stormwater and wastewater projects will remain strictly separated.

The County's Septage Receiving Facility (SRF) was constructed to receive and treat septage from local onsite sewage disposal systems in accordance with Section 15.2-2123 of the Code of Virginia. In addition, the SRF receives landfill leachate, portable toilet waste, restaurant grease, and recycled carwash water. Previously, hauled septage and wastewater were received and treated at no cost to pump and haul contractors to encourage proper disposal. This cost had been covered by the sewer charges paid by the customers of the County's public sewer system. In FY 2020 charges were implemented to maintain equity in the costs to homeowners with septic tank systems, food service establishments, and other users of hauled wastewater. Septic tank and restaurant grease wastes have higher strength than portable toilet and landfill leachate wastes. The charge for high strength waste is $27 per 1,000 gallons of the hauler's truck capacity, and for low strength waste is $7.72 per 1,000 gallons of hauler truck capacity. The proposed charges are based on the prevailing sewer service charge and will be modified as the sewer service charge is adjusted in the future.

Hazen met with the Financial Manager for the Wastewater Management Program on March 6, 2023 and communicated via email on FY 2022 results, current financial status for FY 2022, and future financial projections. The Wastewater Management Program appears to be in solid financial shape based on FY 2022 financial indicator metrics, and performance projections forecast a continuation of this trend.

2.6 Community Outreach and Education Program

While the Community Outreach and Education Program (Program) is organized under WPMD, it supports all three divisions of the Wastewater Management Program through development and implementation of education programs and targeted outreach that engage the community, raise customer awareness, and foster stakeholder support. These are key attributes of an effectively managed wastewater utility. The Program supports Fairfax County Public Schools with curriculum-based environmental and water quality labs, and other hands-on activities. Community outreach is focused on promoting environmental messages and changing customer actions using a variety of forums and tools, including local cable networks and radio stations, e-newsletters, Facebook, Twitter, and SlideShare. The Wastewater Management Program also supports one-on-one conversation between residents, government representatives, and stakeholders.

2.6.1 Classroom Programs for Students

The Program, through a partnership with the Fairfax County School system, has developed a science-based program with targeted curriculums for elementary, middle, and high school students. Elementary activities are focused on different properties of water and how those properties help us clean wastewater or protect our infrastructure. Hands-on water quality activities such as *Why is pH a Big Deal?, Fun with Filters, Density – the Sink or Swim Experiment, Microbes are Everywhere, Water & Oxygen*, and *Wastewater Enviroscape* are conducted in schools, childcare facilities, and libraries to educate young residents on the importance of keeping our water clean. The Wastewater Management Program also sponsors an annual "Water Quality Field Day" for elementary school students and is working on new activities that incorporate the engineering aspects of wastewater management. Two programs are offered at the middle and high school level. The Sewer Science Lab and the Science of Wastewater Lab were

designed to meet the Virginia Standards of Learning (SOL) and Science, Technology, Engineering, and Mathematics (STEM) initiatives. The Sewer Science Lab teaches students the basic concepts of wastewater treatment, brings hands-on applications to science labs, and encourages students to become good stewards of the environment and consider career opportunities in the water industry. The Science of Wastewater Lab is a customized lab that goes further in-depth into scientific concepts related to wastewater treatment and environmental issues about water quality and sustainability. Over the past 16 years, approximately 30,000 students have participated in a Sewer Science Lab with 2,186 participating in FY 2022. Additional middle schools were interested, but COVID protocols only allowed virtual options for this age group, which minimized their participation. During this time, the Program created a virtual plant tour of NCPCP and the virtual Science of Wastewater program. These initiatives allowed students to learn about wastewater when in-person demonstrations were not available.

The Program began another partnership/initiative with Marymount University to develop a new sixth grade elementary school program that addressed microplastic pollutants.

Photographs from recent student-based activities are shown in **Figure 2-31**.

Figure 2-31: Student-Based Activities at Fairfax County Schools

The Program engages and educates young people through support of science projects, NCPCP plant tours, and Boy/Girl Scout events. Fairfax County high school and middle school students with approved water quality science projects can apply to work with lab scientists in the Environmental Monitoring Lab to conduct analyses for science fair projects. Students participating in this program have won regional competitions.

The Program also provides plant tours of the NCPCP, during which high school students and adults in the community can experience the wastewater treatment process firsthand and learn the role it plays in environmental stewardship and public health protection. In FY 2022, seventeen tours were conducted with a total of 523 people attending. Tour groups were intentionally smaller to allow for social distancing while still providing tour opportunities to the community. The participants ranged in composition from school age to collegiate level students, county employees, and residents.

2.6.2 Internships

The Program supports staff recruitment for laboratory and hard-to-fill trade and labor positions by promoting three internship programs:

- **Laboratory Technologist Internship Program**: This program is a partnership with GMU that is used to recruit environmental science and chemistry students as possible future technologists. During this year-long program, student interns are paired with a laboratory technologist who provides on-the-job training in the analysis of wastewater and stormwater samples. Upon graduation, interns become eligible to apply for a full-time position. One student participated in this program in FY 2022. Additionally, the laboratory offers volunteer opportunities for high school students interested in the environmental sciences. Students can work with laboratory technologists throughout the summer to gain experience in an environmental laboratory.

- **Wastewater Plant Operator Internship Program**: This program is a partnership with Fairfax County High School Career Specialists to recruit recent graduates interested in pursuing a career in the trades and labor fields. Each paid intern is paired with an experienced operator for training over the course of six to ten months. Once trained, interns become eligible to apply for a full-time position. Fairfax County has hired five full-time employees through this internship program. The goal is to establish a formal program in which all high school graduates have the opportunity for a meaningful career with the County in positions that are critical to the Wastewater Management Program.

- **Operation Stream Shield Internship Program**: This program is a partnership between the Department of Public Works and Environmental Services (DPWES) and the Office to Prevent and End Homelessness (OPEH). Guests of the Eleanor U. Kennedy Community Shelter, Bailey's Crossroads Community Shelter, The Lamb Center, and Embry Rucker Shelter are provided part-time, temporary work experience. Operation Stream Shield helps the County meet its mandate to keep streams clean through the removal of litter and non-native invasive plant species, maintenance of the County's pedestrian trail system, assistance at NCPCP, I-66 Transfer Station, and the I-95 Landfill, and engagement in assigned special projects as they become available.

Participants earn a nominal stipend and develop workforce skills that allow them to compete in a diverse economy. In FY 2022, there were four participants in this program at NCPCP.

2.6.3 Community Involvement

Targeted community outreach and engagement efforts focus on increasing customer awareness and cultivating more informed and engaged stakeholders. The program educates customers about the work and services provided by the Wastewater Management Program and the important role these efforts play in maintaining sustainable water quality for the County and the region. Activities are designed to educate the public on how wastewater treatment at the NCPCP works and the challenges the County faces when encountering improper disposal of items such as "flushable wipes", medications, and FOG. During these events, County staff provides users with materials on how to ensure the County's sewer systems remain in optimal working condition. This allows residents to become more involved in services that affect them by asking questions, gathering information, and offering suggestions. In FY 2022, the Program participated in the following community events: Mason Neck Park Earth Day event, Fairfax County Board of Supervisor's Environmental Expo, and Clifton Day Festival. The intended outcome of these events is to maintain a high level of customer satisfaction and receive customer feedback. The Program also participated in the Drug Enforcement Administration's (DEA) semiannual take back day at the Mount Vernon District Police Station and Reston Police Station when residents could safely dispose of unused and expired medication. Participation in this event promotes proper storage and disposal of medications and shows the County's commitment to helping protect human health and the environment. Figure 2-32 and Figure 2-33 illustrate examples of community involvement.

Figure 2-32 :Community Involvement

Figure 2-33: Community Awareness booth setup

2.6.4 Public Messaging

Public messaging is a critical component of community engagement and education. The Program focuses on three key areas: promoting proper disposal of discarded medication, proper disposal of FOG and proper disposal of wipes. Proper disposal of discarded medications is promoted through drug take back programs and proper disposal of medication in the trash. Minimizing the discharge of FOG and wipes into the County's wastewater collection system through education on how they cause sewer backups and addressing proper disposal of FOG and wipes in the trash. A subcommittee member of the Fairfax County Opioid and Substance Abuse (OSA) Task Force helps align the message with the Virginia Governor's Task Force on Prescription Drug and Heroin Abuse Implementation Plan. The Fairfax County OSA Task Force Drug Disposal subcommittee consists of representatives from multiple County agencies, including the Wastewater Management Program. Subcommittee initiatives include creating an updated map of permanent dropboxes located in Fairfax County for residents to dispose of medications properly and conveniently.

In FY 2022, messaging and outreach efforts continued to include proper disposal of wipes and FOG in the trash to prevent sewer backups, protect the infrastructure, and highlight wastewater management workers through multiple media outlets. The video series, *Flushed! The Journey of Wastewater*, continued to highlight different teams throughout wastewater management. An EnviroPod focused on proper disposal of FOG by food service establishments was conducted and a FOG mailer in English and Spanish was created to inform residents how to avoid backups and overflows caused by FOG.

In FY 2022, public messaging continued to include webinar presentations that promoted the Wastewater Management program, highlighted environmental stewardship efforts, and continued educating attendees on proper disposal of FOG, wipes, and medication. The Program participated as a guest For the Fairfax County libraries in their *Environment and Me* presentation series.

Other local and regional outreach consisted of public service announcements, radio ads in multiple languages, emailers, and social media posts distributed throughout the County. Figure 2-34illustrates an

example from a FOG Prevention campaign that used FOG mailers. Figure 2-35 showcases an example from a Medication Takeback campaign.

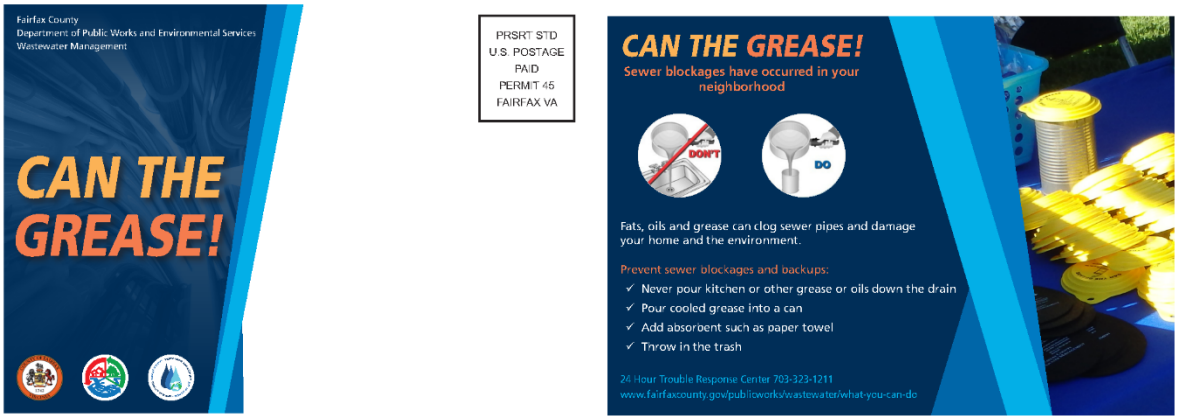


Figure 2-34: FOG Prevention Mailer

Figure 2-35: Medication Take Back Mailer

2.7 Information Technology Services Branch

While the Information Technology Services Branch (IT Branch) is organized under WTD, it provides critical system support to all three divisions of the Wastewater Management Program. The IT Branch supports Wastewater Management Program employee needs related to computers and information systems, including training, software, and hardware deployment.

The IT Branch has continued to improve and remain a high-performance branch by providing quality, reliable, available, and secure information technology systems, and resources in support of the mission and strategic objectives of the Wastewater Management Program, and in compliance with the DPWES and County information technology polices. IT staff within each Division work together under the same leadership to manage and support IT infrastructure and automation systems for the entire Wastewater Management Program including following major systems:

- SCADA.
- Network infrastructure for the NCPCP, 63 wastewater pumping stations, three pump and haul facilities, two stormwater pumping stations, one stormwater flood control facility, and one water reuse pumping station.
- Enterprise Asset Management System (InforEAM ASE V11.4 Build).
- Enterprise Asset Management System (Mobile System).
- Laboratory Information Management System (SampleMaster V9).
- WebDAS2K by Trace Environmental Systems.
- InfoWorks ICM - Sewer Edition.
- InfoWorks ICM Viewer.
- Plant Operation eLogbook Web application.
- Wastewater Management Program IT Request Online Web application.
- Automated Ticket Management System (TelDig Utility) for Miss Utility.
- Online Operation and Maintenance Document Library.
- Online Requisition System.
- Wastewater Collection CCTV Inspection WinCan VX system.
- EnviroSim BioWin 6.0 to simulate operations in wastewater treatment plants.
- FactoryTalk® EnergyMetrix 2.30, web-enabled energy management software package.

- Instrumentation Flow Metering Software Qstart 1.7.
- Unity Pro, IEC Programming Software for Modicon PACs.

The Wastewater Management IT infrastructure is composed of three local area networks (LANs), one for each division, located at the Robert P. McMath Facility (WCD), NCPCP (WTD) and the Fairfax County Government Center (WPMD), respectively. These networks are part of the Fairfax County Government Enterprise System. The County currently has a total of 63 pumping stations connected to the LANs at the Robert P. McMath Facility and NCPCP through Cox Metro Ethernet service.

The SCADA systems at the NCPCP and the Robert P. McMath Facility are protected by an internal security firewall, and all systems and hardware have a private IP address that provides network security protection and mitigates the security risks inherent to the use of the SCADA system. The County has consolidated all SCADA maintenance agreements into one contract. This provides SCADA redundancy in a virtualized environment for wastewater collection and treatment processes, reducing SCADA downtime and addressing some SCADA disaster recovery needs.

In FY 2022 the IT Branch:

- Completed the setup of the Continuation of Operations (COOP) Planning site configuration between NCPCP and Robert P. McMath facility. The redundancy has passed the testing by NCPCP operators.
- Worked with the ESB on a variety of plant construction projects to deploy and establish new single mode fiber optic network communications to gradually replace the multi-mode fiber optic network communications.
- Completed the InforEAM application upgrade to 11.6.
- Completed Oracle DB upgrade from 12c to 19c.
- Implemented a customized calibration interface in InforEAM application for the NCPCP maintenance staff. Setup the mobile interface on iPad for the EAM Transit IOS application.
- Completed the development of laboratory chemical inventory and usage tracking system for the EML. Lab analysts are testing the application in FY 2023.
- Worked with automation engineers to update SCADA development/production databases, which include BOA and new projects throughout the NCPCP.
- Provided support to SCADA consultants and contractors at the NCPCP and WCD pumping stations with the InforEAM integration project.

- Maintained Wastewater Management IT infrastructure with the latest Microsoft security and patch updates and personal computer replacement program.

- Worked with department of information technology (DIT) to deploy the iPACS System in the development and production environment for Wastewater Industry Waste Pretreatment session. The iPACS system is the centralized wastewater pretreatment and treatment business management application that helps the daily work process of environmental inspectors, and administrative personnel. The iPACS system enables the IWS inspectors to focus resources on the regulatory compliance and create enforcement and then associate a violation through the computerized system.

- Completed the NCPCP security camera system enhancement project in areas such as the rear gate, outfall, and UV disinfection project.

- Participated in establishing new procedures and process and monitoring tools that will potentially reduce energy use by 10% by 2029. This aligns with the NCPCP energy reduction plan.

- Worked with automation engineers to update SCADA development/production databases, which include basic ordering agreements and new projects throughout NCPCP, such as MCC/DC improvements and the UV Disinfection project.

- Reviewed facility modernization proposals related to SCADA network infrastructure, phone, cable, etc. including Primary & Secondary rehab, Accotink Odor Control, Solids 3, truck Scale, B3 & B4, None-Processing facility renovation, and plant wide process camera system.

- Provided support to SCADA consultants and contractors at the NCPCP and WCD pumping stations. In FY 2022 a total of 505 SCADA system configuration change requests have been completed, including iFIX database modifications, iHistorian database modifications, IGS drive configurations, and SCADA network switch configurations.

- In FY 2022, 361 new assets have been added with PMs for new plant assets from multiple projects including MCC/DC and UV Disinfection.

- Three SCADA support staff members have completed the InfoSec Certificate on Certified SCADA Security Architect (CSSA) training.

- Maintained Wastewater Management IT infrastructure with the latest Microsoft security and patch updates.

- Provided effective computer and user support for the entire Wastewater Management Program business area. Upgraded all WWM computers to Windows 10 OS 21H2 Build.

In FY 2023, the IT Branch will:

- Continue implementing secure measures to prevent cyber-attacks and provide local operational control to ensure continuous operation.
- Continue the effort to upgrade Wastewater SCADA system iFix5.9 to version 2022, iHistorian 2022 on Windows 2022 server OS.
- Continue working with ESB and WDCD engineers to complete and make the E2 server into the redundant server room for A2 data center.
- Continue working with the ESB on a variety of plant construction projects to deploy and establish new single mode fiber optic network communications to gradually replace the multi-mode fiber optic network communications.
- Continue working with DIT and ESB on plant radio and PA system upgrade.
- Continue working with ESB on NCPCP copper line and fiber optic communication system engineering drawing project.
- Working with ESB on NCPCP security camera system enhancement in areas of K1 and K2 solids projects.
- Working with Siemens HVAC vendor, DIT, QCI and plant HVAC team to upgrade and secure the LAB HVAC network infrastructure.
- Continue developing and improving Power BI capabilities and implementation to support effective information management reporting.
- Continue implementing the customized calibration interface in InforEAM application for the NCPCP maintenance staff.
- Continue enhancing the laboratory chemical inventory and usage tracking system for the EML.
- Replace and upgrade all Windows 2012 OS servers to Windows 2022 OS in two WWM data centers.
- Progress in-house project to design Energy Metrix web application for plant power monitors.
- Work with automation engineers to update SCADA development/production databases, which include BOA and new projects throughout the NCPCP.

- Finalize the publishing of the iPACS public web application for Wastewater Industry Waste Pretreatment session.

- Provide support to SCADA consultant/contractors at the NCPCP and WCD pumping stations.

- Maintain Wastewater Management IT infrastructure with the latest Microsoft security and patch updates and personal computer replacement program.

2.8 Human Resources/Organizational Development/Safety Section

The Human Resources Section of WCD serves as a centralized HR service for all WWM for recruitment, payroll processing, employee relations matter, workforce planning and general HR management functions. The Human Resources team coordinates with both DPWES HR and County HR to make sure WWM is operating in accordance with County and DPWES policies and guidelines.

2.8.1 WCD HR/OD/Safety Section

WCD continued with its admirable safety record in FY 2022. Compared with FY 2021, improvements were seen in the 'Days Away From Work' and "Job Transfer or Restriction' categories (OSHA Form 300).

Safety training is a continual element within the SEM program no matter the particular fiscal year. What added to the difficulty in conducting training during this period was the presence of the coronavirus/COVID 19 in the community at large. In person individual and group training sessions were greatly curtailed. However, in person mandatory trainings, such as the Virginia Department of Transportation work zone trainings, were still held on occasion. But all participants had to meet the stringent personal protective equipment (PPE) requirements in place at the time.

FY 2022 also added greatly to the demands of the SEM section in meeting the inventory levels (PPE and related sanitation products) needed to support WCD operations while under the auspices of the Virginia Occupational Safety and Health Administration temporary COVID 19 standard. Hand sanitizer, plastic barrier shields, disinfectant sprays and face masks (cloth and KN95 masks, for example) were in great demand and short supply. The SEM section was supported greatly by the efforts of its in-house warehouse staff and the single point ordering system set up by the department (Department of Public Works and Environmental Services).

DriveCam (cameras in division vehicles monitoring individual driving behaviors) results continue to be encouraging in that the WCD seems to be experiencing a reduction in vehicle related accidents and losses. Hand held cell phone use continues to be monitored and addressed, as needed.

2.8.2 WTD HR/OD/Safety Section

In FY 2022, WTD performed approximately 305,760 hours of regular time and 7,304 overtime/compensatory leave (24/7/365) hours of work.

NCPCP experienced no damage incidents, three minor recordable injures, three lost time injuries, and 23 COVID-19 OSHA reportable cases.

The Hearing Conservation Program was expanded plant wide, requiring all departments to participate in audiogram baseline testing and training, the installment of administrative controls (signage) and hearing conservation stations, and provision of hearing protection (ear plugs/muffs) at the entrance to each high noise area, continues with new construction.

The WTD Process Safety Management (PSM) program conformed to Methanol Institute recommendations for Technical Rescue Operational Training (TROT) for the B3 rehabilitation project, BB pumpstation upgrades, and annual methanol training. WTD Safety held a safety training day, partnering with contractors, to inform plant personnel, and contractors of new hazards to be introduced to the plant in 2023. New hazards awareness focused on commissioning a new liquified petroleum transfer station and bulk storage area for building K1 and K2 incinerator back-up fuel supplies.

WTD Safety Office trained new hires orientating to the plant, focusing on emergency actions, evacuations, shelter in place, and emergency communications. Training activities included conformance to 29CFR 1910 Industrial Operations. Process Safety Management for covered and voluntarily covered process was accomplished in accordance with 29 CFR 1910.119. Respiratory Program, trained personnel in the use, care, and maintenance of Powered Air Purifying Respirators (PAPR), replacing N95 respirators, which were unavailable during the pandemic.

WTD Safety participated in design and review of the new B4 pump station, Accotink Odor Control Facility, and B3 odor control unit, and new facility entrance planning.

2.9 DPWES GIS Services Team

The GIS Services team serves the entire DPWES department and directly supports the Wastewater Management Program's GIS operations and initiatives. This includes a diverse set of tasks such as completing operational service requests for physical asset data and records capture, updates, analysis, and data modeling, training, database management, application development and integration, and recommendation of GIS software and products. The GIS Services team maintains approximately 100 GIS enterprise geodatabase layers and records, and approximately 30 GIS applications.

GIS Services team initiatives completed in FY 2022 include:

- Completion of fourth year of a five-year department-wide strategic GIS road map.
- Developed as-built plan intake process and GIS application to better manage getting asset information into GIS.

- Developed as-built submission standards for contractors to the County.
- Supported migration from Oracle to MS SQL Server and upgrade to ArcGIS Enterprise 10.9.
- Integrated flowmeter locations and the resultant flow data into GIS.
- Matured the GIS governance framework and user training program.
- Tested the migration to ArcGIS Pro from ArcMap.

In FY 2023, the GIS Services team plans to continue moving users to new desktop technology and push forward with the transition to web GIS. Expected initiatives are to:

- Complete the five-year department-wide strategic GIS road map.
- Continue to support the implementation of the Cityworks (work order management) and CPMiS (CIP construction project management) by providing GIS web services and back-end data management.
- Develop an office GIS viewer with tools, layers, and focus on department workflows and needs.
- Develop a plan to migrate ArcMap users to ArcGIS Pro and / or web GIS.
- Develop a wastewater management GIS data access application and process for the design community either working for or in the County.
- Develop a GIS Technical User Forum for County GIS users to learn and collaborate with other GIS practitioners.
- Develop a county-wide authoritative GIS data policy and publishing / consumption model.
- Complete thousands of GIS data corrections as part of the Wastewater Utility Management Plan.

2.10 Wastewater Flows and Treatment Capacity

A significant portion of the wastewater generated in Fairfax County is treated by surrounding jurisdictions, and the County, in turn, treats flows from several other jurisdictions at the NCPCP. These arrangements are administered through inter-jurisdictional agreements and are designed to maximize the benefit of the wastewater treatment dollar for the County and the region. The County has agreements to convey its wastewater to the following facilities for treatment:

- DC Water's Blue Plains Advanced Wastewater Treatment Plant (AWTP) (Washington, DC).
- Alexandria Renew Enterprises' Water Resources Recovery Facility (AlexRenew WRRF) (Alexandria, VA).
- Arlington County Water Pollution Control Plant (WPCP) (Arlington, VA).

- Upper Occoquan Service Authority (UOSA) Millard H. Robbins, Jr. Water Reclamation Plant (RWRP), (Centreville, VA).
- Prince William County Service Authority (PWCSA) Advanced Water Reclamation Facility (AWRF) (Prince William County, VA).
- Harbor View Wastewater Treatment Plant (WTP) (Fairfax County, VA).
- Loudoun Water Broad Run Water Reclamation Facility (WRF) (Loudoun County, VA).

The County also has agreements to treat flows at the NCPCP from the following entities:

- Fairfax City.
- Fort Belvoir.
- Town of Herndon.
- Arlington County.
- City of Falls Church.
- Town of Vienna.
- Fairfax County Water Authority.
- Covanta/ERR Facility.
- Loudoun Water.

2.10.1 Treatment Capacity Status and Sufficiency

The following paragraphs describe the capacity status and sufficiency of each of the treatment plants that receive County flows.

Fairfax County - Noman M. Cole, Jr. Pollution Control Plant

NCPCP serves the Accotink, Pohick, Long Branch, Little Hunting and Dogue Creek drainage basins. In addition to flows originating within the County, the plant also treats sewage from the City of Fairfax, Fort Belvoir, and part of the Town of Vienna. The NCPCP was put into service in 1970 with an initial design capacity of 18 MGD, which was subsequently increased to a rating of 36 MGD of advanced treatment in 1978, and 54 MGD in 1995. To meet the anticipated needs for sanitary sewage service in sewersheds that contribute to the NCPCP, as well as meet new water quality standards for nitrogen control, expansion of the plant to 67 MGD was initiated in 1992. Construction began in 1997 and was completed in 2005. Since then, construction has been completed to meet additional enhanced nutrient removal requirements. A phased approach is underway to renovate and upgrade current facilities to maintain current operations, as well as expand the current facility to 80 MGD in the future. The NCPCP is currently capable of handling anticipated flows from its contributory sheds through 2040.

Alexandria Renew Enterprises - Water Resources Recovery Facility

The Cameron Run and Belle Haven sewersheds and the City of Falls Church, while included in the Fairfax County sewershed, are treated by the AlexRenew WRRF. The AlexRenew WRRF has been expanded and upgraded to provide 54 MGD of advanced treatment capacity. Fairfax County is allotted 32.4 MGD (60%) of this capacity, although this is anticipated to increase to 33.4 MGD in 2024.

By activating the Braddock Road and Keene Mill Road pumping stations, the County has the capability to divert flow from the Accotink sewershed to the AlexRenew WRRF. These diversions increase operational flexibility in the entire eastern portion of the County by providing the option of off-loading a portion of the flows that would otherwise go to the NCPCP and Blue Plains AWTP to the AlexRenew WRRF. The County's existing capacity at the AlexRenew WRRF is capable of handling anticipated flows from its contributory sewersheds through 2040.

Arlington County - Water Pollution Control Plant

The Arlington County WPCP serves the portion of Fairfax County within the Four Mile Run sewershed. The plant has been expanded and upgraded to 40 MGD of advanced treatment capacity including nitrogen removal. The construction of the 40 MGD upgrade and nitrogen removal project was completed in 2013. The County's existing contractual capacity at the Arlington plant is 3.0 MGD, which is sufficient for anticipated flows from its contributory sewersheds through 2040.

DC Water - Blue Plains Advanced Wastewater Treatment Plant

With a current average daily flow capacity of 370 MGD, the DC Water AWTP is the largest plant in the DC Metro area. In addition to DC, it treats flows from Maryland, Virginia, and several federal installations. Wastewater flows originating in the Sugarland Run, Horsepen Creek, Scotts Run, Dead Run, Turkey Run, and Pimmit Run sewersheds are treated at the Blue Plains AWTP. Fairfax County is presently allocated 31 MGD at the plant, although this is expected to increase to 32 MGD in 2024. Blue Plains AWTP completed major renovations and improvements to the nitrogen removal processes, chemical feed and sludge disposal systems. The County's flows to Blue Plains AWTP are continually monitored to determine if additional capacity is required at Blue Plains AWTP or Loudoun Water.

Upper Occoquan Service Authority – Millard H. Robbins, Jr. Regional Water Reclamation Plant

The southwestern part of Fairfax County is served by a regional plant owned and operated by UOSA. When the UOSA plant expanded to 54 MGD, the County's flow allocation was increased to 27.6 MGD. Since that time, 5.5 MGD of this share has been sold to Prince William County and the City of Manassas, leaving the County with an allocation of 22.1 MGD. The County's current share in the UOSA plant is sufficient for anticipated flows from its contributory sewersheds through 2040.

Prince William County Service Authority – H.L. Mooney Advanced Water Reclamation Facility (AWRF)

The southernmost section of Fairfax County is served by the H.L. Mooney AWRF, which is owned and operated by the PWCSA. Fairfax County is presently allocated 0.1 MGD at the H.L. Mooney AWRF.

Colchester Utility, Inc. - Harbor View Wastewater Treatment Plant

The Harbor View WTP, owned by Colchester Utility Inc., treats flows from Harbor View, a small community in the southeastern part of the County. Fairfax County is presently allocated 0.08 MGD at the plant.

Loudoun Water – Broad Run Water Reclamation Facility

The northern portion of Fairfax County is currently served by the Blue Plains AWTP and the NCPCP. To provide additional capacity for the northern service area of Fairfax County, the County has purchased 1.0 MGD of capacity from Loudoun Water. As noted previously, flows to the Blue Plains AWTP are continually monitored to determine if additional capacity should be purchased from Loudoun Water. Currently the County is not using the Loudoun Water capacity, but the use of the capacity is anticipated in the future as the County's flows approach its allocation at Blue Plains AWTP.

2.10.2 Flow and Capacity Summary

Table 2-3summarizes the total wastewater treatment capacity available to Fairfax County, along with the historical and estimated future wastewater flow rates at the NCPCP and at each of the other facilities that treat wastewater from Fairfax County. The County provides service to several wholesale customers, referred to as "Sales of Service." The treatment capacity available to the County is sufficient to meet expected demands during the forecast period.

Table 2-3: Capacity and Flow Rates of the Wastewater Management Program, FY 2021 – FY 2025

County-Owned Treatment Plant Capacity

	FY 2021 Actual (MGD)	FY 2022 Actual (MGD)	FY 2023 Projected (MGD)	FY 2024 Projected (MGD)	FY 2025 Projected (MGD)
NCPCP	67.00	67.00	67.00	67.00	67.00

Inter-Jurisdictional Treatment Plants Contractual Capacity

	FY 2021 Actual (MGD)	FY 2022 Actual (MGD)	FY 2023 Projected (MGD)	FY 2024 Projected (MGD)	FY 2025 Projected (MGD)
AlexRenew WRRF	32.40	32.40	32.40	32.40	32.40
DC Water Blue Plains AWTP	31.00	31.00	31.00	31.00	31.00
Arlington WPCP	3.00	3.00	3.00	3.00	3.00
UOSA RWRP	22.10	22.10	22.10	22.10	22.10
Harbor View WTP	0.08	0.08	0.08	0.08	0.08
PWCSA AWRF	0.10	0.10	0.10	0.10	0.10
Loudoun Water Broad Run WRF	1.00	1.00	1.00	1.00	1.00
Total Inter-Jurisdictional Capacity	*89.68*	*89.68*	*89.68*	*91.68*	*91.68*
Total Capacity Available	**156.68**	**156.68**	**156.68**	**156.68**	**156.68**

Actual and Projected Flow Rates of the Wastewater Management Program

	FY 2021 Actual (MGD)	FY 2022 Actual (MGD)	FY 2023 Projected (MGD)	FY 2024 Projected (MGD)	FY 2025 Projected (MGD)
NCPCP	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
County	31.77	34.17	34.37	34.58	34.79
Sales of Service	4.40	4.39	4.45	4.47	4.49
Pump-over from Little Hunting Creek	0.91	0.00	0.91	0.91	0.91
Difficult Run Pumpdown	0.00	0.00	0.00	0.00	0.00
Pump-over to AlexRenew WRRF	0.00	0.01	0.02	0.02	0.02
Total to NCPCP	37.08	38.55	39.71	39.94	40.17
AlexRenew WRRF	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
County	15.13	16.34	16.46	16.57	16.69
Sales of Service	1.05	1.00	1.02	1.05	1.07
Pump-over from Accotink	0.00	0.01	0.02	0.02	0.02
Total to AlexRenew WRRF	16.18	17.35	17.50	17.64	17.78
DC Water Blue Plains AWTP	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
County	23.22	23.80	24.22	24.66	25.10
Sales of Service	4.31	3.90	3.96	4.03	4.09
Difficult Run Pumpdown	0.00	0.00	0.00	0.00	0.00
Total to DC Water Blue Plains AWTP	27.53	27.70	28.19	28.68	29.19
UOSA RWRP	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
County	12.43	12.30	12.37	12.45	12.52
Sales of Service	0.13	0.14	0.14	0.14	0.14
Total to UOSA RWRP	12.56	12.44	12.51	12.59	12.66
Arlington WPCP	2.18	2.17	2.18	2.19	2.20
Loudoun Water Broad Run WRF	0.00	0.00	0.00	0.00	0.00
Other (PWCSA AWRF and Harbor View WTP)	0.04	0.05	0.04	0.04	0.04
Total System Flow	95.57	98.26	100.13	101.08	102.04
Available Capacity for Growth	61.11	58.42	56.55	56.60	55.64

Collectively, each Division contributes to the overall success and operational excellence achieved by the Wastewater Management Program. The Wastewater Management Program's accomplishments are recognized at the national, regional, and agency-wide levels through awards, accreditations, and ratings.

3. Operational Excellence

Operational excellence is also demonstrated through measurable improvements in surface water quality and aquatic habitats in the County, and increased level of public awareness. WTD, WCD, and WPMD work together to maintain a safe and healthy environment for County residents and promote environmental stewardship within the County.

3.1 Recognitions

In FY 2022 the Wastewater Management Program maintained an excellent operating record. In 2016, the program was one of the inaugural utilities that received recognition as a Wastewater Utility of the Future by NACWA and WEF. This recognition is based on an organizational culture and achievements that support more efficient operations, enhanced productivity, and long-term sustainability. The NCPCP has consistently met all discharge compliance requirements mandated under the VPDES, and WTD received a NACWA Peak Performance Award for the 36th consecutive year.

WCD's comprehensive maintenance and lining program continues to serve the rate payers, and the County outperforms the industry standard of 4.3 backups/overflows per 100 miles. In FY 2022, the County documented 1.32 sewer backups/overflows per 100 miles of pipe.

The Virginia Department of Environmental Quality also recognized the Wastewater Management Program's commitment to superior environmental performance and environmental leadership in FY 2022 by maintaining the Wastewater Management Program's E4 status.

The Environmental Monitoring Branch supports both WCD and WTD by maintaining certifications under the VELAP.

The Program continues its efforts in fiscal accountability as demonstrated by the Certificate of Achievement for Excellence in Financial Reporting awarded by the Government Finance Officers Association for the FY 2021 ACFR. FY 2022 ACFR is currently under review. The program has received this certificate for 17 consecutive years. Sewer System issued $192.0 million of Sewer Revenue Bonds and refunded $24.2 million of the outstanding Series 2012 Bonds in FY 2021, allowing the AAA Bond Ratings from Fitch, Standard & Poor's (S&P), and Moody's issued in FY 2021 to be maintained by the Wastewater Management Program. The Program's rigorous financial planning has resulted in average household sewer bills that are below the regional average and a debt coverage ratio well above the industry average.

In FY 2022, the Wastewater Management Program's WTD and WCD warehouses maintained a 100% accuracy rating for the Accountable Equipment Site Visit conducted between March and May 2023. Staff

have been trained to report any movement of accountable equipment (additions, disposals, transfers, etc.) using an Inventory Maintenance Report.

The Wastewater Management Program also supported the County's DPWES successful effort to achieve the APWA Accreditation. The accreditation process is a voluntary program that uses self-assessment as a means of formally verifying and recognizing public works agencies for compliance with the industry-wide recommended practices. In FY 2021, Fairfax County's DPWES achieved reaccreditation. DPWES first achieved accreditation in August 2016. DPWES is one of only nine in Virginia and one of 163 public works departments in the United States and Canada that are accredited by the APWA. Reaccreditation is awarded for the ensuing four-year period.

3.2 Realizing Fishable and Swimmable Watersheds

Municipal wastewater management programs are constantly challenged in ensuring that the expenditure of funds to meet environmental stewardship responsibilities, and the corresponding actions supported by these resources, achieve their intended purpose. Meeting environmental regulatory requirements is a critical mission in this journey. However, answering the more vexing question of whether or not these resources, actions, and compliance protect and enhance (and if so to what extent) the ecological health of the municipality's watersheds that receive treated effluent, requires a more comprehensive commitment.

In FY 2022, the Wastewater Management Program continued to assist in fulfilling this obligation, in partnership with George Mason University, through a longitudinal (40-year) ecological study of Gunston Cove. The Cove is a freshwater embayment that receives the treated effluent (through Pohick Creek) from the NCPCP. Blue-green algal blooms in the Cove were prevalent in the early 1980's indicating an advanced stage of eutrophication with limited submerged aquatic vegetation; as well as reduced pH, dissolved oxygen, and water clarity; and periodic fish kills. The study has enabled the simultaneous tracking of major improvements in water quality, biological resources, and aquatic habitat of the Cove commensurate with a multitude of treatment, conveyance and wastewater management enhancements that substantiate the County's efforts to transform its publicly owned treatment works.

As a major treated wastewater discharger into the tidal Potomac River (through Gunston Cove), Fairfax County was recognized in "*An Ecological Study of Gunston Cove 2018,"* as "proactive in decreasing nutrient loading since the late 1970's." As shown in Figure 3-1, the County's proactive and successful process improvements at the NCPCP have reduced nutrient loadings to Gunston Cove over decades, which has been attributed to positive ecological benefits exhibited at Gunston Cove.

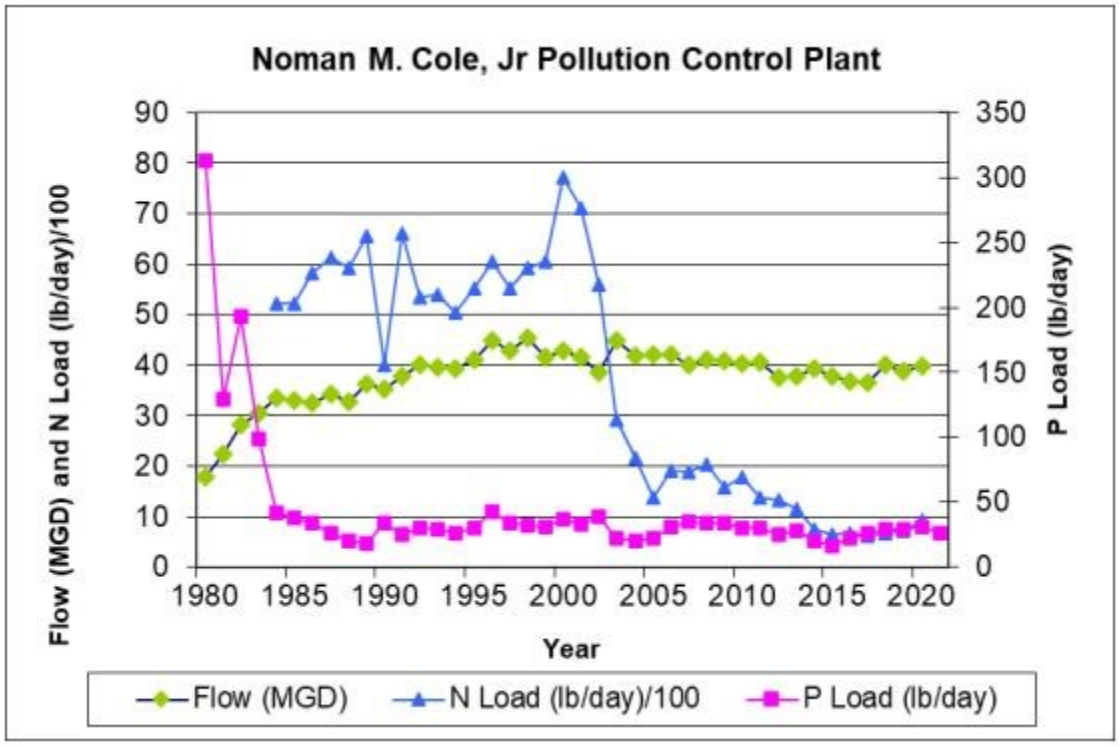


Figure 3-1: Historical Effluent Nutrient Loads at the NCPCP

The report "*An Ecological Study of Gunston Cove 2019"* published in 2020 states "phosphorus loadings were dramatically reduced in the early 1980's. In the last several years, nitrogen, and solids loadings as well as effluent chlorine concentrations have also been reduced or eliminated. These improvements and trends show that the strong wastewater management efforts and investments of the County are successfully helping to restore the embayment's habitat. This ongoing study…provides documentation of major improvements in water quality and biological resources which can be attributed to these efforts in spite of the increasing population and volume of wastewater produced."

4. FY 2022 Budget

4.1 Wastewater Management Program Funds

Hazen examined the FY 2023 Adopted Budget for the Wastewater Management Program to assess the adequacy of funding to support its projected level of operation and maintenance costs. A general description of the system's outstanding debt service and funding structure is provided below, followed by a review of the FY 2023 Adopted Budget (by cost center) and a review of historical trends in Wastewater Management Program costs.

As of June 30, 2022, the system's outstanding debt was $1.1 billion: $789.1 million in Sewer Revenue Bonds, $30.7 million in Subordinate Economic Development Authority (EDA) Fairfax County Revenue Bonds, and $273.6 million in Subordinate Obligation UOSA outstanding debt.

The Wastewater Management Program is funded through seven separate sewer funds established by the County for financial and budgeting purposes. The sewer funds were reorganized with the adoption of the Sewer Bond Resolution in July 1985 and the defeasance of the 1954 Sewer Bond series in August 1986. Then, in FY 1998, the funds were restructured as part of an upgrade of the County's accounting computer system. Each of the funds is briefly described below.

4.1.1 Fund 69000 – Sewer Revenue

All operating revenues are credited to Fund 69000 Sewer Revenue. Except for interest earned from the balances of funds 69020, 69030, 69040 and 69310 (described in the following pages), interest on invested fund balances is credited to Fund 69000. Revenue receipts include lateral spur fees, sales of service fees, availability charges, connection charges, sewer service charges, miscellaneous revenue, sale of surplus property, and interest on investments. Receipts of Fund 69000 are then disbursed to Funds 69010, 69020, 69040, 69300, and 69310 to finance operations, debt service and construction. Any balance that remains after those transfers remains in Fund 69000 and is used for future year requirements and required reserves. From the FY 2023 Adopted Budget Plan, total revenues of $267,487,800 are projected for FY 2023. An estimated total reserve balance of $134,044,656 is projected for FY 2023.

4.1.2 Fund 69010 – Sewer Operation and Maintenance

Fund 69010 - Sewer Operation and Maintenance, provides funding for operational expenses of the Wastewater Management Program. This includes personnel services, operational expenses, and capital equipment for all divisions (WCD, WTD and WPMD) and Treatment by Contract expenditures. A total expenditure of $119,360,510 was adopted for FY 2023 for Fund 69010.

4.1.3 Fund 69020– Sewer Bond Parity Debt Service

Fund 69020 - Sewer Bond Parity Debt Service, records debt service obligations incurred from bonds issued in accordance with the 1986 Sewer Bond Resolution. Bond proceeds are used to fund capital

improvement requirements of the Wastewater Management Program including upgrades to treatment facilities. At the quarterly review, necessary adjustments are made to this fund to support new initiatives of the Wastewater Management Program. In FY 2023, $33,503,257 is required to fund $12,320,000 in principal payments, $21,163,257 in interest payments, and $20,000 in Fiscal Agent Fees associated with outstanding 2014, 2016, 2017 and 2021A Sewer Revenue Bonds and 2021B Sewer Refunding Bonds.

4.1.4 Fund 69030 – Sewer Bond Debt Reserve

Fund 69030 - Sewer Bond Debt Reserve, fulfills the County's requirement to maintain a Reserve Fund for existing and planned sewer bonds. As outlined in the 1986 Sewer Bond Resolution, this reserve is required to be the lesser of the maximum principal and interest requirements for any bond year or 125% of the average annual principal and interest requirements for the bonds. No funding is required for Fund 69030 in FY 2023. The current balance of $33,658,425 is at a sufficient level to satisfy the legal reserve requirements for the, the 2014 Sewer Refunding Bonds, the 2016 Sewer Refunding Bonds, the 2017 Sewer Revenue Bonds, the 2021A Sewer Revenue Bonds, and the 2021B Sewer Refunding Bonds.

4.1.5 Fund 69040 – Sewer Bond Subordinate Debt Service

Fund 69040 - Sewer Bond Subordinate Debt Service, was created in FY 1992 to keep separate all debt-service payments associated with the UOSA Revenue Bonds and the Stormwater/Wastewater Facility Economic Development Authority (EDA) revenue bonds. The UOSA Bond Series covers the County's portion of the cost of UOSA's plant expansion to 54 MGD. The EDA revenue bonds were issued to finance the construction of a consolidated Stormwater and Wastewater Facility.

Funding in the amount of $22,358,883 will provide for the FY 2023 principal and interest requirements including an amount of $20,820,508 for the UOSA plant requirements, and $1,538,575 for the Stormwater/Wastewater Facility Economic Development Authority revenue bond. UOSA debt for bond series 2016B is structured such that no principal payments are made during the construction phase of the project, interest is capitalized, and principal payments begin once construction is substantially complete.

4.1.6 Fund 69300 – Sewer Construction Improvements

Fund 69300 - Sewer Construction Improvements, provides for sewer system construction, upgrades, and extension and improvement projects that are funded by system revenues (Fund 69000). This fund includes the costs associated with rehabilitation of pump stations and force mains, integrated sewer metering, collection system extension, improvement, replacement and rehabilitation, large diameter pipe replacement and rehabilitation, funding of the sewer sag program, and upgrade/rehabilitation at the NCPCP and the County's pro rata share of wastewater flow to Treatment by Contract. For FY 2023 $89,000,000 was adopted to provide funding for the projects.

4.1.7 Fund 69310 – Sewer Bond Construction

Fund 69310 - Sewer Bond Construction, was established in FY 1987 to provide bond funding for major expansions and improvements to existing wastewater treatment facilities used by Fairfax County residents. In recent years, this fund has been used for nitrogen removal and plant upgrades for the County's share of wastewater flow to Treatment by Contract facilities. Funding is supported via revenue bonds from Fund 69310 Sewer Bond Construction or by cash from Fund 69300 Sewer Construction Improvements.

Based on the current schedule of identified and active projects, the bond proceeds remaining from the FY 2021 Sewer Revenue Bonds should support the capital projects through FY 2023.The funding supports reinvestment in the NCPCP and other treatment plants necessary to maintain regulatory compliance requirements as they pertain to the Clean Water Act, Chesapeake Bay Preservation Program, and Title V of the Clean Air Act. The renovation program follows the NCPCP's Master Plan to evaluate and prioritize projects.

4.2 Wastewater Management Program Budget

A total budget of $119,360,510 was adopted in Fund 69010 for the FY 2023 operations and maintenance of the Wastewater Management Program. This budget is split between the three Divisions, with Treatment by Contract (TBC) included under WPMD, as shown in Figure 4-1.

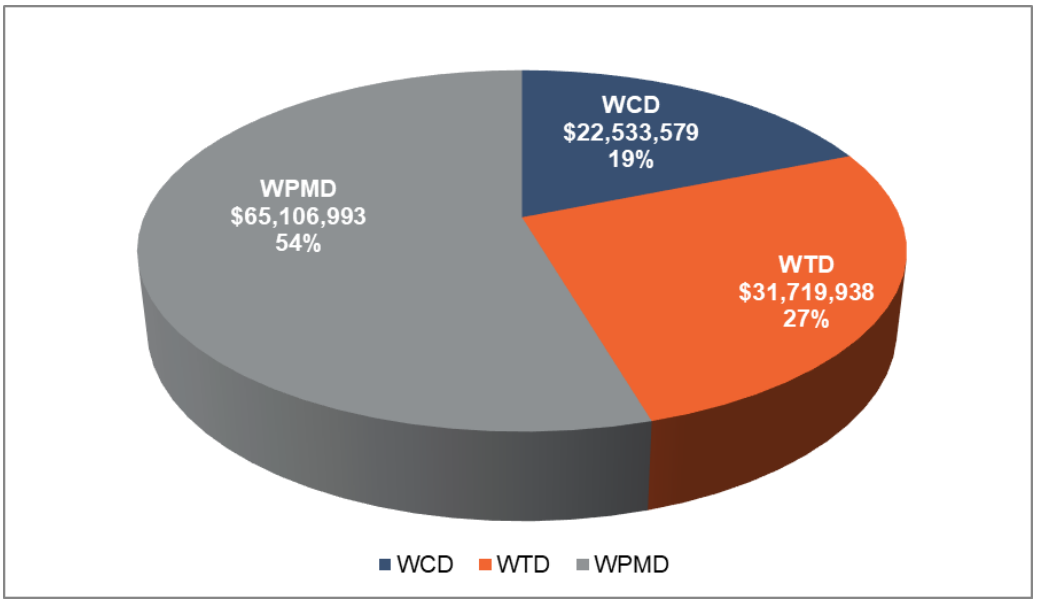


Figure 4-1: FY 2023 Adopted Budget by Division

The County has continued to improve its budget process by providing clear goals, overviews, objectives, and performance indicators for each agency. The County tracks four types of performance indicators for

the Wastewater Management Program on an annual basis: output, efficiency, service quality, and effectiveness. This empowers the Wastewater Management Program to measure criteria related to the quality of service provided to its customers, as well as to develop a database upon which strategic analyses and intelligent decisions can be made.

Table 4-1 presents the Wastewater Management Programs operations budget from FY 2021 through FY 2023. The budgeted amounts by Division for FY 2022 are comparable to those in previous years, considering inflationary impacts to operational expenses and overall growth in the program.

Table 4-1: Wastewater Management Program FY 2021 - FY 2023 Budget

Cost Center	FY 2021 Actual	FY 2022 Revised	FY 2023 Adopted
Wastewater Collection Division (WCD)	$18,783,141	$22,796,485	$22,533,579
Wastewater Treatment Division (WTD)	$23,974,446	$30,023,876	$31,719,938
Wastewater Planning and Monitoring Division (WPMD; includes TBC)	$62,760,285	$67,343,907	$65,106,993
Total	$105,517,872	$120,164,268	$119,360,510

Budgets for other cost centers have also risen modestly relative to previous fiscal years. Budgets for all cost centers appear to be reasonable and adequate for the Wastewater Management Program to perform its assigned functions. The expense history of the Wastewater Management Program reflects the stability and cost consciousness of the organization. Figure 4-2shows long-term trends in actual Operations and Maintenance expenditures of the Wastewater Management Program and its divisions (unadjusted for inflation). Despite recent inflationary pressures, costs continue to remain stable. Cost increases for WCD and WTD are driven by personnel costs, while WPMD costs are driven by TBC and billing agent fees (BAFs).

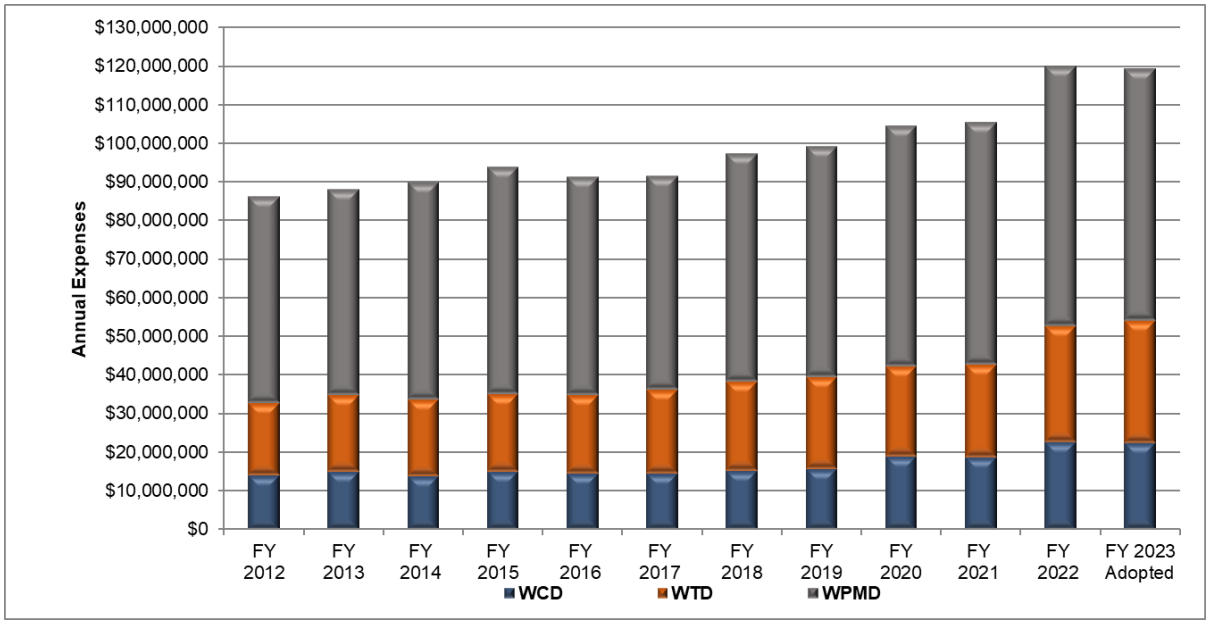


Figure 4-2: Wastewater Management Program O&M Expenses

Note: WPMD expenses include TBC expenses

5. Capital Improvement Program FY 2023 – FY 2027

5.1 Capital Improvement Program (CIP)

The CIP is updated every year and is linked strategically to the Fairfax County Comprehensive Plan and the County's Budget. It is a five-year roadmap that addresses the Wastewater Management Program's needs relating to the acquisition, expansion and rehabilitation of facilities and systems. It serves as a planning instrument to identify needed capital projects and to coordinate the financing and timing of improvements to optimize its financial resources. The CIP is a "blueprint" for the future of the community and is used as a dynamic tool, rather than a static document.

The underlying strategy of the CIP is to plan for land acquisition, construction, and maintenance of public facilities necessary for the safe and efficient provision of public services in accordance with broad policies and objectives adopted in the County's Comprehensive Plan. The primary goals of the Wastewater Management Program's CIP are summarized as follows:

- Provide treatment facilities that meet applicable effluent discharge standards using state-of-the-art technology in the most cost-effective manner possible.
- Provide a system of conveyance and treatment facilities that is responsive to the development goals of the adopted Comprehensive Plan.
- Carry out the necessary renovation and improvements that will permit the entire system to function at a high level of efficiency.

While the CIP serves as a long-range plan, it is reviewed semi-annually and revised based on current circumstances and opportunities. Priorities may change due to funding opportunities or circumstances that cause a more rapid deterioration of a particular asset. Projects may be revised for significant costing variances as the needs of the community become more defined and projects move closer to final implementation. The COVID-19 pandemic is an example of an event triggering a reevaluation of CIP project priorities and scheduling, but these changes did not impact operational goals. The adoption of the CIP is a basic tool for scheduling anticipated capital projects and capital financing and is a key element in planning and controlling future debt service requirements.

5.2 CIP Funding

Funding for the CIP is derived from three sources: current system revenues, the sale of revenue bonds, and grant funding. The Wastewater Management Program uses current system revenues on a "pay as you go" basis to fund most capital improvements. This has particularly been true for recurring capital projects, such as capital replacement and rehabilitation projects, extension, and improvement (E&I) projects and general system improvement projects. Major capital initiatives such as system expansion and regulatory compliance projects have been funded using sewer revenue bonds that are payable solely from the revenues of the Integrated Sewer System.

The Wastewater Management Program actively manages its outstanding debt by refinancing to take advantage of lower interest rates or retiring debt to manage its debt service coverage. While federal and state grants were extensively used to fund the construction programs of the 1970s and 1980s, the financial burden of future programs will fall heavily on the County due to scarcity of federal grant funds. While grant funding options are still being pursued, the Wastewater Management Program has conservatively assumed that no state or federal grant funding will be available to help offset the cost of compliance with the Chesapeake Bay Program.

As discussed in Section 4.1, based on the current schedule of identified and active projects, the bond proceeds from the FY 2021 bond sale should support the capital projects at NCPCP. Sewer revenue bonds will be used to provide funds for expanding treatment facility capacity at both County-owned and County-contracted facilities. To date, the County has issued revenue bond debt for the following treatment plant expansions:

- In June 2001 and June 2002, a total of $90 million in State Revolving Fund/Virginia Resources Authority debt was issued to support the County's share of plant upgrades at the AlexRenew WRRF.
- In July 2009, $152.3 million in revenue bond debt was issued to support the County's share of the plant upgrades at DC Water Blue Plains AWTP, Arlington WPCP, and AlexRenew WRRF, as well as the NCPCP to comply with the nitrogen discharge limits as defined in the Chesapeake Bay Program.
- In August 2012, $90.7 million in revenue bond debt was issued to support the County's share of the plant upgrades at DC Water Blue Plains AWTP, AlexRenew WRRF, as well as the NCPCP to comply with the enhanced nutrient discharge limits as defined in the Chesapeake Bay Program.
- In April 2014, the County took advantage of lower market interest rates and issued $61.8 million of Sewer Revenue Refunding Bonds to retire the remaining $69.8 million of the outstanding Series 2004 Bonds.
- In May 2016 the County refinanced approximately $123.1 million of the outstanding Sewer Revenue Bonds, Series 2009 and $46.7 million of the outstanding Sewer Revenue Refunding Bonds, Series 2016A. The refinancing resulted in an average reduction to the annual debt service (interest expense savings) of approximately $1.4 million annually through FY 2040.
- In June 2017, $85.8 million in revenue bond debt was issued to provide funds for additions, extensions and improvements to the Fairfax County's sewage collection, and treatment systems including the NCPCP, paying capital improvements costs allocable to the County at other regional treatment facilities that provide service to the County, and purchasing additional capacity if deemed necessary.
- In June 2021, the System issued $192.0 million of Series 2021A Sewer Revenue Bonds to provide funds for certain additions, extensions and improvements to the County's sewage collection, treatment and disposal systems, and capital improvement costs allocable to the County at certain wastewater treatment facilities that provide service to the County.

- In June 2021, the System took advantage of lower market interest rates and issued $24.2 million of Series 2021B Sewer Revenue Refunding Bonds to advance refund $28.6 million of the outstanding Series 2012 Sewer Revenue Bonds.

5.3 Historical CIP Trends

An overview of historical trends in the Wastewater Management Program's CIP spending can be used to understand the changing priorities and relative costs of multiple categories of capital improvements over time. Figure 5-1shows historical CIP construction activity for the last 10 years and FY 2023 projections categorized by the type of project:

- NCPCP Rehabilitation, Replacement, and Upgrades.
- Treatment by Contract.
- Sewer Line Extensions.
- Pump Stations and Force Mains.
- Sewer Repair and Rehabilitation.

Until FY 2019, costs associated with purchased capacity (Treatment by Contract) were the primary component of CIP spending.

- Total spending in FY 2013 was similar to total spending in FY 2011 and FY 2012, but with slight increases in projects associated with the purchased capacity facilities and decreases in spending on the NCPCP improvements.
- In FY 2014, there was a large increase in total spending, with the largest increases in projects associated with Treatment by Contract and the NCPCP improvements.
- Spending decreased in FY 2015 as many capital projects in the design phase did not progress to the construction phase as anticipated during budget preparation.
- In FY 2016, spending on the NCPCP capital projects remained constant, and expenditures on collections systems capital projects was less than projected. There was a 17% increase in Treatment by Contract costs. This is attributable to $14.6 million associated with UOSA upgrades at the Robbins RWRP.
- In FY 2017, spending on NCPCP capital projects remained constant ($16M), and expenditures on collections systems capital projects were less than projected. Capital costs associated with Treatment by Contract projects decreased due to AlexRenew WRRF and DC Water Blue Plains AWTP.
- In FY 2018, overall spending decreased even with an increase in spending for NCPCP renovations and upgrades, which increased from $33.8 million in FY 2017 to $67.3 million in FY 2018.
- In FY 2019, overall spending decreased due to NCPCP spending, which decreased from $67.3 to $61.7 million in FY 2019.

- In FY 2020, overall spending increased due to Treatment by Contract and Sewer Repair and Rehabilitation spending.
- In FY 2021, overall spending increased slightly, even with a reduction in spending associated with NCPCP renovations and upgrades and sewer line extensions:
- In FY 2022, overall spending increased slightly, even with a reduction in spending associated with NCPCP renovations and upgrades and sewer line extensions:

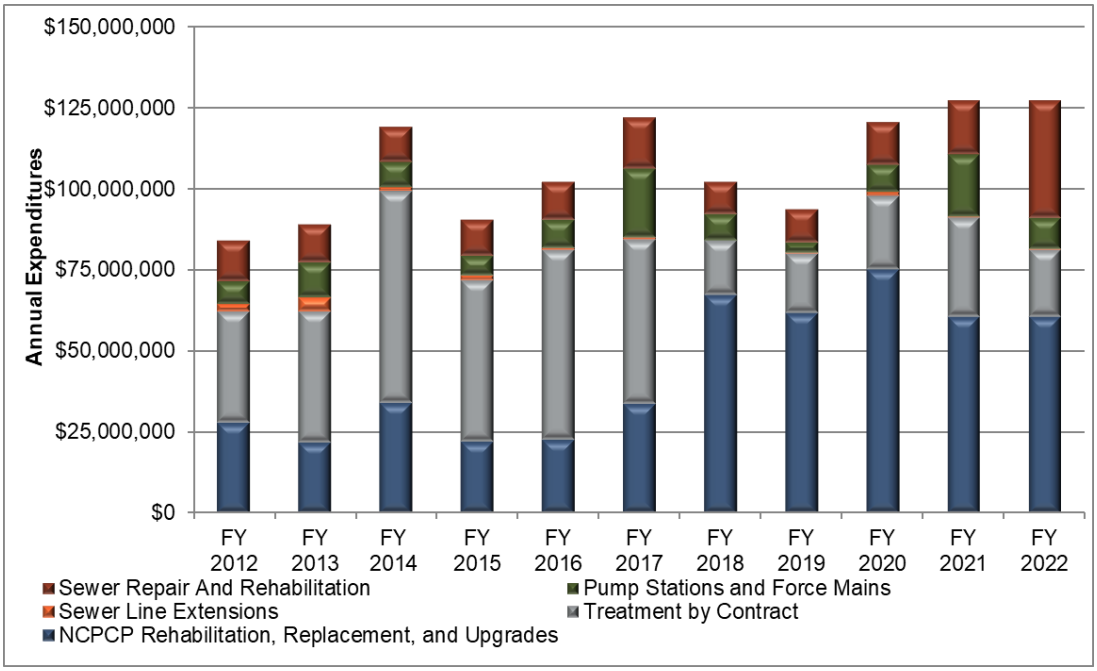


Figure 5-1: Sewer Fund Historical Construction Activity

5.4 CIP Development Process

The County's CIP development process for current and future projects involves:

- Compiling requested 5-year and 10-year CIP projects from WCD and WTD.
- Obtaining Treatment by Contract capital budgets from other jurisdictions.
- Determining initial program affordability and impact on system rates.
- Identifying projects that can be deferred to lessen financial impacts.
- Developing revised general 5-year and 10-year CIP and next fiscal year's capital budget.

The County continues to use a dynamic CIP development process, whereby County staff continually reassess capital program needs, prioritization, and affordability.

5.5 Overview of Five-Year CIP Projects

The five-year CIP for FY 2023 – 2027 for the Wastewater Management Program was reviewed for this report. The five-year CIP includes treatment, collection, and pumping projects totaling approximately $1 billion. Figure 5-2 below summarizes the requested five-year CIP for FY 2023 – FY 2027 on a cash flow basis. The requested CIP projects and budgets are described in this section, categorized by major project type.

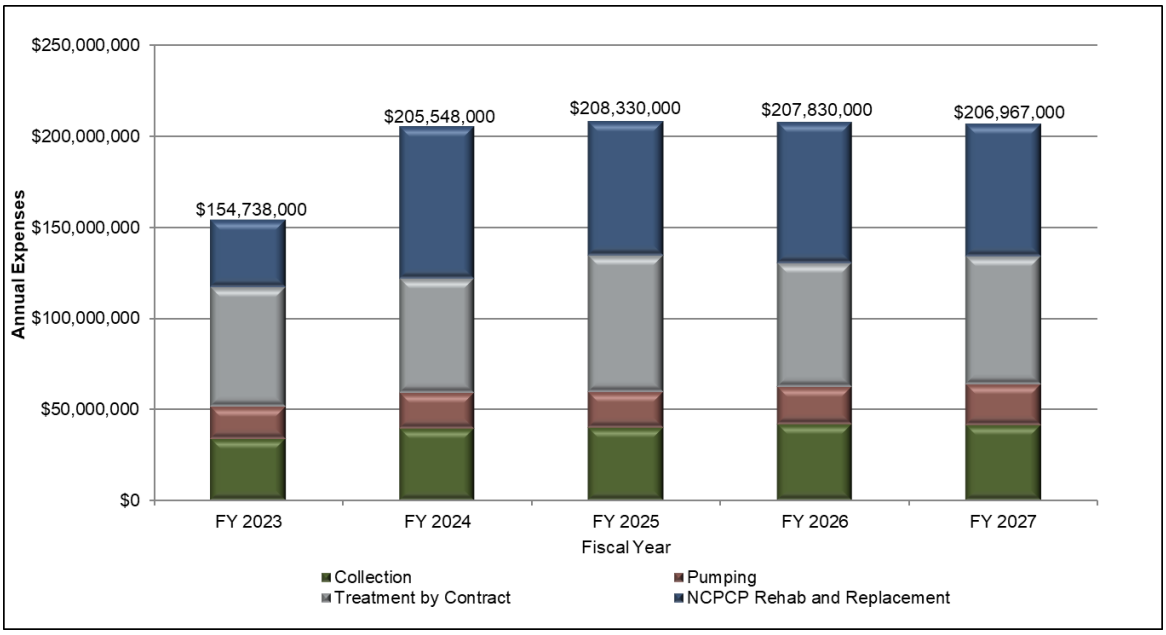


Figure 5-2: Proposed Five-Year CIP on a Cash Flow Basis

5.5.1 Wastewater Treatment Division Projects

NCPCP Construction Rehabilitation and Replacement

These projects include the continued rehabilitation of the NCPCP's assets through FY 2031. Proposed projects include replacement of and improvements to the existing biosolids facilities; replacement and upgrades to the motor control centers and electrical distribution centers; rehabilitation and replacement of the miscellaneous pumps, gates, and valves; rehabilitation of the multiple facilities; facility storm water improvements stormwater runoff improvements on plant site; HVAC upgrades to the Laboratory and Administrative Buildings; and other rehabilitation and replacement projects related to the maintenance of

the wastewater treatment facility assets. The estimated cost for the rehabilitation and replacement construction in FY 2023 – FY 2032 is $778,600,000.

5.5.2 Treatment by Contract Projects

AlexRenew WRRF Improvements

This project provides for Fairfax County's 60% share of construction costs associated with improvements at the AlexRenew WRRF. This project includes the replacement and rehabilitation of existing treatment process facilities and facilities to handle wet weather flows to avoid sanitary sewer overflows. The estimated project cost share for the AlexRenew WRRF improvements through 2032 is $138,939,000.

DC Water Blue Plains AWTP Upgrades

This project funds Fairfax County's 8.4% share of the costs of upgrading the DC Water Blue Plains AWTP. The upgrades include major plant renovations, including the chemical addition, flow control tunnels, and sludge disposal system to meet the enhanced total nitrogen standards. Estimated project cost share through 2032 for the Blue Plains AWTP improvements is $233,961,000.

Arlington WPCP Upgrades

This projects funds Fairfax County's 7.5% share of the costs of upgrades at the Arlington WPCP.

The upgrades include non-expansion capital improvements, technology enhancements, clarifier upgrades, a biosolids master plan, and the relining of a large diameter sewer line for the Four Mile Run interceptor which runs from Fairfax County to the Arlington WPCP Estimated project cost share through 2032 for the Arlington WPCP improvements is $15,132,000.

UOSA RWRP Upgrades

This project provides for Fairfax County's 41% share of costs associated with improvements at the UOSA RWRP. Specific projects include renovations related to nutrient discharge limitations, filter press replacement, and re-carbonation clarifier improvements. FY 2022 – FY 2032 estimated project cost share for the UOSA RWRP is $175,246,000.

Wastewater Colchester Contributions (Mount Vernon District)

This project supports an annual contribution to the Colchester Wastewater Treatment Facility for wastewater treatment services in the Harborview community. The sewer treatment plant serving the Harborview residents is a private operator. The plant bills Fairfax County and in turn, the County bills each resident using County sewer rates. Funding was previously budgeted in Agency 87, Unclassified Administrative Expenses – Public Works Programs; however, in order to provide more transparency and the carryforward of balances at year-end, funding has been budgeted in a capital project within Fund 30010, County Construction and Contributions. This change results in no net impact to the General Fund. FY 2022 – FY 2032 estimated project cost is $4,170,000 for this treatment.

5.5.3 Wastewater Collection Division Projects

Sanitary Sewer Replacement, Rehabilitation and Upgrade Program

This is a continuing project for replacement, repair, and rehabilitation of sewer lines. FY 2015 marked the initiation of efforts to address repair of large diameter sewer lines to prevent future pipe failures. FY 2023 – FY 2032 project costs for sanitary sewer projects are projected to be $172,600,000.

Pump Station Improvements

This continuing project was established to fund replacement and necessary improvements to address items such as normal wear and tear, and odor control at sewage pump stations County-wide. The goal of these improvements is not to increase capacity at the pump stations but to address continual rehabilitation and equipment upgrade needs or improve the stations to address service issues such as odor control. A total of $225,800,000 has been budgeted for pump station improvements in FY 2023 – FY 2032.

Sewer Metering Projects

Installation and rehabilitation of sewer meters is necessary to obtain billing data and identify excessive inflow and infiltration. The State Water Control Board and the Environmental Protection Agency require sewer flow data. A total of $1,000,000 is allocated to install and rehabilitate sewer meters in FY 2023 – FY 2032.

Sewer Extension and Improvement Projects

This is a continuing project to complete sewer extension and improvement projects in sewer service areas of the County that are experiencing chronic septic system failures. $1,000,000 is estimated to be required annually through FY 2032.

Gravity Sewer Capacity Improvements

This funding will be used to replace existing sewer lines with larger diameter sewer lines and to install new sewer lines to serve development within the County. This is a proactive program to manage the strain placed on the current sewer system due to additional load as areas develop. A total of $306,300,000 is allocated for upsizing existing sewer lines and installing new sewer lines through FY 2032.

5.6 CIP Conclusions

The adopted CIP addresses the anticipated capital needs of the Wastewater Management Program for FY 2023 – FY 2027. Upgrades and improvements to the NCPCP, as well as inter-jurisdictional wastewater treatment facilities, required to meet growth and new regulatory requirements, have been included in the five-year CIP budget.

The annual CIP projects necessary to upgrade/rehabilitate the collection system pump stations, buildings and sewer lines are critical to maintaining system integrity and increasing reliability. Proactive, rather than reactive, rehabilitation and maintenance projects are instrumental in avoiding costly emergency

response projects resulting from system failures. These initiatives allow the County to continue to meet its goals of having an efficiently operated and effectively maintained wastewater system.

6. Current and Future Rates and Revenues

6.1 Rates and Revenues

Rates and revenues are reviewed during the County's annual budget cycle to ensure compliance with the Board of Supervisors' adopted policy that "growth pays for growth." The County uses an engineer to evaluate the adequacy of sewer service charges and availability fees to recover the costs associated with the Wastewater Management Program. In general, these include capital, operation and maintenance costs, and debt service costs.

To examine the rates and revenues in place to fund the Wastewater Management Program, Hazen reviewed the Wastewater Management Program's FY 2022 Annual Comprehensive Financial Report (ACFR), the FY 2022 Annual Disclosure Report, and the Wastewater Rate Study for Fiscal Year 2022 Through Fiscal Year 2028.

The financial statements of the County of Fairfax presented in the FY 2022 ACFR were audited by an independent auditor, Cherry Bekaert LLP, a firm of licensed certified public accountants and advisors. Cherry Bekaert concluded the following:

"In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the System as of June 30, 2022, and the changes in its financial position and cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America."

The Wastewater Management Program operation and maintenance, debt service and capital projects (other than those funded by revenue bonds) are funded through availability fees and sewer service charges adopted by the County's Board of Supervisors. For the Fiscal Year ending June 30, 2022, approximately 95% of the Wastewater Management Program's operating revenues are derived from charges to new and existing customers through sewer service charges, wholesale charges, and availability fees. Wholesale users include Covanta, Loudon Water, Arlington County, Fort Belvoir, the Cities of Fairfax and Falls Church and the Towns of Herndon and Vienna. The remaining 5% of system operating revenues are derived from investment earnings and other operating revenues. Figure 6-1shows the breakdown of system revenues, excluding investment earnings and other revenues, for the previous 10 fiscal years.

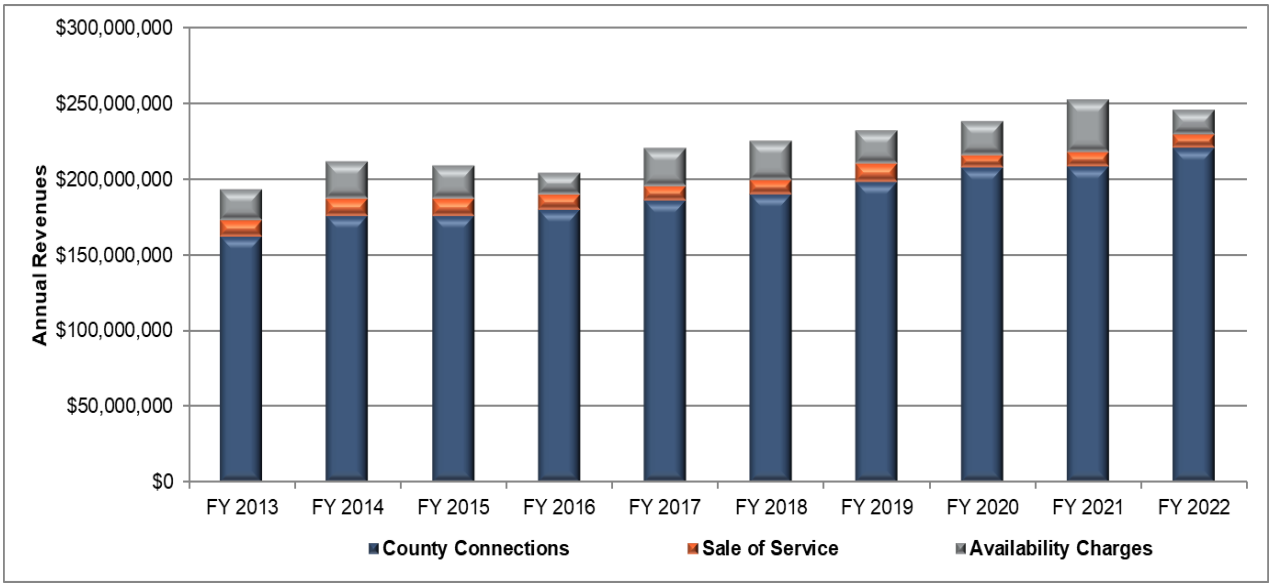


Figure 6-1: Historical Annual Wastewater Management Program Revenues by Source

The Fairfax County Board of Supervisors establish sewer service rates and availability fees. Sewer rates are reviewed and revised annually as part of the County's annual strategic planning and budgeting process to minimize the annual cost impact on customers due to increases in funding needs for the Wastewater Management Program. Sewer service charges are assessed to existing customers to recover operation and maintenance costs and debt service payments. These charges also provide capital project funding attributable to supporting or improving wastewater treatment services to existing customers.

Since 2010, the Board has used the five-year projections of financial performance measures to determine the appropriate wastewater service rates. The most significant sources of revenue are operating revenues in the form of base and volumetric sewer service charges and non-operating revenues in the form of availability fees. The Wastewater Management Program allocates revenues to cover operating expenses, capital funding allowances and debt service payments.

System operations and financial capability are impacted by several factors, including increased capital expenditures based on regulatory requirements associated with the Chesapeake Bay Program, inflationary effects on the cost of operations and construction, the need to maintain a strong financial position in the market, and the need to maintain compliance with rate covenant requirements. Maintaining financial strength is necessary to attract future capital, maintain competitive rates over the long-term, and meet the rate covenants as delineated in the General Bond Resolution, the VRA financing agreements, and other loan agreements that authorize the issuance of the Outstanding Bonds and other loans for the system.

In addition to the expenditure cost on its own system, the County (as prescribed by each agreement with the four purchased capacity entitlements of non-County facilities) is required to pay for its share of the

operating, capital and/or debt costs of each entity's system based on actual wastewater flows and allocated capacity. Capital expenditures to meet the Chesapeake Bay Program effluent discharge standards have increased significantly for all facilities. Along with these expenditures, the need to continually perform necessary renewals, replacements, and betterments because of facilities reaching the end of their useful service lives will continue to add to these expenses.

Since FY 2016, the annual average growth in the County's wastewater customer base has averaged approximately -0.45%. Due to water conservation efforts, per capita water consumption has decreased and total billed wastewater volumes in the County service area have declined. This is evidenced by an average annual decrease in billed wastewater volumes from FY 2015 to FY 2022 of -0.49%. Billed wastewater volumes are variable year to year and annual changes range from -3.41% to +1.78% in the years from FY 2015 to FY 2022. Billed wastewater volume is based on metered water sales at the customer premises. Many factors can affect billed wastewater flow, including water conservation measures, installation of low flow fixtures in new development, and climate conditions such as annual variations in temperature and precipitation. It should be noted that a reduction in billed wastewater volumes is consistent with trends experienced by other Northern Virginia utilities.

The Wastewater Management Program continuously tracks and compares prior financial forecasts to actual results as part of the rate and financial planning process. For FY 2022, actual revenues and investment income exceeded initial projections. Operating revenues exceeded forecasted estimates by approximately $13.2 million, or 5.7% of gross revenues (excluding availability fees). The differences were primarily due to better than forecasted billed sewer flows and lower operating expenses than previously forecasted. The variance is considered reasonable and for this year's projections a more normalized usage level (expressed on an "per account" basis) is assumed as customer COVID-19 impacts minimize.

6.2 Rates

Fairfax County bills residential customers for use of the sanitary sewer system based on water consumption during the current billing period or the preceding winter quarter billing period, whichever is lower. Residential customers who use the County's sanitary sewer system but obtain drinking water from a well are charged based on the number of persons residing in the home. Commercial customers are billed for sewer use based on actual water consumption; however, some commercial customers use meters to separately measure water that does not drain to the sanitary sewer system. Over the past decade the Wastewater Management Program has implemented rate increases necessary to:

- meet the Wastewater Management Program's projected funding requirements for operating and capital investment,
- maintain compliance with financial policies and required rate covenants as delineated in the General Bond Resolutions, and

- meet financial targets designed to maintain the overall long-term creditworthiness of the Wastewater Management Program. Appendix B provides a detailed summary of historical sewer service volumetric charges.

A Sewer Base Charge for all customers became effective in FY 2010 and is used to partially recover fixed expenses for billing, wastewater collection, engineering, and administrative costs. The base charge was substantially increased in FY 2014 to promote revenue stability and achieve greater equitability in obtaining cost recovery among wastewater users. The increase reflected industry-wide trends in imposing rate adjustments. Appendix B details historical Sewer Base Charges.

The Wastewater Rate Study for FY 2023 through FY 2028 includes a multi-year rate phasing program which was prepared to identify recommended FY 2024 through 2028 rates, which are considered necessary to fund the identified revenue requirements for the system and continue to meet the financial planning benchmarks (i.e., financial position and targets) identified with Wastewater Management Program staff to promote the long-term creditworthiness of the system.

The creditworthiness objective focuses on maintaining a "AAA" credit rating with the bond rating agencies, limiting long-term financial risks to the system through prudent liquidity and financial operating strategies, and promoting the long-term sustainability of rates while limiting future increases to wastewater customers. Based on the assumptions recognized in the development of the financial forecast and the actual Fiscal Year 2023 results, Table 6-1 and Table 6-2summarize the rate adjustment recommendations:

Table 6-1: Current Quarterly Rates by Fiscal Year – Existing Board Adopted

Description	2023	2024	2025	2026	2027	2028
Quarterly Base Charge (per ERC)	$40.14	$44.43	$49.09	$51.79	$54.38	N/A
Flow Charge (per 1,000 gallons)	$8.09	$8.41	$8.73	$9.21	$9.67	N/A
Rate Revenue Adjustment [(1)]	6.2%	5.6%	5.5%	5.5%	5.1%	1.2%

Table 6-2: Recommended Future Quarterly Rates by Fiscal Year

Description	2023	2024	2025	2026	2027	2028
Quarterly Base Charge (per ERC)	$40.14	$44.81	$49.51	$52.31	$55.00	57.83

Flow Charge (per 1,000 gallons)	$8.09	$8.43	$8.77	$9.27	$9.76	$10.26
Rate Revenue Adjustment [1]	6.2%	6.2%	5.9%	5.9%	5.5%	5.3%

[1] Amounts show reflect projected increases to revenues from recommended rates, rates recommended to become effective July 1st of each fiscal year.

Adopted rates for FY 2023 and FY 2024 are competitive with rates charged by neighboring public utility systems. In FY 2023 and FY 2024 the monthly bill for a single-family residential wastewater customer is projected to be $56.53 and $60.06, respectively. By comparison monthly bills from neighboring utilities range from $41.56 to $102.28. The Program also tracks rate affordability relative to the annual median household income (MHI) within the service area. Industry standards suggest that wastewater bills of 2% or greater of the MHI is likely to trigger a "large economic impact" on ratepayer households. As noted in the Wastewater Rate Study for FY 2023 through FY 2028 residential wastewater charges for the County are expected to remain well below 2% of the MHI through the forecast period.

6.3 Availability Fees

The availability fee is a one-time charge assessed to new customers to recover the proportionate share of system costs and capital project funding attributable to expansion of the system required to support new customers. Existing customers are defined as those who have paid an availability fee for access to the Integrated Sewer System. Existing customers include those who are connected to the Integrated Sewer System and are receiving wastewater conveyance and treatment services as well as those who have paid an availability fee but are not yet receiving services. New customers are those who have yet to pay the availability fee. Upon payment of the availability fee a new customer becomes an existing customer.

The County's availability fee methodology is generally based on the "system buy-in" cost method. Under this method, the availability fee is designed to recover the incremental costs of infrastructure required for new customers to connect to the system. An exception to this method is used for the valuation of UOSA capacity reservations, which are based on an "incremental approach" in which the capacity valuation is based on the cost of the last facility expansion as determined by UOSA. In FY 2024, the Availability Charge will increase from $8,592 to $8,860 for single-family homes based on current projections of capital requirements. Table 6-3 provides a comparison of the existing availability fees and fees charged in neighboring communities. Both the existing and recommended charges are competitive with other surveyed Virginia wastewater utilities.

Table 6-3: Wastewater Availability Charge – Rate per ERU (Equivalent Residential Units)

Fairfax County – Existing Availability Charge (FY 2023)	$8,592
Fairfax County – Recommended Availability Charge (FY 2024)	$8,860
Average of Other Surveyed Utilities [1]	$7,526

(1) Amount shown from the Wastewater Rate Study for FY 2022 through FY 2027

6.4 Bond Issues

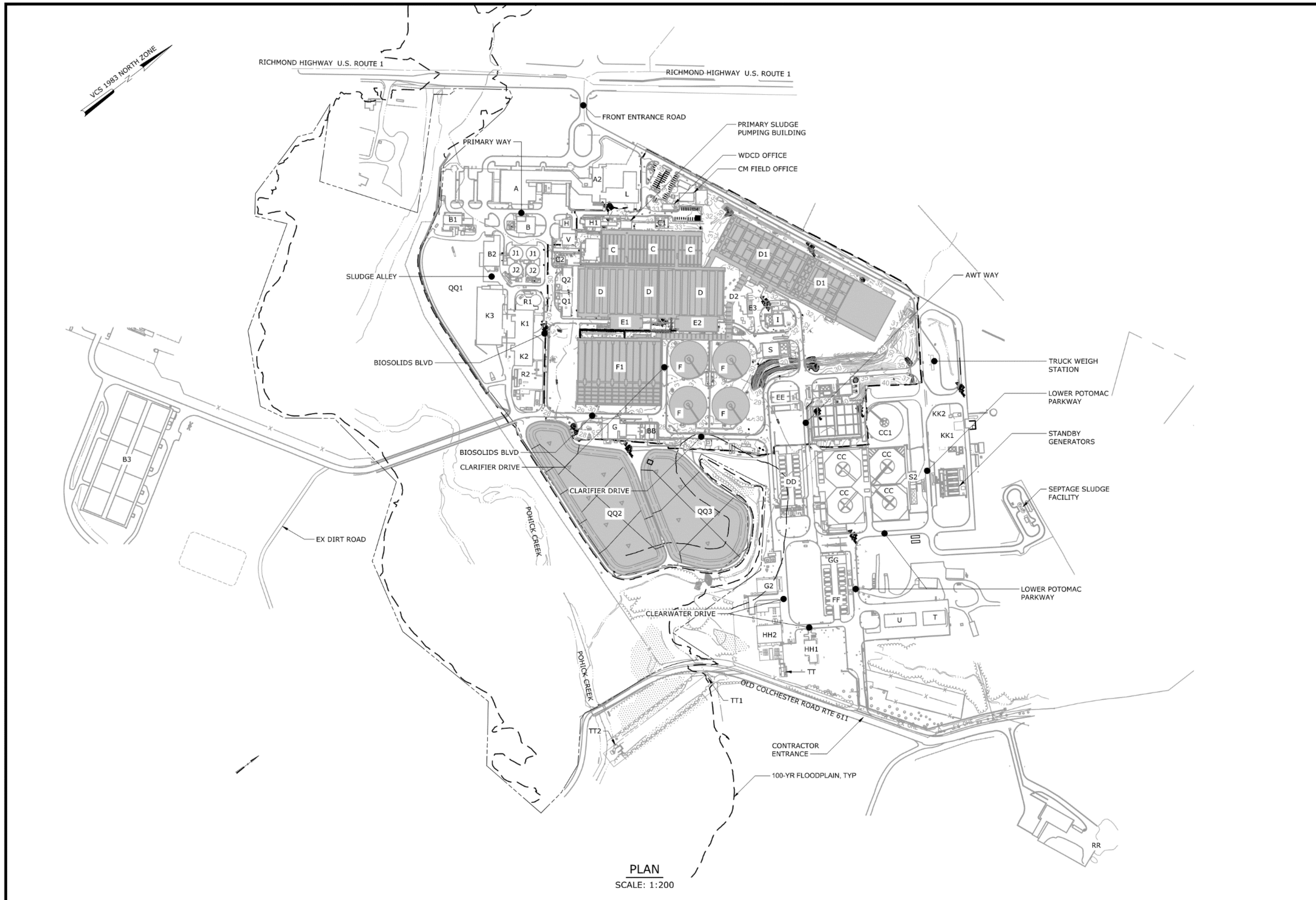
The County is anticipating approximately $1.80 billion in capital projects for FY 2023 to FY 2028. Projects will include additions, extensions and improvements to the Fairfax County's sewage collection, and treatment systems including the NCPCP, capital improvement costs allocable to the County at other regional treatment facilities that provide service to the County, and purchase of additional capacity if deemed necessary with future bond proceeds. It is assumed that $566.2 million will be deferred beyond FY 2028, resulting in a total forecast of $1.35 billion. $652.2 million in parity debt is anticipated during the next five-year forecast period. These issuances along with outstanding bond proceeds described in Section 4.1 are anticipated to meet the system's capital funds requirements through 2028.

6.5 Financial Position

In evaluating the financial position of the Wastewater Management Program, two criteria are used to assess the financial stability of the system: (1) the ability to meet the debt service coverage requirements in the General Bond Resolution for Sewer Revenue Bonds, and (2) the ability to provide adequate cash flow for operation and maintenance expenses as well as capital requirements.

The County's General Bond Resolution requires that rates be set such that new revenues, excluding availability fees and other one-time sources, provide debt service coverage of at least 1.25 times debt service on senior obligations. This was implemented to reduce the Wastewater Management Program's dependence on availability fees, a non-recurring revenue source that creates vulnerability for the system and increases reliance on service charges and new billing fees. This bond resolution governs the system's debt, including previously issued obligations. Table 7 in Appendix C indicates that revenues will be sufficient to ensure that this requirement will be met for the forecasted period of FY 2023 – FY 2032. Based on the service charge and availability fee schedule and associated financial statements, total revenue bond and senior (parity) debt coverage ratios will remain above 2.0 with values ranging from 2.37 to 3.54 during the forecast period. Overall debt service coverage ratios, which include subordinate obligations, are forecasted to remain above 1.5 throughout the forecast period, with values ranging from 2.00 to 2.56. Table 12 in Appendix C indicates that there will be sufficient cash flow to fund operation and maintenance as well as capital projects, with sufficient fund balances within the multiple funds to cover projected expenditures and maintain adequate reserves.

Appendix A – NCPCP Site Plan



EXISTING FACILITIES LEGEND

A	OPERATIONS AND MAINTENANCE BUILDING
A2	ADMINISTRATION BUILDING
B	RAW WASTEWATER PUMP STATION
B1	SCREEN BUILDING/BAR SCREENS
B2	RAW WASTEWATER/EQUALIZATION TANKS PUMP STATION
B3	EQUALIZATION TANKS
C	PRIMARY SETTLING TANKS
C1	FLASH MIX TANKS
C2	PRIMARY SETTLING TANKS ODOR CONTROL SYSTEM
D	ACTIVATED SLUDGE TANKS
D1	ACTIVATED SLUDGE TANKS
D2	MIXED LIQUOR CHANNEL
E1	BLOWER BUILDING
E2	BLOWER BUILDING
E3	ELECTRICAL BUILDING
F	SECONDARY CLARIFIERS
F1	SECONDARY CLARIFIERS
G	CHLORINATION FACILITY
G2	AUXILIARY CHEMICAL STORAGE FACILITY
H	OPERATIONS OFFICE
H1	PRIMARY SLUDGE DEGRITTING FACILITY
HH2	DISINFECTION FACILITIES
I	METHANOL FEED BUILDING
J1	PRIMARY SLUDGE THICKENERS
J2	PRIMARY SLUDGE THICKENERS
K1	SLUDGE PROCESSING BUILDING
K2	SLUDGE PROCESSING BUILDING
K3	SLUDGE PROCESSING BUILDING
L	LABORATORY BUILDING
Q1	DAF THICKENER
Q2	DAF THICKENER
R1	BLENDED SLUDGE STORAGE TANK
R2	BLENDED SLUDGE STORAGE TANK
S	CHEMICAL FEED BUILDING
S2	CHEMICAL FEED BUILDING - FERRIC AND POLYMER
T	AWT MAINTENANCE BUILDING
U	BUILDING AND GROUNDS STORAGE BUILDING
V	SUPERVISORS OFFICE AND WOMEN'S FACILITY
AA	ASE METERING VAULT
BB	ASE PUMP STATION
CC	TERTIARY CLARIFIERS
CC1	TERTIARY CLARIFIERS
DD	GRAVITY FILTER BUILDING
EE	BACKWASH EFFLUENT TANKS
FF	MONOMEDIA FILTERS/ACTIVATED CARBON ABSORPTION
GG	CARBON REGENERATION BUILDING
HH	AWT DECHLORINATION BUILDING
HH1	APW PUMP STATION
KK1	FOREIGN SLUDGE INCINERATION
KK2	FOREIGN SLUDGE INCINERATION
QQ	EFFLUENT STRUCTURE
QQ1	RETENTION BASIN 1
QQ2	EQUALIZATION BASIN 2
QQ3	EQUALIZATION BASIN 3
RR	BULK STORAGE
TT	EFFLUENT CHAMBER
TT1	OUTFALL INTERMEDIATE STRUCTURE
TT2	OUTFALL STRUCTURE

REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	J. KABERLINE
DESIGNED BY:	M. SANTOWASSO
DRAWN BY:	S. NASH
CHECKED BY:	R. TAYLOR
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

DO NOT USE FOR CONSTRUCTION

Hazen
HAZEN AND SAWYER
4035 RIDGE TOP ROAD, SUITE 500
FAIRFAX, VIRGINIA 22030
CERTIFICATE OF AUTHORITY: 2771

FAIRFAX COUNTY, VIRGINIA
DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES

NOMAN COLE, JR. PCP
SEWER SYSTEM CERTIFICATION REPORT

APPENDIX A
OVERALL SITE PLAN

DATE: MARCH 2021

Appendix B – Fees and Charges

Appendix B – Fees and Charges

1.1 Sewer Service Charges

1.1.1 Sewer Service Charge Purpose

To charge existing customers of the Wastewater Management Program for system operation and maintenance costs in proportion to services provided. Sewer service charges include a Base Charge and a Service Charge. The Base Charge is a flat fee whereas the Service Charge is determined by consumption. In FY 2022, the Service Charge was $7.72 per 1,000 gallons, and the Base Charge was $36.54 per Billing period.

1.1.2 Sewer Service Charge Rate History

Since 2007, the Wastewater Management Program has increased the Sewer Service Charge rates as follows:

Table B - 1: Sewer Service Charge Rates FY 2008 – FY 2022

Sewer Service Charge Rates				
Fiscal Year	**Service Charge ($/1000 gal)**	**Percent Increase**	**Base Charge ($/Bill)**	**Percent Increase**
2008	$3.74	6.9%	-	-
2009	$4.10	9.6%	-	-
2010	$4.50	9.8%	$5.00	0.0%
2011	$5.27	17.1%	$5.00	0.0%
2012	$6.01	14.0%	$5.00	0.0%
2013	$6.55	8.9%	$5.50	10.0%
2014	$6.55	0.0%	$12.79	132.5%
2015	$6.62	1.1%	$15.86	24.0%
2016	$6.65	0.5%	$20.15	27.05%
2017	$6.68	0.5%	$24.68	22.5%
2018	$6.75	1.0%	$27.62	11.9%
2019	$7.00	3.8%	$30.38	10.0%
2020	$7.28	4.0%	$32.91	8.3%
2021	$7.28	0.0%	$32.91	0.0%
2022	$7.72	6.0%	$36.54	11.0%

Source: Annual Disclosure Report Fiscal Year 2022

1.1.3 Sewer Service Charge Rate Increase

The Wastewater Management Program Wastewater Rate Study for FY 2023 through FY 2028 includes a multi-year rate phasing program which was prepared to identify the FY 2023 through 2028 rates. The rates are established to fund the identified revenue requirements for the Integrated Sewer System and to continue to meet the financial planning benchmarks (i.e., financial position and targets) identified with WMP staff to promote the long-term creditworthiness of the Integrated Sewer System. The creditworthiness objective focuses on maintaining an "AAA" credit rating with the bond rating agencies, limiting long-term financial risks to the Integrated Sewer System through prudent liquidity and financial operating strategies, and promoting the long-term sustainability of rates while limiting future increases to wastewater customers. The table below summarizes the rate adjustment recommendations that were developed based on the assumptions recognized in the development of the financial forecast, and actual Fiscal Year 2021 results.

Table B - 2: Rate Adjustment Recommendations

Description	Existing Board Adopted					
	2023	**2024**	**2025**	**2026**	**2027**	**2028**
Quarterly Base Charge (per ERC)	$40.14	$44.43	$49.09	$51.79	$54.38	N/A
Flow Charge (per 1,000 gallons)	$8.09	$8.41	$8.73	$9.21	$9.67	N/A
Rate Revenue Adjustment [(1)]	6.2%	5.6%	5.5%	5.5%	5.1%	1.2%
Recommended Adjustments						
Quarterly Base Charge (per ERC)	$40.14	$44.68	$49.51	$52.31	$55.00	$57.83
Flow Charge (per 1,000 gallons)	$8.09	$8.43	$8.77	$9.27	$9.76	$10.26
Rate Revenue Adjustment [(1)]	6.2%	6.2%	5.9%	5.9%	5.5%	5.3%

[(1)] Amounts show reflect projected increases to revenues from recommended rates, rates recommended to become effective July 1st of each fiscal year.

Source: Wastewater Revenue Sufficiency and Rate Analysis Report FY 2023 through FY 2028.

1.2 Availability Fees

1.2.1 Availability Fee Purpose

The availability fee is a one-time charge assessed to new customers to recover the proportionate share of system costs and capital project funding attributable to expansion of the system required to support new customers. Existing customers are defined as those who have paid an availability fee for access to the system. Existing customers include those who are connected to the system and are receiving wastewater conveyance and treatment services as well as those who have paid an availability fee but are not yet receiving services. New customers are those who have yet to pay the availability fee. Upon payment of the availability fee a new customer becomes an existing customer.

The County's availability fee methodology is generally based on the "system buy-in" cost method. Under this method, the availability fee is designed to recover the incremental costs of infrastructure required for new customers to connect to the system. An exception to this method is used for the valuation of Upper Occoquan Service Authority (UOSA) capacity reservations, which are based on an “incremental approach,” in which the capacity valuation is based on the cost of the last facility expansion as determined by UOSA.

1.2.2 Availability Fee Rate History

The following table shows the historical availability fees by customer class for the period from FY 2013 through FY 2022:

Table B - 3: Availability Fee by Customer Class FY 2013 – FY 2022

Historical Availability Fees by Customer Class					
Fiscal Year	**Single Family Residence**	**Townhouse or Apartment**	**Hotel/Motel (per unit charge)**	**Mobile Home**	**Non-residential (per fixture unit)**
2013	$7,750	$6,200	$1,938	$6,200	$401
2014	$7,750	$6,200	$1,938	$6,200	$401
2015	$7,750	$6,200	$1,938	$6,200	$401
2016	$7,750	$6,200	$1,938	$6,200	$401
2017	$7,750	$6,200	$1,938	$6,200	$401
2018	$8,100	$6,480	$2,025	$6,480	$405
2019	$8,100	$6,480	$2,025	$6,480	$405

Historical Availability Fees by Customer Class					
Fiscal Year	**Single Family Residence**	**Townhouse or Apartment**	**Hotel/Motel (per unit charge)**	**Mobile Home**	**Non-residential (per fixture unit)**
2020	$8,340	$6,672	$2,085	$6,672	$417
2021	$8,340	$6,672	$2,085	$6,672	$417
2022	$8,507	$6,806	$2,127	$6,806	$425

Source: FY 2023 Fairfax County Adopted Budget Plan (Vol. 2)

1.2.3 Availability Fee Rate Increase

In FY 2023, the Availability Charge will increase from $8,507 to $8,592 for single family homes based on current projections of capital requirements. A summary of the recommended availability charges for FY 2023 is shown in the table below.

Table B - 4: Availability Fee by Customer Class

Current and Forecasted Availability Fees by Customer Class				
Fiscal Year	**Single Family Residence**	**Townhouses and Apartments**	**Hotels and Motels**	**Non- residential (per fixture unit)**
2023	$8,592	$6,874	$2,148	$430

Source: Wastewater Revenue Sufficiency and Rate Analysis Report FY 2023 through FY 202/.

1.3 Summary of FY 2022 Sewer Service Charge and Availability Changes

A detailed list of availability fees, connection fees and sewer service charges is shown in the following table.

Table B - 5: Sewer Service Charges FY 2013 – FY 2022

Fee History and Current Changes					
Fiscal Year	Availability Fee			Sewer Service Charge	
	Single Family Residence	Townhouse and Apartment	Commercial	Base Charge $/Qtr/ERC	Sewer Service Charge ($/1000 gal)
2013	$7,750	$6,200	$401	$5.50	$6.55
2014	$7,750	$6,200	$401	$12.79	$6.55
2015	$7,750	$6,200	$401	$15.86	$6.62
2016	$7,750	$6,200	$401	$20.15	$6.62
2017	$7,750	$6,200	$401	$24.68	$6.62
2018	$8,100	$6,480	$405	$27.62	$6.75
2019	$8,100	$6,480	$405	$30.38	$7.00
2020	$8,340	$6,672	$417	$32.91	$7.28
2021	$8,340	$6,672	$417	$32.91	$7.28
2022	$8,507	$6,806	$2,127	$36.54	$7.72

[1] Connection Charge rate was increased to $152.50 per foot in 2011. Prior to 2011, the rate was $6.00/ft.

[2] Lateral Spur Charge has been $600 per spur connection since March 1981.

Source: FY 2022 Annual Comprehensive Financial Report

1.4 Sewer Service Charge and Availability Rate Comparison

The table below compares average annual water and sewer service billings and Availability Fees per Single Family Residential Equivalent (SFRE) for Fairfax County with selected other regional jurisdictions. Representative average sewer service billings for the other regional jurisdictions have been developed by applying each jurisdiction's sewer service rate to appropriate SFRE water usage based on an analysis of Fairfax Water's historical average water usage records for SFREs. Both the existing and recommended charges are competitive with other surveyed Virginia wastewater utilities.

Table B - 6: Comparison of Average Sewer Service Charges and Availability Fees

Comparison of Average Sewer Service Charges and Availability Fees for SFREs		
Jurisdiction	**Average Monthly Sewer Service Billing [a,b]**	**Sewer Availability Fees [b,c]**
Fairfax County – FY 2022	$58.50	$8,507
Fairfax County – FY 2023	$61.92	$8,592
Fairfax County – FY 2024	$65.70	$8,860
City of Alexandria (served by AlexRenew)	$96.06	$8,859
Arlington County	$61.36	$3,240
DC Water	$112.32	$2,809
Loudoun Water	$45.18	$8,972
Prince William County	$52.00	$10,800
Washington Suburban Sanitary Commission	$77.59	Improved – $3,500 Unimproved – $14,500
Average of Other Jurisdictions	$74.08	$7,526

Source: Wastewater Revenue Sufficiency and Rate Analysis Report FY 2023 Through FY 2028
Notes:

a) Based on a quarterly use of 18,000 gallons which is the Fairfax County average winter quarter use.
b) Reflects rates in effect October 2022.
c) Availability fees reflect differences in the methodology utilized in their development as well as differences in such factors as level of service, regulatory requirements, and receipt of grants.

Appendix C - Wastewater Revenue Sufficiency and Rate Analysis Tables

Table of Contents

Table 1
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Summary of Implied Historical Customer Billing Statistics

Line No.	Description	Historical Fiscal Year Ended June 30, 2005	2006	2007	2008	2009	2010	2011	2012	2013
	Total System Customer Statistics (FY 2005 - FY 2013)									
1	ERU Growth	n/a	1,514	7,407	3,167	(40,116)	1,886	8,836	(61)	3,859
2	Estimated ERUs [1]	341,390	342,904	350,311	353,478	313,362	315,248	324,084	324,023	327,882
3	Average Billed Wastewater Flows (Kgal) [2]	24,713,152	24,380,182	25,112,557	24,624,563	24,510,612	24,962,443	23,934,607	24,672,538	24,518,064
4	Average Monthly Flow Per Billed ERC (gal)	6,032	5,925	5,974	5,805	6,518	6,599	6,154	6,345	6,231

Line No.	Description	Historical Fiscal Year Ended June 30, 2014	2015	2016	2017	2018	2019	2020	2021	2022
	Total System Customer Statistics (FY 2014 - FY 2022)									
5	ERU Growth	(2,304)	7,078	11,216	2,345	(4,497)	872	495	4,106	1,005
6	Estimated ERUs [1]	325,578	332,656	343,871	346,217	341,720	342,591	343,087	347,193	348,198
7	Average Billed Wastewater Flows (Kgal) [2]	24,764,339	23,919,871	23,451,904	23,113,566	23,086,536	22,593,545	22,770,424	22,351,730	22,750,614
8	Average Monthly Flow Per Billed ERC (gal)	6,339	5,992	5,683	5,563	5,630	5,496	5,531	5,365	5,445

Footnotes:

[1] Amounts shown through the Fiscal Year 2008 represent flow based ERUs reported by the County. Beginning with the Fiscal Year 2009 ERUs were estimated based on reported revenues.

[2] Billable Wastewater Flow is based on reported revenue divided by the rate in effect.

Table 2
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Summary of Projected Customer Billing Statistics

Line No.	Description	Historical 2022	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028
	Total System Customer Statistics							
1	ERU Growth		1,677	1,693	1,696	1,711	1,715	1,730
2	Estimated ERUs [1]	348,198	349,875	351,568	353,264	354,975	356,690	358,420
3	Average Billed Wastewater Flows (Kgal)	22,750,614	22,584,591	22,705,969	22,827,211	22,950,190	23,073,351	23,198,019
4	Average Monthly Flow Per Billed ERU	5,445	5,379	5,382	5,385	5,388	5,391	5,394

Footnotes:

[1] Amounts shown for the Fiscal Year 2021 are calculated based on customer statistics provided by Fairfax Water.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
			WWC - WASTEWATER COLLECTION DEPARTMENT:														
			WWC- Administration														
			Personnel Services														
1	G252301001500000	WCDPS	Regular Salaries	Labor	$ 593,269	$ 901,743	$ -	$ 901,743	$ 1,272,617	$ 1,310,796	$ 1,350,119	$ 1,390,623	$ 1,432,342	$ 1,475,312	$ 1,519,571	$ 1,565,158	$ 1,612,113
2	G252301001500040	WCDPS	New Position-Regular Salaries	Labor	-	185,086	-	185,086	-	-	-	-	-	-	-	-	-
3	G252301001500050	WCDPS	Annual Comp Increas	Labor	-	53,776	-	53,776	-	-	-	-	-	-	-	-	-
4	G252301001500080	WCDPS	POS Turnover-Pay	Labor	-	(66,136)	-	(66,136)	-	-	-	-	-	-	-	-	-
5	G252301001500090	WCDPS	Reg Sal Non Mert Em	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
6	G252301001500100	WCDPS	Shift Differential	Labor	25	4,002	-	4,002	-	-	-	-	-	-	-	-	-
7	G252301001500110	WCDPS	Extra pay	Labor	934	60,907	-	60,907	-	-	-	-	-	-	-	-	-
8	G252301001500130	WCDPS	Accrued Leave	Labor	4,879	-	-	-	-	-	-	-	-	-	-	-	-
9	G252301001500150	WCDPS	Leave Pay Out	Labor	26,944	-	-	-	-	-	-	-	-	-	-	-	-
10	G252301001501000	WCDPS	Fringe Benefits	Benefits	-	458,092	-	458,092	521,738	537,390	553,512	570,117	587,221	604,837	622,982	641,672	660,922
11	G252301001501010	WCDPS	FICA	Benefits	34,149	-	-	-	-	-	-	-	-	-	-	-	-
12	G252301001501011	WCDPS	Medicare	Benefits	8,603	-	-	-	-	-	-	-	-	-	-	-	-
13	G252301001501020	WCDPS	Retire Contrb-EE Sy	Benefits	169,876	-	-	-	-	-	-	-	-	-	-	-	-
14	G252301001501060	WCDPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
15	G252301001501061	WCDPS	Health OAP 90%	Benefits	15,889	-	-	-	-	-	-	-	-	-	-	-	-
16	G252301001501062	WCDPS	Health-HSA Plan	Benefits	2,225	-	-	-	-	-	-	-	-	-	-	-	-
17	G252301001501063	WCDPS	Health-MyChoice	Benefits	13,916	-	-	-	-	-	-	-	-	-	-	-	-
18	G252301001501070	WCDPS	Health-Cigna Low	Benefits	14,852	-	-	-	-	-	-	-	-	-	-	-	-
19	G252301001501080	WCDPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
20	G252301001501090	WCDPS	Health-Kaiser	Benefits	31,894	-	-	-	-	-	-	-	-	-	-	-	-
21	G252301001501100	WCDPS	Insurance-Group Life	Benefits	842	-	-	-	-	-	-	-	-	-	-	-	-
22	G252301001501110	WCDPS	Delta Dental	Benefits	3,599	-	-	-	-	-	-	-	-	-	-	-	-
23	G252301001502120	WCDOE	Worker Comp Ins Plc	Benefits	15,000	-	-	-	-	-	-	-	-	-	-	-	-
24			Total Personnel Services		$ 936,897	$ 1,597,470	$ -	$ 1,597,470	$ 1,794,355	$ 1,848,186	$ 1,903,631	$ 1,960,740	$ 2,019,562	$ 2,080,149	$ 2,142,554	$ 2,206,830	$ 2,273,035
			Operating Expenses														
25	G252301001510000	WCDOE	Office Equip&Furnit	Inflation	$ 6,689	$ 17,284	$ -	$ 17,284	$ 1,000	$ 1,024	$ 1,049	$ 1,074	$ 1,100	$ 1,126	$ 1,153	$ 1,181	$ 1,209
26	G252301001510020	WCDOE	Office Supplies	Inflation	5,477	17,978	-	17,978	6,000	6,144	6,291	6,442	6,597	6,755	6,918	7,084	7,254
27	G252301001510030	WCDOE	Computer Equipment	Inflation	895	-	-	-	-	-	-	-	-	-	-	-	-
28	G252301001510040	WCDOE	Computer Acces&Supl	Inflation	43	-	-	-	5,000	5,120	5,243	5,369	5,498	5,629	5,765	5,903	6,045
29	G252301001510060	WCDOE	Printing Acces&Supl	Inflation	763	-	-	-	1,300	1,331	1,363	1,396	1,429	1,464	1,499	1,535	1,572
30	G252301001510070	WCDOE	Cleaning Supplies County	Inflation	221	-	-	-	-	-	-	-	-	-	-	-	-
31	G252301001510080	WCDOE	Postage	Inf/Cust	604	-	-	-	2,000	2,057	2,115	2,175	2,236	2,299	2,365	2,431	2,500
32	G252301001510200	WCDOE	Bldg Maint & Repair	Repair	12,160	-	-	-	12,500	13,000	13,520	14,061	14,623	15,208	15,816	16,449	17,107
33	G252301001510203	WCDOE	Hardware	Repair	3,841	-	-	-	-	-	-	-	-				
34	G252301001510206	WCDOE	Paint/Paint Supplies	Repair	2,342	-	-	-	-	-	-	-	-				
35	G252301001510210	WCDOE	Grnds Maint Equ&Supl	Repair	544	-	-	-	500	520	541	562	585	608	633	658	684
36	G252301001510400	WCDOE	Educational Supplie	Inflation	1,379	-	-	-	1,500	1,536	1,573	1,611	1,649	1,689	1,729	1,771	1,813
37	G252301001510600	WCDOE	Chemicals	Chemicals	-	-	-	-	-	-	-	-	-	-	-	-	-
38	G252301001510610	WCDOE	Tools County	Inflation	1,969	-	-	-	4,000	4,096	4,194	4,295	4,398	4,504	4,612	4,722	4,836
39	G252301001510620	WCDOE	Eng Drft&Sur Eqp&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
40	G252301001510630	WCDOE	Water Treat Eqp&Sup	Inflation	216	-	-	-	-	-	-	-	-	-	-	-	-
41	G252301001510640	WCDOE	Food Srv Equip/Supl	Inflation	112	-	-	-	-	-	-	-	-				
42	G252301001510650	WCDOE	Hshl Aplnc/Supl/Rep	Inflation	1,778	-	-	-	750	768	786	805	825	844	865	885	907
43	G252301001510660	WCDOE	Med&Lab Eqp and Sup	Inflation	10,379	-	-	-	6,500	6,656	6,816	6,979	7,147	7,318	7,494	7,674	7,858
44	G252301001510670	WCDOE	Park/Rctn Area Equip	Inflation	908	-	-	-	-	-	-	-	-	-	-	-	-
45	G252301001512990	WCDOE	Other Operating Sup	Inflation	45,627	83,505	-	83,505	200,000	204,800	209,715	214,748	219,902	225,180	230,584	236,118	241,785
46	G252301001512992	WCDOE	Goods Receipts Without PO	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
47	G252301001513020	WCDOE	Automotive Equp&Sup	Inflation	269	25,000	-	25,000	25,000	25,600	26,214	26,844	27,488	28,147	28,823	29,515	30,223
48	G252301001514010	WCDOE	Fire Protec Eqp&Supl	Inflation	491	2,509	-	2,509	-	-	-	-	-				
49	G252301001514020	WCDOE	Uniform/Wear Appare	Inf/Emp	37,615	112,338	-	112,338	250,000	256,000	262,144	268,435	274,878	281,475	288,230	295,148	302,231
50	G252301001514030	WCDOE	Mis Pub Safe Eqp&Sup	Repair	1,277	-	-	-	-	-	-	-	-				
51	G252301001520000	WCDOE	Ofc Eqp Maint&Repai	Repair	-	-	-	-	1,500	1,560	1,622	1,687	1,755	1,825	1,898	1,974	2,053
52	G252301001520010	WCDOE	Bldg Maint & Repair	Repair	49,638	25,757	-	25,757	200,000	208,000	216,320	224,973	233,972	243,331	253,064	263,186	273,714
53	G252301001520020	WCDOE	Construct Maint/Repr	Repair	(56,665)	-	-	-	85,000	88,400	91,936	95,613	99,438	103,415	107,552	111,854	116,328
54	G252301001520025	WCDOE	Custodial Services	Repair	3,960	-	-	-	-	-	-	-	-				
55	G252301001520110	WCDOE	Other Maint & Repai	Repair	1,600	40,000	-	40,000	30,000	31,200	32,448	33,746	35,096	36,500	37,960	39,478	41,057
56	G252301001520130	WCDOE	IT Equip Maint&Supp	Inflation	296	-	-	-	-	-	-	-	-				
57	G252301001521050	WCDOE	Edu/Training Service	Inflation	10,594	6,500	-	6,500	30,000	30,720	31,457	32,212	32,985	33,777	34,588	35,418	36,268
58	G252301001521060	WCDOE	Computer Services	Inflation	-	-	-	-	40,000	40,960	41,943	42,950	43,980	45,036	46,117	47,224	48,357
59	G252301001521062	WCDOE	Tech Infra Chrgbck	Inflation	16,397	16,397	-	16,397	18,000	18,432	18,874	19,327	19,791	20,266	20,753	21,251	21,761
60	G252301001521070	WCDOE	Print/Typeset Servce	Inflation	738	-	-	-	-	-	-	-	-				
61	G252301001521080	WCDOE	Other Pro Cntrct Sv	Inflation	188,441	52,571	-	52,571	50,000	51,200	52,429	53,687	54,976	56,295	57,646	59,030	60,446
62	G252301001521090	WCDOE	Comm & Media Servic	Inflation	301,448	191,835	-	191,835	400,000	409,600	419,430	429,497	439,805	450,360	461,169	472,237	483,570
63	G252301001521092	WCDOE	Telecom Service-Commercial	Inflation	-	-	-	-	40,000	40,960	41,943	42,950	43,980	45,036	46,117	47,224	48,357
64	G252301001521093	WCDOE	Telecommunication Chargeback	Inflation	41,424	41,424	-	41,424	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
65	G252301001521110	WCDOE	Public Works Service	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
66	G252301001521140	WCDOE	Safety&Emergency Svc	Inflation	1,160	7,000	-	7,000	-	-	-	-	-	-	-	-	-
67	G252301001521150	WCDOE	Health Related Srvs	Inflation	3,002	-	-	-	-	-	-	-	-				
68	G252301001521210	WCDOE	Licensing Fees	Inflation	7,530	5,625	-	5,625	7,500	7,680	7,864	8,053	8,246	8,444	8,647	8,854	9,067
69	G252301001521240	WCDOE	Meals	Inflation	1,292	-	-	-	1,500	1,536	1,573	1,611	1,649	1,689	1,729	1,771	1,813
70	G252301001521250	WCDOE	Miscellaneous Services	Inflation	7,225	557	-	557	-	-	-	-	-	-	-	-	-
71	G252301001530000	WCDOE	Electricity County	Electricity	59,666	307,602	-	307,602	70,000	71,750	73,544	75,382	77,267	79,199	81,179	83,208	85,288
72	G252301001530010	WCDOE	Natural Gas County	Gas	8,820	6,500	-	6,500	7,000	7,035	7,070	7,106	7,141	7,177	7,213	7,249	7,285

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
73	G252301001530040	WCDOE	Water County	Water	4,677	5,560	-	5,560	4,800	5,136	5,444	5,716	5,945	6,123	6,270	6,421	6,575
74	G252301001530050	WCDOE	Other Utility Expense	Inflation	3,844	-	-	-	-	-	-	-	-	-	-	-	-
75	G252301001542000	WCDOE	Local County Travel	Inflation	-	-	-	-	500	512	524	537	550	563	576	590	604
76	G252301001542050	WCDOE	Miscellaneous Travel	Inflation	1,724	47	-	47	5,000	5,120	5,243	5,369	5,498	5,629	5,765	5,903	6,045
77	G252301001540540	WCDOE	Housing Admin Fee	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
78	G252301001541050	WCDOE	Gen Liab Admin	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-
79	G252301001541090	WCDOE	Auto Liab Admin	Insurance	117,825	-	-	-	-	-	-	-	-	-	-	-	-
80	G252301001542200	WCDOE	Certification	Inflation	265	-	-	-	-	-	-	-	-	-	-	-	-
81	G252301001542210	WCDOE	Mgmt/Prof Training	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
82	G252301001542220	WCDOE	Technical Train Cnt	Inflation	9,235	44,348	-	44,348	5,500	5,632	5,767	5,906	6,047	6,192	6,341	6,493	6,649
83	G252301001542520	WCDOE	Reimb-Telephone Exp	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
84	G252301001543000	WCDOE	Cash Awards	Inflation	464	-	-	-	-	-	-	-	-	-	-	-	-
85	G252301001543020	WCDOE	Departmental Awards	Inflation	-	5,596	-	5,596	7,000	7,168	7,340	7,516	7,697	7,881	8,070	8,264	8,462
86	G252301001543030	WCDOE	Plaques and Awards	Inflation	374	-	-	-	-	-	-	-	-	-	-	-	-
87	G252301001544000	WCDOE	Copying	Inflation	4,677	25,000	-	25,000	9,000	9,216	9,437	9,664	9,896	10,133	10,376	10,625	10,880
88	G252301001544020	WCDOE	Phototypesetting	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
89	G252301001544030	WCDOE	Printing and Bindin	Inflation	3,128	11,011	-	11,011	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
90	G252301001544050	WCDOE	Assigned Agency Veh	Inflation	568,745	202,293	-	202,293	700,000	716,800	734,003	751,619	769,658	788,130	807,045	826,414	846,248
91	G252301001544060	WCDOE	Motor Pool	Inflation	409	-	-	-	-	-	-	-	-	-	-	-	-
92	G252301001544070	WCDOE	Fuel	Fuel	278,279	-	-	-	210,000	218,400	227,136	236,221	245,670	255,497	265,717	276,346	287,400
93	G252301001544080	WCDOE	Vehicle Replacement	Inflation	738	-	-	-	-	-	-	-	-	-	-	-	-
94	G252301001544090	WCDOE	Services-Other Agency	Inflation	156	-	-	-	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
95	G252301001544512	WCDOE	Internal FFX Suppor	Inflation	-	10,087	-	10,087	-	-	-	-	-	-	-	-	-
96	G252301001544538	WCDOE	Prof Memberships	Inf/Emp	2,169	16,918	-	16,918	3,500	3,584	3,670	3,758	3,848	3,941	4,035	4,132	4,231
97	G252301001544539	WCDOE	Prof Subscriptions	Inf/Emp	-	-	-	-	-	-	-	-	-	-	-	-	-
98	G252301001544540	WCDOE	Credit Card Expense	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
99	G252301001544990	WCDOE	Other Operating Exp	Inflation	13,627	65,312	-	65,312	70,000	71,680	73,400	75,162	76,966	78,813	80,705	82,641	84,625
100	G252301001555013O	WCDOE	Payments to VA	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
101	G252301001580000	WCDOE	Indirect Cost Allocation	Constant	2,850,000	-	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
102			Total Operating Expenses		$ 4,642,500	$ 1,346,554	$ 3,000,000	$ 4,346,554	$ 5,541,850	$ 5,611,653	$ 5,683,442	$ 5,757,270	$ 5,833,196	$ 5,911,278	$ 5,991,603	$ 6,074,278	$ 6,159,376
			Capital Equipment [1]														
103			Equipment Expense	Bud Cap	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
104			Vehicles SC/No WBS	Bud Cap	-	174,666	(174,666)	-	-	-	-	-	-	-	-	-	-
105			Total Capital Equipment [1]		$ -	$ 174,666	$ (174,666)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
106			Total WWC- Administration		$ 5,579,396	$ 3,118,690	$ 2,825,334	$ 5,944,024	$ 7,336,205	$ 7,459,838	$ 7,587,073	$ 7,718,011	$ 7,852,758	$ 7,991,427	$ 8,134,157	$ 8,281,109	$ 8,432,411
			WWC - Gravity Sewer														
			Personnel Services														
107	G252301002500090	WCDPS	Regular Salaries	Labor	2,351,264	3,471,219	-	3,471,219	4,132,672	4,256,652	4,384,352	4,515,882	4,651,359	4,790,900	4,934,626	5,082,665	5,235,145
108	G252301002500100	WCDPS	Annual Comp Increas	Labor	-	250,073	-	250,073	-	-	-	-	-	-	-	-	-
109	G252301002500110	WCDPS	POS Turnover-Pay	Labor	-	(176,477)	-	(176,477)	-	-	-	-	-	-	-	-	-
110	G252301002500090	WCDPS	Reg Sal-Non Mert Em	Labor	152,688	109,684	-	109,684	-	-	-	-	-	-	-	-	-
111	G252301002500100	WCDPS	Shift Differential	Labor	201	-	-	-	-	-	-	-	-	-	-	-	-
112	G252301002500110	WCDPS	Extra pay	Labor	249,478	271,041	-	271,041	-	-	-	-	-	-	-	-	-
113	G252301002500130	WCDPS	Accrued Leave	Labor	(1,919)	-	-	-	-	-	-	-	-	-	-	-	-
114	G252301002500150	WCDPS	Stip, Award, Allwnce	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
115	G252301002500150	WCDPS	Leave Pay-out	Labor	16,829	-	-	-	-	-	-	-	-	-	-	-	-
116	G252301002501000	WCDPS	Fringe Benefits	Benefits	-	1,668,545	-	1,668,545	1,761,194	1,814,030	1,868,451	1,924,504	1,982,239	2,041,707	2,102,958	2,166,046	2,231,028
117	G252301002501010	WCDPS	FICA	Benefits	162,542	-	-	-	-	-	-	-	-	-	-	-	-
118	G252301002501011	WCDPS	Medicare	Benefits	38,014	-	-	-	-	-	-	-	-	-	-	-	-
119	G252301002501020	WCDPS	Retire Contrb-EE Sy	Benefits	628,928	-	-	-	-	-	-	-	-	-	-	-	-
120	G252301002501060	WCDPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
121	G252301002501061	WCDPS	Health OAP 90%	Benefits	148,101	-	-	-	-	-	-	-	-	-	-	-	-
122	G252301002501062	WCDPS	Health-HSA Plan	Benefits	2,800	-	-	-	-	-	-	-	-	-	-	-	-
123	G252301002501063	WCDPS	Health-MyChoice	Benefits	20,951	-	-	-	-	-	-	-	-	-	-	-	-
124	G252301002501070	WCDPS	Health-Cigna Low	Benefits	67,879	-	-	-	-	-	-	-	-	-	-	-	-
125	G252301002501080	WCDPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
126	G252301002501090	WCDPS	Health-Kaiser	Benefits	166,254	-	-	-	-	-	-	-	-	-	-	-	-
127	G252301002501100	WCDPS	Insurance-Group Life	Benefits	3,285	-	-	-	-	-	-	-	-	-	-	-	-
128	G252301002501110	WCDPS	Delta Dental	Benefits	16,976	-	-	-	-	-	-	-	-	-	-	-	-
129	G252301002502150	WCDOE	Workers Comp Idmty-P	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
130	G252301002502150	WCDOE	Employee Claim Write-off	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
131			Total Personnel Services		$ 4,024,271	$ 5,594,085	$ -	$ 5,594,085	$ 5,893,866	$ 6,070,682	$ 6,252,802	$ 6,440,387	$ 6,633,598	$ 6,832,606	$ 7,037,584	$ 7,248,712	$ 7,466,173
			Operating Expenses														
132	G252301002510000	WCDOE	Office Equip&Furnit	Inflation	$ 4,922	$ -	$ -	$ -	$ 2,500	$ 2,560	$ 2,621	$ 2,684	$ 2,749	$ 2,815	$ 2,882	$ 2,951	$ 3,022
133	G252301002510020	WCDOE	Office Supplies	Inflation	26	-	-	-	-	-	-	-	-	-	-	-	-
134	G252301002510030	WCDOE	Computer Equipment	Inflation	$ -	$ -	$ -	$ -	$ 5,000	$ 5,120	$ 5,243	$ 5,369	$ 5,498	$ 5,629	$ 5,765	$ 5,903	$ 6,045
135	G252301002510050	WCDOE	IT Replacement Part	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
136	G252301002510040	WCDOE	Computer Acces&Supl	Inflation	$ 933	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
137	G252301002510080	WCDOE	Postage	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
138	G252301002510200	WCDOE	Bldg Maint & Repair	Repair	$ 46,931	$ 39,510	$ -	$ 39,510	$ 125,000	$ 130,000	$ 135,200	$ 140,608	$ 146,232	$ 152,082	$ 158,165	$ 164,491	$ 171,071
139	G252301002510203	WCDOE	Hardware	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
140	G252301002510210	WCDOE	Grnds Maint Equ&Sup	Inflation	$ 4,763	$ 7,120	$ -	$ 7,120	$ 10,000	$ 10,240	$ 10,486	$ 10,737	$ 10,995	$ 11,259	$ 11,529	$ 11,806	$ 12,089
141	G252301002510220	WCDOE	Lighting Equiptment	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
142	G252301002510400	WCDOE	Educational Supplie	Inflation	$ 1,193	$ -	$ -	$ -	$ 5,000	$ 5,120	$ 5,243	$ 5,369	$ 5,498	$ 5,629	$ 5,765	$ 5,903	$ 6,045
143	G252301002510610	WCDOE	Tools County	Inflation	29,606	3,355	-	3,355	50,000	51,200	52,429	53,687	54,976	56,295	57,646	59,030	60,446
144	G252301002510620	WCDOE	Eng Drft&Sur Eqp&Sup	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
145	G252301002510630	WCDOE	Water Treat Eqp&Sup	Inflation	2,762	89,999	-	89,999	50,000	51,200	52,429	53,687	54,976	56,295	57,646	59,030	60,446
146	G252301002510650	WCDOE	Hshl Aplnc/Supl/Rep	Inflation	$ 850	$ 3,779	$ -	$ 3,779	$ 5,000	$ 5,120	$ 5,243	$ 5,369	$ 5,498	$ 5,629	$ 5,765	$ 5,903	$ 6,045
147	G252301002510660	WCDOE	Med&Lab Eqp and Sup	Inflation	7,735	3,764	-	3,764	5,000	5,120	5,243	5,369	5,498	5,629	5,765	5,903	6,045
148	G252301002510670	WCDOE	Park/Rctn Area Equi	Inflation	$ 898	$ 2,479	$ -	$ 2,479	$ 5,000	$ 5,120	$ 5,243	$ 5,369	$ 5,498	$ 5,629	$ 5,765	$ 5,903	$ 6,045
149	G252301002512990	WCDOE	Other Operating Sup	Inflation	11,761	150,576	-	150,576	100,000	102,400	104,858	107,374	109,951	112,590	115,292	118,059	120,893
150	G252301002512992	WCDOE	Goods Receipt W/O P	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
151	G252301002513020	WCDOE	Automotive Equp&Sup	Inflation	242	12,884	-	12,884	5,000	5,120	5,243	5,369	5,498	5,629	5,765	5,903	6,045
152	G252301002514010	WCDOE	Fire Protec Eqp&Sup	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
153	G252301002514020	WCDOE	Uniform/Wear Appare	Inf/Emp	3,571	-	-	-	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
154	G252301002514030	WCDOE	Mis Pub Safe Eqp&Sup	Repair	$ 880	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
155	G252301002520000	WCDOE	Ofc Eqp Maint&Repair	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
156	G252301002520010	WCDOE	Bldg Maint&Rep Svcs	Repair	$ 5,951	$ -	$ -	$ -	$ 50,000	$ 52,000	$ 54,080	$ 56,243	$ 58,493	$ 60,833	$ 63,266	$ 65,797	$ 68,428
157	G252301002520017	WCDOE	Plumbing M&R	Repair	1,500	-	-	-	-	-	-	-	-	-	-	-	-
158	G252301002520020	WCDOE	Construct Maint/Repr	Repair	$ 9,995	$ -	$ -	$ -	$ 150,000	$ 156,000	$ 162,240	$ 168,730	$ 175,479	$ 182,498	$ 189,798	$ 197,390	$ 205,285
159	G252301002520070	WCDOE	Pub Safety Equip M&	Inflation	6,065	13,038	-	13,038	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
160	G252301002520110	WCDOE	Other Maint & Repai	Repair	$ 18,888	$ 150,000	$ -	$ 150,000	$ 150,000	$ 156,000	$ 162,240	$ 168,730	$ 175,479	$ 182,498	$ 189,798	$ 197,390	$ 205,285
161	G252301002521050	WCDOE	Edu/Training Service	Inflation	667	-	-	-	-	-	-	-	-	-	-	-	-
162	G252301002521080	WCDOE	Other Pro Cntrct Svc	Inflation	$ 70,679	$ 153,835	$ -	$ 153,835	$ 200,000	$ 204,800	$ 209,715	$ 214,748	$ 219,902	$ 225,180	$ 230,584	$ 236,118	$ 241,785
163	G252301002521090	WCDOE	Comm & Media Service	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
164	G252301002521100	WCDOE	Transportation Services	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
165	G252301002521140	WCDOE	Safety&Emergency Sv	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
166	G252301002521150	WCDOE	Health Related Srvs	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
167	G252301002521210	WCDOE	Licensing Fees	Inflation	80	-	-	-	-	-	-	-	-	-	-	-	-
168	G252301002521250	WCDOE	Misc Servcices	Inflation	$ (13)	$ 225,000	$ -	$ 225,000	$ 100,000	$ 102,400	$ 104,858	$ 107,374	$ 109,951	$ 112,590	$ 115,292	$ 118,059	$ 120,893
169	G252301002523020	WCDOE	Rent- Operat Equipmn	Inflation	2,181	-	-	-	15,000	15,360	15,729	16,106	16,493	16,888	17,294	17,709	18,134
170	G252301002523030	WCDOE	Rent-Construction Equipment	Inflation	$ -	$ -	$ -	$ -	$ 15,000	$ 15,360	$ 15,729	$ 16,106	$ 16,493	$ 16,888	$ 17,294	$ 17,709	$ 18,134
171	G252301002530040	WCDOE	Water County	Water	-	4,532	-	4,532	5,000	5,350	5,671	5,955	6,193	6,379	6,532	6,688	6,849
172	G252301002542050	WCDOE	Miscellaneous Travel	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
173	G252301002542210	WCDOE	Mgmt/Prof Training	Inflation	2,794	-	-	-	-	-	-	-	-	-	-	-	-
174	G252301002542220	WCDOE	Technical Train Cnt	Inflation	$ 5,767	$ 20,000	$ -	$ 20,000	$ 10,000	$ 10,240	$ 10,486	$ 10,737	$ 10,995	$ 11,259	$ 11,529	$ 11,806	$ 12,089
175	G252301002541020	WCDOE	Crime Ins Prem	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-
176	G252301002543000	WCDOE	Cash Awards	Benefits	$ 464	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
177	G252301002544000	WCDOE	Copying	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
178	G252301002544050	WCDOE	Assigned Agency Veh	Inflation	$ -	$ 410,000	$ (410,000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
179	G252301002544060	WCDOE	Motor Pool	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
180	G252301002544070	WCDOE	Fuel	Fuel	$ -	$ 199,496	$ -	$ 199,496	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
181	G252301002544090	WCDOE	Service-Other Agenc	Inflation	31,665	-	-	-	-	-	-	-	-	-	-	-	-
182	G252301002544512	WCDOE	Internal FFX Suppor	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
183	G252301002544538	WCDOE	Professional Memberships	Inf/Emp	-	-	-	-	-	-	-	-	-	-	-	-	-
184	G252301002544540	WCDOE	Credit Card Expense	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185	G252301002544547	WCDOE	Refuse Disposal Exp	Inflation	5,769	2,959	-	2,959	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
186	G252301002544990	WCDOE	Other Operating Exp	Inflation	490	25,000	-	25,000	50,000	51,200	52,429	53,687	54,976	56,295	57,646	59,030	60,446
187			Total Operating Expenses		$ 280,017	$ 1,517,326	$ (410,000)	$ 1,107,326	$ 1,142,500	$ 1,177,750	$ 1,214,113	$ 1,251,619	$ 1,290,302	$ 1,330,197	$ 1,371,369	$ 1,413,898	$ 1,457,833
			Recovered Costs														
188	G252301002500121	WCDRC	WPFO-Labor Charges	Labor	$ (164,311)	$ (327,799)	$ -	$ (327,799)	$ (250,000)	$ (257,500)	$ (265,225)	$ (273,182)	$ (281,377)	$ (289,819)	$ (298,513)	$ (307,468)	$ (316,693)
189	G252301002500122	WCDRC	WPFO-Agency OH Cost	Inflation	(68,252)	-	-	-	(100,000)	(102,400)	(104,858)	(107,374)	(109,951)	(112,590)	(115,292)	(118,059)	(120,893)
190	G252301002501520	WCDRC	Reimb-CptlFringe Be	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
191	G252301002543500	WCDRC	WPFO-Materials	Inflation	-	(45,122)	-	(45,122)	-	-	-	-	-	-	-	-	-
192	G252301002543510	WCDRC	WPFO-Equipment	Inflation	(3,871)	(3,532)	-	(3,532)	(5,000)	(5,120)	(5,243)	(5,369)	(5,498)	(5,629)	(5,765)	(5,903)	(6,045)
193			Total Recovered Costs		$ (236,434)	$ (376,453)	$ -	$ (376,453)	$ (355,000)	$ (365,020)	$ (375,325)	$ (385,925)	$ (396,826)	$ (408,038)	$ (419,570)	$ (431,431)	$ (443,630)
			Capital Equipment [1] [1]														
194	G252301002566125	WCDCE	Equipment Expense	Bud Cap	$ -	$ 277,493	$ (277,493)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
195	G252301002566150	WCDCE	Vehicles Expense	Bud Cap	-	3,463,683	(3,463,683)	-	-	-	-	-	-	-	-	-	-
196	G252301002566999	WCDCE	FCG General Capital	Bud Cap	-	-	-	-	-	-	-	-	-	-	-	-	-
197			Total Capital Equipment [1] [1]		$ -	$ 3,741,176	$ (3,741,176)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
198			Total WWC - Gravity Sewer		$ 4,067,854	$ 10,476,135	$ (4,151,176)	$ 6,324,958	$ 6,681,366	$ 6,883,412	$ 7,091,590	$ 7,306,081	$ 7,527,074	$ 7,754,765	$ 7,989,383	$ 8,231,179	$ 8,480,376
			WWC - Pumping Stations														
			Personnel Services														
199	G252301003500000	WCDPS	Regular Salaries	Labor	$ 1,864,017	$ 2,276,350	$ -	$ 2,276,350	$ 2,507,609	$ 2,582,837	$ 2,660,322	$ 2,740,132	$ 2,822,336	$ 2,907,006	$ 2,994,216	$ 3,084,043	$ 3,176,564
200	G252301003500050	WCDPS	Annual Comp Increas	Labor	-	138,707	-	138,707	-	-	-	-	-	-	-	-	-
201	G252301003500080	WCDPS	POS Turnover-Pay	Labor	-	(176,510)	-	(176,510)	-	-	-	-	-	-	-	-	-
202	G252301003500090	WCDPS	Reg Sal-Non Mert Em	Labor	-	701	-	701	-	-	-	-	-	-	-	-	-
203	G252301003500090	WCDPS	Shift Differential	Labor	9	-	-	-	-	-	-	-	-	-	-	-	-
204	G252301003500110	WCDPS	Extra pay	Labor	162,682	91,538	-	91,538	-	-	-	-	-	-	-	-	-
205	G252301003500130	WCDPS	Accrued Leave	Labor	(16,336)	-	-	-	-	-	-	-	-	-	-	-	-
206	G252301003500150	WCDPS	Leave Pay-out	Labor	37,971	-	-	-	-	-	-	-	-	-	-	-	-
207	G252301003501000	WCDPS	Fringe Benefits	Benefits	-	985,547	-	985,547	1,068,186	1,100,232	1,133,239	1,167,236	1,202,253	1,238,320	1,275,470	1,313,734	1,353,146
208	G252301003501010	WCDPS	FICA	Benefits	121,252	-	-	-	-	-	-	-	-	-	-	-	-
209	G252301003501011	WCDPS	Medicare	Benefits	28,357	-	-	-	-	-	-	-	-	-	-	-	-
210	G252301003501020	WCDPS	Retire Contrb-EE Sy	Benefits	521,901	-	-	-	-	-	-	-	-	-	-	-	-
211	G252301003501060	WCDPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
212	G252301003501061	WCDPS	Health OAP 90%	Benefits	124,446	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
213	G252301003501062	WCDPS	Health-HSA Plan	Benefits	4,325	-	-	-	-	-	-	-	-	-	-	-	-
214	G252301003501063	WCDPS	Health-MyChoice	Benefits	36,431	-	-	-	-	-	-	-	-	-	-	-	-
215	G252301003501070	WCDPS	Health Insurance-Cigna Low	Benefits	59,041	-	-	-	-	-	-	-	-	-	-	-	-
216	G252301003501080	WCDPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
217	G252301003501090	WCDPS	Health-Kaiser	Benefits	85,948	-	-	-	-	-	-	-	-	-	-	-	-
218	G252301003501100	WCDPS	Insurance-Group Life	Benefits	2,589	-	-	-	-	-	-	-	-	-	-	-	-
219	G252301003501110	WCDPS	Delta Dental	Benefits	12,655	-	-	-	-	-	-	-	-	-	-	-	-
220	G252301003502150	WCDOE	Workers Comp Idmty-P	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
221			Total Personnel Services		$ 3,045,290	$ 3,316,333	$ -	$ 3,316,333	$ 3,575,795	$ 3,683,069	$ 3,793,561	$ 3,907,368	$ 4,024,589	$ 4,145,326	$ 4,269,686	$ 4,397,777	$ 4,529,710
			Operating Expenses														
222	G252301003510000	WCDOE	Office Equip&Furnitr	Inflation	858	-	-	-	-	-	-	-	-	-	-	-	-
223	G252301003510030	WCDOE	Computer Equipment	Inflation	$ -	$ -	$ -	$ -	$ 7,500	$ 7,680	$ 7,864	$ 8,053	$ 8,246	$ 8,444	$ 8,647	$ 8,854	$ 9,067
224	G252301003510040	WCDOE	Computer Acces&Supl	Inflation	-	-	-	-	5,000	5,120	5,243	5,369	5,498	5,629	5,765	5,903	6,045
225	G252301003510050	WCDOE	IT Replacement Part	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
226	G252301003510080	WCDOE	Postage	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
227	G252301003510200	WCDOE	Bldg Maint & Repair	Repair	6,159	325	-	325	10,000	10,400	10,816	11,249	11,699	12,167	12,653	13,159	13,686
228	G252301003510202	WCDOE	Electrical Supplies	Repair	17,814	-	-	-	-	-	-	-	-	-	-	-	-
229	G252301003510203	WCDOE	Hardware	Repair	1,128	-	-	-	-	-	-	-	-	-	-	-	-
230	G252301003510207	WCDOE	Plumbing Supplies	Repair	5,617	-	-	-	-	-	-	-	-	-	-	-	-
231	G252301003510210	WCDOE	Grnds Maint Equ&Supl	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
232	G252301003510400	WCDOE	Educational Supplies	Inflation	-	-	-	-	2,000	2,048	2,097	2,147	2,199	2,252	2,306	2,361	2,418
233	G252301003510600	WCDOE	Chemicals	Chem-Flow	243,733	186,514	-	186,514	290,000	302,576	315,701	329,395	343,686	358,599	374,161	390,399	407,347
234	G252301003510610	WCDOE	Tools County	Inflation	16,816	-	-	-	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
235	G252301003510620	WCDOE	Water Treat Eqp&Sup	Inflation	-	12,943	-	12,943	-	-	-	-	-	-	-	-	-
236	G252301003510630	WCDOE	Eng Drft&Sur Eqp&Sup	Inflation	18,737	68,221	-	68,221	20,000	20,480	20,972	21,475	21,990	22,518	23,058	23,612	24,179
237	G252301003510660	WCDOE	Med&Lab Eqp and Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
238	G252301003512990	WCDOE	Other Operating Sup	Inflation	151,055	460,811	-	460,811	245,000	250,880	256,901	263,067	269,380	275,845	282,466	289,245	296,187
239	G252301003513004	WCDOE	Diesel Fuel	Fuel	27,745	7,388	-	7,388	10,000	10,400	10,816	11,249	11,699	12,167	12,653	13,159	13,686
240	G252301003513020	WCDOE	Automotive Equp&Sup	Inflation	406	-	-	-	5,000	5,120	5,243	5,369	5,498	5,629	5,765	5,903	6,045
241	G252301003514020	WCDOE	Uniform/Wear Appare	Inf/Emp	249	-	-	-	-	-	-	-	-	-	-	-	-
242	G252301003514030	WCDOE	Mis Pub Safe Eqp&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
243	G252301003520000	WCDOE	Ofc Eqp Maint&Repair	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
244	G252301003520010	WCDOE	Bldg Maint & Repair	Repair	51,525	64,052	-	64,052	50,000	52,000	54,080	56,243	58,493	60,833	63,266	65,797	68,428
245	G252301003520020	WCDOE	Construct Maint/Repr	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
246	G252301003520050	WCDOE	Automotive Equip M&R	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
247	G252301003520110	WCDOE	Other Maint & Repai	Repair	515,747	487,415	-	487,415	325,000	338,000	351,520	365,581	380,204	395,412	411,229	427,678	444,785
248	G252301003521040	WCDOE	Employment Services	Inf/Emp	27,842	12,145	-	12,145	-	-	-	-	-	-	-	-	-
249	G252301003521050	WCDOE	Educational/Training Services	Inf/Emp	1,329	-	-	-	-	-	-	-	-	-	-	-	-
250	G252301003521060	WCDOE	Computer Services	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
251	G252301003521080	WCDOE	Other Pro Cntrct Sv	Inflation	62,720	27,845	-	27,845	240,000	245,760	251,658	257,698	263,883	270,216	276,701	283,342	290,142
252	G252301003521090	WCDOE	Comm & Media Service	Inflation	-	172,273	-	172,273	-	-	-	-	-	-	-	-	-
253	G252301003521130	WCDOE	Grnds/Rec/Parks Svcs	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
254	G252301003521140	WCDOE	Safety&Emergency Sv	Inflation	4,929	-	-	-	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
255	G252301003521210	WCDOE	Licensing Fees	Inflation	1,271	9,792	-	9,792	1,500	1,536	1,573	1,611	1,649	1,689	1,729	1,771	1,813
256	G252301003521250	WCDOE	Misc Servcices	Inflation	54,057	17,589	-	17,589	210,000	215,040	220,201	225,486	230,897	236,439	242,114	247,924	253,874
257	G252301003523020	WCDOE	Rent-Operating Equipment	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
258	G252301003530000	WCDOE	Electricity County	Electricity	1,175,661	2,252,904	-	2,252,904	1,600,000	1,640,000	1,681,000	1,723,025	1,766,101	1,810,253	1,855,509	1,901,897	1,949,445
259	G252301003530040	WCDOE	Water County	Water	34,677	5,803	-	5,803	37,000	39,590	41,965	44,064	45,826	47,201	48,334	49,494	50,682
260	G252301003542000	WCDOE	Local Travel County	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
261	G252301003542200	WCDOE	Certification	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
262	G252301003542210	WCDOE	Mgmt/Prof Training	Inflation	1,385	-	-	-	-	-	-	-	-	-	-	-	-
263	G252301003542220	WCDOE	Technical Train Cnt	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
264	G252301003542030	WCDOE	Operational Travel	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
265	G252301003543000	WCDOE	Cash Awards	Benefits	464	-	-	-	-	-	-	-	-	-	-	-	-
266	G252301003544050	WCDOE	Assigned Agency Veh	Inflation	-	61,974	-	61,974	-	-	-	-	-	-	-	-	-
267	G252301003544060	WCDOE	Motor Pool	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
268	G252301003544070	WCDOE	Fuel	Fuel	-	-	-	-	-	-	-	-	-	-	-	-	-
269	G252301003544512	WCDOE	Internal FFX Suppor	Inflation	10,200	-	-	-	12,500	12,800	13,107	13,422	13,744	14,074	14,412	14,757	15,112
270	G252301003544538	WCDOE	Professional Memberships	Inf/Emp	-	-	-	-	-	-	-	-	-	-	-	-	-
271	G252301003544540	WCDOE	Credit Card Expenditures	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
272	G252301003544990	WCDOE	Other Operating Exp	Inflation	(5,059)	80,000	-	80,000	24,000	24,576	25,166	25,770	26,388	27,022	27,670	28,334	29,014
273			Total Operating Expenses		$ 2,427,065	$ 3,927,994	$ -	$ 3,927,994	$ 3,114,500	$ 3,204,486	$ 3,296,895	$ 3,391,745	$ 3,489,070	$ 3,588,906	$ 3,691,496	$ 3,797,202	$ 3,906,132
			Recovered Costs														
274	G252301003500121	WCDRC	WPFO-Labor Charges	Labor	$ -	$ (20,247)	$ -	$ (20,247)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
275	G252301003500122	WCDRC	WPFO-Agency OH Cost	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
276	G252301003543500	WCDRC	WPFO-Materials	Inflation	-	(15,153)	-	(15,153)	-	-	-	-	-	-	-	-	-
277	G252301003543510	WCDRC	WPFO-Equipment	Inflation	-	(769)	-	(769)	-	-	-	-	-	-	-	-	-
278			Total Recovered Costs		$ -	$ (36,169)	$ -	$ (36,169)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			Capital Equipment [1]														
279	G252301003564100		Construct-Equip Acq	Bud Cap	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
280	G252301003566125	WCDCE	Equipment Expense	Bud Cap	-	142,249	(142,249)	-	250,000	257,500	265,225	273,182	281,377	289,819	298,513	307,468	316,693
281	G252301003566150	WCDCE	Vehicles Expense	Bud Cap	(254)	-	-	-	-	-	-	-	-	-	-	-	-
282			Total Capital Equipment [1]		$ (254)	$ 142,249	$ (142,249)	$ -	$ 250,000	$ 257,500	$ 265,225	$ 273,182	$ 281,377	$ 289,819	$ 298,513	$ 307,468	$ 316,693
283			Total WWC - Pumping Stations		$ 5,472,101	$ 7,350,407	$ (142,249)	$ 7,208,158	$ 6,940,295	$ 7,145,055	$ 7,355,681	$ 7,572,295	$ 7,795,036	$ 8,024,051	$ 8,259,695	$ 8,502,447	$ 8,752,535

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
			WWC - Project & Assets														
			Personnel Services														
284	G252301004500000	WCDPS	Regular Salaries	Labor	$ 2,548,086	$ 2,255,024	$ -	$ 2,255,024	$ 2,496,612	$ 2,571,510	$ 2,648,656	$ 2,728,115	$ 2,809,959	$ 2,894,258	$ 2,981,085	$ 3,070,518	$ 3,162,633
285	G252301004500050	WCDPS	New Position-Regular Salaries	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
286	G252301004500050	WCDPS	Annual Comp Increas	Labor	-	142,785	-	142,785	-	-	-	-	-	-	-	-	-
287	G252301004500090	WCDPS	Reg Sal Non Mert Em	Labor	70,904	2,775	-	2,775	-	-	-	-	-	-	-	-	-
288	G252301004500100	WCDPS	Shift Differential	Labor	4,371	-	-	-	-	-	-	-	-	-	-	-	-
289	G252301004500110	WCDPS	Extra pay	Labor	109,214	4	-	4	-	-	-	-	-	-	-	-	-
290	G252301004500130	WCDPS	Accrued Leave	Labor	47,935	-	-	-	-	-	-	-	-	-	-	-	-
291	G252301004500150	WCDPS	Leave Pay Out	Benefits	1,044	-	-	-	-	-	-	-	-	-	-	-	-
292	G252301004501000	WCDPS	Fringe Benefits	Benefits	-	999,829	-	999,829	1,039,822	1,071,017	1,103,147	1,136,242	1,170,329	1,205,439	1,241,602	1,278,850	1,317,215
293	G252301004501010	WCDPS	FICA	Benefits	160,453	-	-	-	-	-	-	-	-	-	-	-	-
294	G252301004501011	WCDPS	Medicare	Benefits	37,525	-	-	-	-	-	-	-	-	-	-	-	-
295	G252301004501020	WCDPS	Retire Contrb-EE Sy	Benefits	729,987	-	-	-	-	-	-	-	-	-	-	-	-
296	G252301004501060	WCDPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
297	G252301004501061	WCDPS	Health OAP 90%	Benefits	199,020	-	-	-	-	-	-	-	-	-	-	-	-
298	G252301004501062	WCDPS	Health-HSA Plan	Benefits	7,540	-	-	-	-	-	-	-	-	-	-	-	-
299	G252301004501063	WCDPS	Health-MyChoice	Benefits	70,191	-	-	-	-	-	-	-	-	-	-	-	-
300	G252301004501070	WCDPS	Health Cigna Low	Benefits	44,062	-	-	-	-	-	-	-	-	-	-	-	-
301	G252301004501080	WCDPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
302	G252301004501090	WCDPS	Health-Kaiser	Benefits	80,821	-	-	-	-	-	-	-	-	-	-	-	-
303	G252301004501100	WCDPS	Insurance-Group Life	Benefits	3,592	-	-	-	-	-	-	-	-	-	-	-	-
304	G252301004501110	WCDPS	Delta Dental	Benefits	16,330	-	-	-	-	-	-	-	-	-	-	-	-
305			Total Personnel Services		$ 4,131,074	$ 3,400,417	$ -	$ 3,400,417	$ 3,536,434	$ 3,642,527	$ 3,751,803	$ 3,864,357	$ 3,980,288	$ 4,099,696	$ 4,222,687	$ 4,349,368	$ 4,479,849
			Operating Expenses														
306	G252301004510000	WCDOE	Office Equip&Furnitr	Inflation	$ 4,366	$ -	$ -	$ -	$ 10,000	$ 10,240	$ 10,486	$ 10,737	$ 10,995	$ 11,259	$ 11,529	$ 11,806	$ 12,089
307	G252301004510030	WCDOE	Computer Equipment	Inflation	149	-	-	-	-	-	-	-	-	-	-	-	-
308	G252301004510031	WCDOE	Computer Sys Lic Non	Inflation	$ 23,807	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
309	G252301004510032	WCDOE	Othr NonCap Eqpt Pur	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
310	G252301004510040	WCDOE	Computer Acces&Supl	Inflation	$ 1,654	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
311	G252301004510610	WCDOE	Tools County	Inflation	13	-	-	-	-	-	-	-	-	-	-	-	-
312	G252301004510630	WCDOE	Water Treat Eqp&Supl	Inflation	$ -	$ 94	$ -	$ 94	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
313	G252301004510200	WCDOE	Bldg Materials & Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
314	G252301004510202	WCDOE	Electrical Supplies	Inflation	$ 850	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
315	G252301004510206	WCDOE	Paint/Paint Supplies	Inflation	3,462	-	-	-	-	-	-	-	-	-	-	-	-
316	G252301004510400	WCDOE	Educational Supplies	Inflation	$ 44	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
317	G252301004510620	WCDOE	Eng Drft&Sur Eqp&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
318	G252301004510660	WCDOE	Med&Lab Eqp and Supl	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
319	G252301004512990	WCDOE	Other Operating Sup	Inflation	41,386	65,699	-	65,699	-	-	-	-	-	-	-	-	-
320	G252301004513020	WCDOE	Automotive Equp&Supl	Inflation	$ 3,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
321	G252301004514000	WCDOE	Poli/Prison Eqp&Supl	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
322	G252301004514020	WCDOE	Uniform/Wear Apparel	Repair	$ 375	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
323	G252301004520000	WCDOE	Ofc Eqp Maint&Repair	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
324	G252301004520010	WCDOE	Bldg Maint&Rep Svcs	Repair	$ 9,626	$ 3,238	$ -	$ 3,238	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
325	G252301004520016	WCDOE	Extermination Svcs	Repair	2,667	-	-	-	-	-	-	-	-	-	-	-	-
326	G252301004520020	WCDOE	Construct Maint/Repr	Repair	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
327	G252301004520050	WCDOE	CCTV	Inflation	-	-	-	-	290,000	296,960	304,087	311,385	318,858	326,511	334,347	342,372	350,588
328	G252301004520070	WCDOE	Pub Safety Equip M&R	Repair	$ 632	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
329	G252301004520100	WCDOE	Scienti/Tech Eqp M&R	Repair	1,303	6,735	-	6,735	-	-	-	-	-	-	-	-	-
330	G252301004520110	WCDOE	Other Maint & Repai	Repair	$ 984	$ 145,097	$ -	$ 145,097	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
331	G252301004521050	WCDOE	Edu/Training Service	Inflation	427	-	-	-	-	-	-	-	-	-	-	-	-
332	G252301004521125	WCDOE	Miss Utility Service	Inflation	$ 206,645	$ 743	$ -	$ 743	$ 1,800,000	$ 1,843,200	$ 1,887,437	$ 1,932,735	$ 1,979,121	$ 2,026,620	$ 2,075,259	$ 2,125,065	$ 2,176,066
333	G252301004521210	WCDOE	Licensing Fees	Inflation	280	-	-	-	-	-	-	-	-	-	-	-	-
334	G252301004521060	WCDOE	Computer Services	Inflation	$ 38,462	$ 91,500	$ -	$ 91,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
335	G252301004521080	WCDOE	Other Pro Cntrct Sv	Inflation	506,633	526,807	-	526,807	180,000	184,320	188,744	193,274	197,912	202,662	207,526	212,506	217,607
336	G252301004521090	WCDOE	Comm & Media Serv	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
337	G252301004521250	WCDOE	Misc Servcices	Inflation	-	15,750	-	15,750	-	-	-	-	-	-	-	-	-
338	G252301004542000	WCDOE	Local Travel County	Inflation	$ 106	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
339	G252301004542220	WCDOE	Technical Training County	Inflation	8,804	1,232	-	1,232	35,000	35,840	36,700	37,581	38,483	39,406	40,352	41,321	42,312
340	G252301004542200	WCDOE	Certification	Inf/Emp	$ 1,075	$ -	$ -	$ -	$ 20,000	$ 20,480	$ 20,972	$ 21,475	$ 21,990	$ 22,518	$ 23,058	$ 23,612	$ 24,179
341	G252301004542210	WCDOE	Mgmt/Prof Training	Inf/Emp	2,177	-	-	-	-	-	-	-	-	-	-	-	-
342	G252301004544538	WCDOE	Professional Memberships	Inf/Emp	$ 115	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
343	G252301004544990	WCDOE	Other Operating Exp	Inflation	769	9,433	-	9,433	-	-	-	-	-	-	-	-	-
344			Total Operating Expenses		$ 860,061	$ 866,327	$ -	$ 866,327	$ 2,335,000	$ 2,391,040	$ 2,448,425	$ 2,507,187	$ 2,567,360	$ 2,628,976	$ 2,692,072	$ 2,756,681	$ 2,822,842
			Capital Equipment [1]														
345	G252301004566125	WCDCE	Equipment Expense	Bud Cap	$ -	$ 12,290	$ (12,290)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
346	G252301004566150	WCDCE	Vehicles Expense	Bud Cap	-	1,165,014	(1,165,014)	-	-	-	-	-	-	-	-	-	-
347			Total Capital Equipment [1]		$ -	$ 1,177,304	$ (1,177,304)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
348			Total WWC - Project & Assets		$ 4,991,135	$ 5,444,048	$ (1,177,304)	$ 4,266,744	$ 5,871,434	$ 6,033,567	$ 6,200,228	$ 6,371,544	$ 6,547,647	$ 6,728,673	$ 6,914,759	$ 7,106,049	$ 7,302,691
349			Total Wastewater Collection Department		$ 20,110,486	$ 26,389,280	$ (2,645,396)	$ 23,743,884	$ 26,829,300	$ 27,521,872	$ 28,234,571	$ 28,967,930	$ 29,722,516	$ 30,498,916	$ 31,297,994	$ 32,120,784	$ 32,968,012

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
			WT- WASTEWATER TREATMENT (Noman M. Cole, Jr., Pollution Control Plant):														
			WWT - Administration														
			Personnel Services														
350	G252302001500000	WTDPS	Regular Salaries	Labor	$ 641,713	$ 887,232	$ -	$ 887,232	$ 1,243,114	$ 1,280,407	$ 1,318,820	$ 1,358,384	$ 1,399,136	$ 1,441,110	$ 1,484,343	$ 1,528,873	$ 1,574,740
351	G252302001500000	WTDPS	Additional Personnel	Labor	-	203,390	-	203,390	-	-	-	-	-	-	-	-	-
352	G252302001500050	WTDPS	Annual Comp Increas	Labor	-	52,909	-	52,909	-	-	-	-	-	-	-	-	-
353	G252302001500080	WTDPS	POS Turnover-Pay	Labor	-	(1,222)	-	(1,222)	-	-	-	-	-	-	-	-	-
354	G252302001500090	WTDPS	Reg Sal- Non Mert Em	Labor	-	32,374	-	32,374	-	-	-	-	-	-	-	-	-
355	G252302001500100	WTDPS	Shift Differential	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
356	G252302001500110	WTDPS	Extra pay	Labor	19,609	20,619	-	20,619	-	-	-	-	-	-	-	-	-
357	G252302001500121	WTDPS	WPFO-Labor Charges	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
358	G252302001500122	WTDPS	WPFO-Agency OH Cost	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
359	G252302001500130	WTDPS	Accrued Leave	Labor	(11,774)	-	-	-	-	-	-	-	-	-	-	-	-
360	G252302001500150	WTDPS	Leave Pay-out	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
361	G252302001501000	WTDPS	Fringe Benefits	Benefits	-	508,031	-	508,031	528,352	544,203	560,529	577,344	594,665	612,505	630,880	649,806	669,301
362	G252302001501010	WTDPS	FICA	Benefits	37,758	-	-	-	-	-	-	-	-	-	-	-	-
363	G252302001501011	WTDPS	Medicare	Benefits	9,091	-	-	-	-	-	-	-	-	-	-	-	-
364	G252302001501020	WTDPS	Retire Contrb-EE Sy	Benefits	170,603	-	-	-	-	-	-	-	-	-	-	-	-
365	G252302001501060	WTDPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
366	G252302001501061	WTDPS	Health OAP 90%	Benefits	11,146	-	-	-	-	-	-	-	-	-	-	-	-
367	G252302001501062	WTDPS	Health-HSA Plan	Benefits	5,000	-	-	-	-	-	-	-	-	-	-	-	-
368	G252302001501063	WTDPS	Health-MyChoice	Benefits	37,597	-	-	-	-	-	-	-	-	-	-	-	-
369	G252302001501070	WTDPS	Health-Cigna Low	Benefits	28,018	-	-	-	-	-	-	-	-	-	-	-	-
370	G252302001501080	WTDPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
371	G252302001501090	WTDPS	Health-Kaiser	Benefits	7,923	-	-	-	-	-	-	-	-	-	-	-	-
372	G252302001501100	WTDPS	Insurance-Group Life	Benefits	865	-	-	-	-	-	-	-	-	-	-	-	-
373	G252302001501110	WTDPS	Delta Dental	Benefits	4,017	-	-	-	-	-	-	-	-	-	-	-	-
374	G252302001502120	WTDOE	Workers Comp Ins Plc	Benefits	92,400	80,000	-	80,000	-	-	-	-	-	-	-	-	-
375	G252302001502150	WTDOE	Workers Comp Idmty-P	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
376			Total Personnel Services		$ 1,053,966	$ 1,783,333	$ -	$ 1,783,333	$ 1,771,466	$ 1,824,610	$ 1,879,348	$ 1,935,729	$ 1,993,801	$ 2,053,615	$ 2,115,223	$ 2,178,680	$ 2,244,040
			Operating Expenses														
377	G252302001510000	WTDOE	Office Equip&Furnit	Inflation	$ 28,463	$ 27,850	$ -	$ 27,850	$ 65,000	$ 66,560	$ 68,157	$ 69,793	$ 71,468	$ 73,183	$ 74,940	$ 76,738	$ 78,580
378	G252302001510010	WTDOE	Copier	Inflation	1,200	-	-	-	-	-	-	-	-	-	-	-	-
379	G252302001510020	WTDOE	Office Supplies	Inflation	13,404	38,000	-	38,000	20,000	20,480	20,972	21,475	21,990	22,518	23,058	23,612	24,179
380	G252302001510030	WTDOE	Computer Equipment	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
381	G252302001510040	WTDOE	Computer Acces&Supl	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
382	G252302001510070	WTDOE	Clean Supplies Cnty	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
383	G252302001510080	WTDOE	Postage	Inf/Cust	6,383	1,802	-	1,802	5,000	5,141	5,287	5,437	5,590	5,749	5,911	6,079	6,251
384	G252302001510640	WTDOE	Food Srv Equip	Inf/Cust	(0)	-	-	-	-	-	-	-	-	-	-	-	-
385	G252302001510660	WTDOE	Med&Lab Eqp and Supl	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
386	G252302001510200	WTDOE	Bldg Maint & Repair	Repair	95	-	-	-	1,000	1,040	1,082	1,125	1,170	1,217	1,265	1,316	1,369
387	G252302001510203	WTDOE	Hardware	Inflation	$ 1,491	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
388	G252302001510204	WTDOE	HVAC Supplies	Inflation	243	-	-	-	-	-	-	-	-	-	-	-	-
389	G252302001510207	WTDOE	Plumbing Supplies	Inflation	6,011	-	-	-	-	-	-	-	-	-	-	-	-
390	G252302001510210	WTDOE	Grnds Maint Equ&Supl	Inflation	208	-	-	-	-	-	-	-	-	-	-	-	-
391	G252302001510400	WTDOE	Educational Supplie	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
392	G252302001510610	WTDOE	Tools County	Inflation	$ 583	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
393	G252302001510630	WTDOE	Water Treat Eqp&Sup	Inflation	5,491	-	-	-	-	-	-	-	-	-	-	-	-
394	G252302001512990	WTDOE	Other Operating Sup	Inflation	68,724	30,500	-	30,500	50,000	51,200	52,429	53,687	54,976	56,295	57,646	59,030	60,446
395	G252302001513000	WTDOE	Automotive Fuel	Fuel	-	-	-	-	-	-	-	-	-	-	-	-	-
396	G252302001513004	WTDOE	Diesel Fuel	Fuel	-	-	-	-	20,000	20,800	21,632	22,497	23,397	24,333	25,306	26,319	27,371
397	G252302001513030	WTDOE	Heating Fuel	Fuel	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
398	G252302001514010	WTDOE	Fire Protec Eqp&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
399	G252302001514020	WTDOE	Uniform/Wear Appare	Inf/Emp	340,630	124,345	-	124,345	300,000	307,200	314,573	322,123	329,853	337,770	345,876	354,177	362,678
400	G252302001514030	WTDOE	Mis Pub Safe Eqp&Sup	Inf/Emp	32,151	-	-	-	-	-	-	-	-	-	-	-	-
401	G252302001520000	WTDOE	Ofc Eqp Maint&Repai	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
402	G252302001520010	WTDOE	Bldg Maint & Repair	Repair	$ 903	$ 11,618	$ -	$ 11,618	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
403	G252302001520020	WTDOE	Construct Maint/Repr	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
404	G252302001520060	WTDOE	Fire Extinguishr M&R	Inflation	3,406	-	-	-	-	-	-	-	-	-	-	-	-
405	G252302001520070	WTDOE	Pub Safety Equip M&R	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
406	G252302001520110	WTDOE	Other Maint & Repair	Repair	2,521	20,000	-	20,000	-	-	-	-	-	-	-	-	-
407	G252302001521050	WTDOE	Edu Training Servic	Repair	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
408	G252302001521060	WTDOE	Computer Services	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
409	G252302001521062	WTDOE	Telecommunication Chargeback	Inflation	737	737	-	737	737	755	773	791	810	830	850	870	891
410	G252302001521070	WTDOE	Print/Typeset Servce	Inflation	802	-	-	-	-	-	-	-	-	-	-	-	-
411	G252302001521080	WTDOE	Other Pro Cntrct Sv	Inflation	952	25,218	-	25,218	100,000	102,400	104,858	107,374	109,951	112,590	115,292	118,059	120,893
412	G252302001521090	WTDOE	Comm & Media Servic	Inflation	$ 55,547	$ 79,211	$ -	$ 79,211	$ 85,000	$ 87,040	$ 89,129	$ 91,268	$ 93,458	$ 95,701	$ 97,998	$ 100,350	$ 102,759
413	G252302001521092	WTDOE	Telecom Service-Commercial	Inflation	532	-	-	-	-	-	-	-	-	-	-	-	-
414	G252302001521093	WTDOE	Telecommunication Chargeback	Inflation	1,862	1,862	-	1,862	1,862	1,907	1,952	1,999	2,047	2,096	2,147	2,198	2,251
415	G252302001521110	WTDOE	Public Works Servic	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
416	G252302001521140	WTDOE	Safety&Emergency Sv	Inflation	138,885	275,213	-	275,213	130,000	133,120	136,315	139,586	142,937	146,367	149,880	153,477	157,160
417	G252302001521150	WTDOE	Health Related Srvs	Inflation	$ 1,691	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
418	G252302001521210	WTDOE	Licensing Fees	Inflation	24,822	23,952	-	23,952	26,000	26,624	27,263	27,917	28,587	29,273	29,976	30,695	31,432
419	G252302001521240	WTDOE	Meals	Inflation	2,049	-	-	-	-	-	-	-	-	-	-	-	-
420	G252302001521250	WTDOE	Miscellaneous Services	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
421	G252302001530010	WTDOE	Natural Gas Company	Gas	(1,436)	87,959	-	87,959	-	-	-	-	-	-	-	-	-
422	G252302001530040	WTDOE	Water County	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
423	G252302001530050	WTDOE	Other Utility Expense	Insurance	458	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
424	G252302001541020	WTDOE	Crime Ins Prem	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-
425	G252302001541050	WTDOE	Gen Liab Admin	Insurance	-	5,409	-	5,409	-	-	-	-	-	-	-	-	-
426	G252302001541090	WTDOE	Auto Liab Admin	Insurance	-	21,729	-	21,729	-	-	-	-	-	-	-	-	-
427	G252302001542000	WTDOE	Local Travel County	Inflation	$ 665	$ 92	$ -	$ 92	$ 1,000	$ 1,024	$ 1,049	$ 1,074	$ 1,100	$ 1,126	$ 1,153	$ 1,181	$ 1,209
428	G252302001542050	WTDOE	Miscellaneous Travel	Inflation	7,581	171	-	171	7,500	7,680	7,864	8,053	8,246	8,444	8,647	8,854	9,067
429	G252302001542200	WTDOE	Certification	Inflation	36,177	29,000	-	29,000	31,000	31,744	32,506	33,286	34,085	34,903	35,741	36,598	37,477
430	G252302001542210	WTDOE	Mgmt/Prof Training	Inflation	100	-	-	-	-	-	-	-	-	-	-	-	-
431	G252302001542220	WTDOE	Technical Train Cnt	Inflation	57,785	50,106	-	50,106	145,000	148,480	152,044	155,693	159,429	163,255	167,174	171,186	175,294
432	G252302001542520	WTDOE	Reimb-Telephone Exp	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
433	G252302001543000	WTDOE	Cash Awards	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
434	G252302001543020	WTDOE	Departmental Awards	Inflation	3,640	3,327	-	3,327	11,584	11,862	12,147	12,438	12,737	13,042	13,355	13,676	14,004
435	G252302001543510	WTDOE	WPFO-Equipment	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
436	G252302001544000	WTDOE	Copying	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
437	G252302001544020	WTDOE	Phototypesetting	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
438	G252302001544030	WTDOE	Printing and Bindin	Inflation	1,884	-	-	-	1,200	1,229	1,258	1,288	1,319	1,351	1,384	1,417	1,451
439	G252302001544050	WTDOE	Assigned Agency Veh	Inflation	207,329	241,275	-	241,275	200,000	204,800	209,715	214,748	219,902	225,180	230,584	236,118	241,785
440	G252302001544060	WTDOE	Motor Pool	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
441	G252302001544070	WTDOE	Fuel	Fuel	52,602	-	-	-	50,000	52,000	54,080	56,243	58,493	60,833	63,266	65,797	68,428
442	G252302001544090	WTDOE	Service-Other Agenc	Inflation	$ 468	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
443	G252302001544220	WTDOE	Fam Partn Pgm-Contra	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
444	G252302001544508	WTDOE	Mileage Allow Auto	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
445	G252302001544538	WTDOE	Prof Memberships	Inf/Emp	60,937	77,610	-	77,610	75,000	76,800	78,643	80,531	82,463	84,442	86,469	88,544	90,669
446	G252302001544539	WTDOE	Prof Subscriptions	Inf/Emp	3,878	6,515	-	6,515	7,500	7,680	7,864	8,053	8,246	8,444	8,647	8,854	9,067
447	G252302001544540	WTDOE	Credit Card Expense	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
448	G252302001544547	WTDOE	Refuse Disposal Exp	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
449	G252302001544990	WTDOE	Other Operating Exp	Inflation	$ 6,323	$ 37,706	$ -	$ 37,706	$ 35,000	$ 35,840	$ 36,700	$ 37,581	$ 38,483	$ 39,406	$ 40,352	$ 41,321	$ 42,312
450			Total Operating Expenses		$ 1,178,175	$ 1,221,207	$ -	$ 1,221,207	$ 1,369,383	$ 1,403,406	$ 1,438,291	$ 1,474,061	$ 1,510,740	$ 1,548,351	$ 1,586,918	$ 1,626,467	$ 1,667,023
			Capital Equipment [1]														
451	G252302001566125	WTDCE	Equipment Expense	Bud Cap	$ -	$ -	$ -	$ -	$ 300,000	$ 309,000	$ 318,270	$ 327,818	$ 337,653	$ 347,782	$ 358,216	$ 368,962	$ 380,031
452	G252302001566125	WTDCE	Vehicle Expense	Bud Cap	101,919	-	-	-	880,000	906,400	933,592	961,600	990,448	1,020,161	1,050,766	1,082,289	1,114,758
453			Total Capital Equipment [1]		$ 101,919	$ -	$ -	$ -	$ 1,180,000	$ 1,215,400	$ 1,251,862	$ 1,289,418	$ 1,328,100	$ 1,367,943	$ 1,408,982	$ 1,451,251	$ 1,494,789
454			Total WWT - Administration		$ 2,334,060	$ 3,004,540	$ -	$ 3,004,540	$ 4,320,849	$ 4,443,416	$ 4,569,501	$ 4,699,208	$ 4,832,641	$ 4,969,909	$ 5,111,123	$ 5,256,398	$ 5,405,852
			WWT - Operations														
			Personnel Services														
455	G252302002500000	WTDPS	Regular Salaries	Labor	$ 3,220,248	$ 3,918,890	$ -	$ 3,918,890	$ 4,518,885	$ 4,654,452	$ 4,794,085	$ 4,937,908	$ 5,086,045	$ 5,238,626	$ 5,395,785	$ 5,557,659	$ 5,724,388
456	G252302002500050	WTDPS	Annual Comp Increas	Labor	-	239,692	-	239,692	-	-	-	-	-	-	-	-	-
457	G252302002500080	WTDPS	POS Turnover-Pay	Labor	-	(176,501)	-	(176,501)	-	-	-	-	-	-	-	-	-
458	G252302002500090	WTDPS	Reg Sal-Non Mert Em	Labor	99,753	109,663	-	109,663	-	-	-	-	-	-	-	-	-
459	G252302002500100	WTDPS	Shift Differential	Labor	50,761	46,987	-	46,987	-	-	-	-	-	-	-	-	-
460	G252302002500110	WTDPS	Extra pay	Labor	211,494	206,351	-	206,351	-	-	-	-	-	-	-	-	-
461	G252302002500130	WTDPS	Accrued Leave	Labor	5,265	-	-	-	-	-	-	-	-	-	-	-	-
462	G252302002500150	WTDPS	Leave Pay-out	Labor	16,037	-	-	-	-	-	-	-	-	-	-	-	-
463	G252302002501000	WTDPS	Fringe Benefits	Benefits	-	1,723,147	-	1,723,147	1,792,073	1,845,835	1,901,210	1,958,247	2,016,994	2,077,504	2,139,829	2,204,024	2,270,144
464	G252302002501010	WTDPS	FICA	Benefits	209,909	-	-	-	-	-	-	-	-	-	-	-	-
465	G252302002501011	WTDPS	Medicare	Benefits	49,092	-	-	-	-	-	-	-	-	-	-	-	-
466	G252302002501020	WTDPS	Retire Contrb-EE Sy	Benefits	907,336	-	-	-	-	-	-	-	-	-	-	-	-
467	G252302002501060	WTDPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
468	G252302002501061	WTDPS	Health OAP 90%	Benefits	341,460	-	-	-	-	-	-	-	-	-	-	-	-
469	G252302002501062	WTDPS	Health-HSA Plan	Benefits	10,818	-	-	-	-	-	-	-	-	-	-	-	-
470	G252302002501063	WTDPS	Health-MyChoice	Benefits	86,916	-	-	-	-	-	-	-	-	-	-	-	-
471	G252302002501070	WTDPS	Health-Cigna Low	Benefits	83,199	-	-	-	-	-	-	-	-	-	-	-	-
472	G252302002501080	WTDPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
473	G252302002501090	WTDPS	Health-Kaiser	Benefits	76,447	-	-	-	-	-	-	-	-	-	-	-	-
474	G252302002501100	WTDPS	Insurance-Group Life	Benefits	4,397	-	-	-	-	-	-	-	-	-	-	-	-
475	G252302002501110	WTDPS	Delta Dental	Benefits	22,124	-	-	-	-	-	-	-	-	-	-	-	-
476			Total Personnel Services		$ 5,395,257	$ 6,068,229	$ -	$ 6,068,229	$ 6,310,958	$ 6,500,287	$ 6,695,295	$ 6,896,154	$ 7,103,039	$ 7,316,130	$ 7,535,614	$ 7,761,682	$ 7,994,533
			Operating Expenses														
477	G252302002510000	WTDOE	Office Equip&Furnitr	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
478	G252302002510020	WTDOE	Office Supplies	Inflation	13	-	-	-	-	-	-	-	-	-	-	-	-
479	G252302002510200	WTDOE	Bldg Maint & Repair	Repair	3,847	-	-	-	-	-	-	-	-	-	-	-	-
480	G252302002510202	WTDOE	Electrical Supploes	Inflation	1,635	-	-	-	-	-	-	-	-	-	-	-	-
481	G252302002510204	WTDOE	HVAC Supplies	Inflation	1,274	-	-	-	-	-	-	-	-	-	-	-	-
482	G252302002510210	WTDOE	Grnds Maint Equ&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
483	G252302002510400	WTDOE	Educational Supplie	Inflation	257	-	-	-	-	-	-	-	-	-	-	-	-
484	G252302002510600	WTDOE	Chemicals	Chem-Noman	2,413,472	5,060,534	(1,903,534)	3,157,000	3,157,000	3,296,660	3,442,563	3,594,895	3,754,036	3,920,219	4,093,811	4,275,056	4,464,444
485	G252302002510610	WTDOE	Tools County	Inflation	727	-	-	-	-	-	-	-	-	-	-	-	-
486	G252302002510630	WTDOE	Water Treat Eqp&Sup	Inflation	4,026	-	-	-	-	-	-	-	-	-	-	-	-
487	G252302002510650	WTDOE	Hshl Aplnc/Supl/Rep	Inflation	69	-	-	-	-	-	-	-	-	-	-	-	-
488	G252302002510660	WTDOE	Med&Lab Eqp and Sup	Inflation	572	-	-	-	-	-	-	-	-	-	-	-	-
489	G252302002512990	WTDOE	Other Operating Sup	Inflation	11,942	-	-	-	-	-	-	-	-	-	-	-	-
490	G252302002513020	WTDOE	Automotive Equp&Sup	Inflation	33	-	-	-	-	-	-	-	-	-	-	-	-
491	G252302002513004	WTDOE	Diesel Fuel	Fuel	61,915	21,096	-	21,096	60,000	62,400	64,896	67,492	70,192	72,999	75,919	78,956	82,114
492	G252302002513030	WTDOE	Heating Fuel	Fuel	-	-	-	-	-	-	-	-	-	-	-	-	-
493	G252302002513040	WTDOE	Fuel Oil County	Inflation	3,319	-	-	-	-	-	-	-	-	-	-	-	-
494	G252302002514010	WTDOE	Fire Protec Eqp&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
495	G252302002514020	WTDOE	Uniform/Wear Appare	Inf/Emp	810	-	-	-	-	-	-	-	-	-	-	-	-
496	G252302002514030	WTDOE	Mis Pub Safe Eqp&Sup	Inflation	151	-	-	-	-	-	-	-	-	-	-	-	-
497	G252302002520010	WTDOE	Bldg Maint&Rep Svcs	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
498	G252302002520110	WTDOE	Other Maint & Repair	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
499	G252302002521080	WTDOE	Other Pro Cntrct Sv	Inflation	151,750	8,735	-	8,735	120,000	122,880	125,829	128,849	131,941	135,108	138,351	141,671	145,071
500	G252302002521090	WTDOE	Comm & Media Servic	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
501	G252302002521210	WTDOE	Licensing Fees	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
502	G252302002521250	WTDOE	Misc Servcices	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
503	G252302002530000	WTDOE	Electricity County	Elec-Noman	2,668,788	4,232,142	(557,142)	3,675,000	3,675,000	3,782,451	3,893,117	4,006,989	4,124,268	4,244,976	4,369,274	4,497,175	4,628,946
504	G252302002530010	WTDOE	Natural Gas County	Gas	1,182,592	1,876,789	-	1,876,789	1,830,000	1,839,150	1,848,346	1,857,587	1,866,875	1,876,210	1,885,591	1,895,019	1,904,494
505	G252302002530040	WTDOE	Water County	Water	429,002	444,284	-	444,284	294,000	314,580	333,455	350,128	364,133	375,057	384,058	393,275	402,714
506	G252302002543000	WTDOE	Cash Awards	Inflation	464	-	-	-	-	-	-	-	-	-	-	-	-
507	G252302002541730	WTDOE	Emergency Assistanc	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
508	G252302002544512	WTDOE	Internal FFX Suppor	Inflation	8,112	26,163	-	26,163	-	-	-	-	-	-	-	-	-
509	G252302002544547	WTDOE	Refuse Disposal Exp	Inflation	199,670	427,348	(152,348)	275,000	275,000	281,600	288,358	295,279	302,366	309,622	317,053	324,663	332,455
510	G252302002544990	WTDOE	Other Operating Exp	Inflation	9,789	121,630	-	121,630	200,000	204,800	209,715	214,748	219,902	225,180	230,584	236,118	241,785
511			Total Operating Expenses		$ 7,154,230	$ 12,218,721	$ (2,613,024)	$ 9,605,697	$ 9,611,000	$ 9,904,521	$ 10,206,279	$ 10,515,967	$ 10,833,713	$ 11,159,370	$ 11,494,642	$ 11,841,934	$ 12,202,023
			Capital Equipment [1]														
512	G252302002566125	WTDCE	Equipment Expense	Bud Cap	$ 6,280	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
513	G252302002566150	WTDCE	Vehicles Expense	Bud Cap	-	182,882	(182,882)	-	-	-	-	-	-	-	-	-	-
514			Total Capital Equipment [1]		$ 6,280	$ 182,882	$ (182,882)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
515			Total WWT - Operations		$ 12,555,767	$ 18,469,832	$ (2,795,906)	$ 15,673,926	$ 15,921,958	$ 16,404,808	$ 16,901,574	$ 17,412,121	$ 17,936,752	$ 18,475,500	$ 19,030,256	$ 19,603,616	$ 20,196,556
			WWT - Maintenance														
			Personnel Services														
516	G252302003500000	WTDPS	Regular Salaries	Labor	$ 3,465,033	$ 3,718,116	$ -	$ 3,718,116	$ 4,039,339	$ 4,160,519	$ 4,285,335	$ 4,413,895	$ 4,546,312	$ 4,682,701	$ 4,823,182	$ 4,967,877	$ 5,116,914
517	G252302003500040	WTDPS	New Position-Regular Salaries	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
518	G252302003500050	WTDPS	Annual Comp Increas	Labor	-	230,546	-	230,546	-	-	-	-	-	-	-	-	-
519	G252302003500053	WTDPS	Annual Comp Inc-P4P	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
520	G252302003500080	WTDPS	POS Turnover-Pay	Labor	-	(176,519)	-	(176,519)	-	-	-	-	-	-	-	-	-
521	G252302003500090	WTDPS	Reg Sal-Non Mert Em	Labor	-	844	-	844	-	-	-	-	-	-	-	-	-
522	G252302003500100	WTDPS	Shift Differential	Labor	1,004	-	-	-	-	-	-	-	-	-	-	-	-
523	G252302003500110	WTDPS	Extra pay	Labor	94,447	30,616	-	30,616	-	-	-	-	-	-	-	-	-
524	G252302003500130	WTDPS	Accrued Leave	Labor	3,806	-	-	-	-	-	-	-	-	-	-	-	-
525	G252302003500150	WTDPS	Leave Pay-out	Labor	16,569	-	-	-	-	-	-	-	-	-	-	-	-
526	G252302003501000	WTDPS	Fringe Benefits	Benefits	1,776	2,007,295	-	2,007,295	2,130,804	2,194,728	2,260,570	2,328,387	2,398,239	2,470,186	2,544,291	2,620,620	2,699,239
527	G252302003501010	WTDPS	FICA	Benefits	207,157	-	-	-	-	-	-	-	-	-	-	-	-
528	G252302003501011	WTDPS	Medicare	Benefits	48,448	-	-	-	-	-	-	-	-	-	-	-	-
529	G252302003501020	WTDPS	Retire Contrb-EE Sy	Benefits	951,583	-	-	-	-	-	-	-	-	-	-	-	-
530	G252302003501060	WTDPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
531	G252302003501061	WTDPS	Health OAP 90%	Benefits	249,151	-	-	-	-	-	-	-	-	-	-	-	-
532	G252302003501062	WTDPS	Health-HSA Plan	Benefits	5,310	-	-	-	-	-	-	-	-	-	-	-	-
533	G252302003501063	WTDPS	Health-MyChoice	Benefits	53,504	-	-	-	-	-	-	-	-	-	-	-	-
534	G252302003501070	WTDPS	Health-Cigna Low	Benefits	64,004	-	-	-	-	-	-	-	-	-	-	-	-
535	G252302003501080	WTDPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
536	G252302003501090	WTDPS	Health-Kaiser	Benefits	290,775	-	-	-	-	-	-	-	-	-	-	-	-
537	G252302003501100	WTDPS	Insurance-Group Life	Benefits	4,782	-	-	-	-	-	-	-	-	-	-	-	-
538	G252302003501110	WTDPS	Delta Dental	Benefits	26,626	-	-	-	-	-	-	-	-	-	-	-	-
539	G252302003502150	WTDOE	Workers Comp Idmty-P	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
540			Total Personnel Services		$ 5,483,976	$ 5,810,898	$ -	$ 5,810,898	$ 6,170,143	$ 6,355,247	$ 6,545,905	$ 6,742,282	$ 6,944,550	$ 7,152,887	$ 7,367,473	$ 7,588,498	$ 7,816,153
			Operating Expenses														
541	G252302003150200	WTDOE	Inv-DPWES Wastewate	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
542	G252302003510000	WTDOE	Office Equip&Furnit	Inflation	(693)	-	-	-	-	-	-	-	-	-	-	-	-
543	G252302003510010	WTDOE	Copier	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
544	G252302003510020	WTDOE	Office Supplies	Inflation	16,907	-	-	-	-	-	-	-	-	-	-	-	-
545	G252302003510030	WTDOE	Computer Equipment	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
546	G252302003510040	WTDOE	Computer Acces&Supl	Inflation	2,178	-	-	-	-	-	-	-	-	-	-	-	-
547	G252302003510050	WTDOE	IT Replacement Part	Inflation	84	-	-	-	-	-	-	-	-	-	-	-	-
548	G252302003510070	WTDOE	Clean Supplies Cnty	Inflation	1,438	3,000	-	3,000	3,000	3,072	3,146	3,221	3,299	3,378	3,459	3,542	3,627
549	G252302003510080	WTDOE	Postage	Inflation	228	-	-	-	-	-	-	-	-	-	-	-	-
550	G252302003510200	WTDOE	Bldg Maint & Repair	Repair	167,060	50,000	-	50,000	-	-	-	-	-	-	-	-	-
551	G252302003510202	WTDOE	Electrical Supplies	Inflation	41,963	9,599	-	9,599	-	-	-	-	-	-	-	-	-
552	G252302003510203	WTDOE	Hardware	Inflation	6,318	-	-	-	-	-	-	-	-	-	-	-	-
553	G252302003510204	WTDOE	HVAC Supplies	Inflation	19,357	8,944	-	8,944	-	-	-	-	-	-	-	-	-
554	G252302003510205	WTDOE	Lightbulbs	Inflation	5,023	-	-	-	-	-	-	-	-	-	-	-	-
555	G252302003510206	WTDOE	Paint/Paint Supplies	Inflation	20,687	-	-	-	-	-	-	-	-	-	-	-	-
556	G252302003510207	WTDOE	Plumbing Supplies	Inflation	8,261	-	-	-	-	-	-	-	-	-	-	-	-
557	G252302003510210	WTDOE	Grnds Maint Equ&Sup	Inflation	11,983	-	-	-	-	-	-	-	-	-	-	-	-
558	G252302003510220	WTDOE	Lighting Equipment	Inflation	954	-	-	-	-	-	-	-	-	-	-	-	-
559	G252302003510400	WTDOE	Educational Supplie	Inflation	(281)	-	-	-	-	-	-	-	-	-	-	-	-
560	G252302003510600	WTDOE	Chemicals	Chem-Noman	2,553	-	-	-	-	-	-	-	-	-	-	-	-
561	G252302003510610	WTDOE	Tools County	Inflation	57,642	51,160	-	51,160	60,000	61,440	62,915	64,425	65,971	67,554	69,175	70,835	72,536
562	G252302003510620	WTDOE	Eng Drft&Sur Eqp&Su	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
563	G252302003510630	WTDOE	Water Treat Eqp&Sup	Inflation	778,189	990,416	-	990,416	1,361,000	1,393,664	1,427,112	1,461,363	1,496,435	1,532,350	1,569,126	1,606,785	1,645,348
564	G252302003510640	WTDOE	Food Srv Equip/Supl	Inflation	696	-	-	-	-	-	-	-	-	-	-	-	-
565	G252302003510650	WTDOE	Hshl Aplnc/Supl/Rep	Inflation	2,729	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
566	G252302003510660	WTDOE	Med&Lab Eqp and Sup	Inflation	27,873	12,000	-	12,000	12,000	12,288	12,583	12,885	13,194	13,511	13,835	14,167	14,507
567	G252302003510670	WTDOE	Park/Rctn Area Equip	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
568	G252302003510680	WTDOE	Lab Equip and Supl	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
569	G252302003512990	WTDOE	Other Operating Sup	Inflation	122,896	28,191	-	28,191	15,000	15,360	15,729	16,106	16,493	16,888	17,294	17,709	18,134
570	G252302003512992	WTDOE	Goods Receipt W/O P	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
571	G252302003513010	WTDOE	Automotive Oil	Inflation	1,043	-	-	-	-	-	-	-	-	-	-	-	-
572	G252302003513018	WTDOE	Tires	Inflation	443	-	-	-	-	-	-	-	-	-	-	-	-
573	G252302003513020	WTDOE	Automotive Equp&Sup	Inflation	2,994	-	-	-	-	-	-	-	-	-	-	-	-
574	G252302003513030	WTDOE	Heating Fuel	Inflation	-	12,000	-	12,000	12,000	12,288	12,583	12,885	13,194	13,511	13,835	14,167	14,507
575	G252302003514010	WTDOE	Fire Protec Eqp&Sup	Inflation	91	-	-	-	-	-	-	-	-	-	-	-	-
576	G252302003514020	WTDOE	Uniform/Wear Appare	Inf/Emp	6,438	-	-	-	-	-	-	-	-	-	-	-	-
577	G252302003514030	WTDOE	Mis Pub Safe Eqp&Sup	Inflation	3,618	-	-	-	-	-	-	-	-	-	-	-	-
578	G252302003520100	WTDOE	Scienti/Tech Eqp M&R	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
579	G252302003520010	WTDOE	Bldg Maint & Repair	Repair	1,344,763	979,410	-	979,410	1,536,991	1,598,471	1,662,409	1,728,906	1,798,062	1,869,985	1,944,784	2,022,575	2,103,478
580	G252302003520012	WTDOE	Elevator M&R	Repair	1,786	-	-	-	-	-	-	-	-	-	-	-	-
581	G252302003520013	WTDOE	HVAC M&R	Repair	-	8,388	-	8,388	-	-	-	-	-	-	-	-	-
582	G252302003520014	WTDOE	Mechanical Inspect	Repair	3,739	3,690	-	3,690	-	-	-	-	-	-	-	-	-
583	G252302003520017	WTDOE	Plumbing M&R	Repair	-	9,982	-	9,982	-	-	-	-	-	-	-	-	-
584	G252302003520020	WTDOE	Construct Maint/Repr	Repair	9,213	-	-	-	-	-	-	-	-	-	-	-	-
585	G252302003520110	WTDOE	Other Maint & Repai	Repair	7,141	104,103	-	104,103	63,009	65,529	68,151	70,877	73,712	76,660	79,726	82,916	86,232
586	G252302003520120	WTDOE	Gain/loss - Inv adj	Inflation	(33)	-	-	-	-	-	-	-	-	-	-	-	-
587	G252302003521060	WTDOE	Computer Services	Inflation	1,671	-	-	-	-	-	-	-	-	-	-	-	-
588	G252302003521070	WTDOE	Print/Typeset Servce	Inflation	2,425	-	-	-	-	-	-	-	-	-	-	-	-
589	G252302003521090	WTDOE	Comm & Media Service	Inflation	3,599	-	-	-	-	-	-	-	-	-	-	-	-
590	G252302003521130	WTDOE	Grnds/Rec/Parks Svc	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
591	G252302003521210	WTDOE	Licensing Fees	Inflation	560	-	-	-	-	-	-	-	-	-	-	-	-
592	G252302003521240	WTDOE	Meals	Inflation	100	-	-	-	-	-	-	-	-	-	-	-	-
593	G252302003521250	WTDOE	Misc Servcices	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
594	G252302003523020	WTDOE	Rent-Operat Equipmn	Inflation	18,198	5,000	-	5,000	20,000	20,480	20,972	21,475	21,990	22,518	23,058	23,612	24,179
595	G252302003523030	WTDOE	Rent-Construct Equi	Inflation	-	7,000	-	7,000	-	-	-	-	-	-	-	-	-
596	G252302003541110	WTDOE	Auto Lia Prop Damag	Insurance	-	-	-	-	-	-	-	-	-	-	-	-	-
597	G252302003542000	WTDOE	Local Travel County	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
598	G252302003542200	WTDOE	Certification	Inflation	98	-	-	-	-	-	-	-	-	-	-	-	-
599	G252302003542220	WTDOE	Technical Train Cnt	Inflation	221	-	-	-	-	-	-	-	-	-	-	-	-
600	G252302003543000	WTDOE	Cash Awards	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
601	G252302003543020	WTDOE	Departmental Awards	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
602	G252302003544538	WTDOE	Professional Memberships	Inf/Emp	-	-	-	-	-	-	-	-	-	-	-	-	-
603	G252302003544540	WTDOE	Credit Card Expense	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
604	G252302003544990	WTDOE	Other Operating Exp	Inflation	32,131	275,000	-	275,000	220,000	225,280	230,687	236,223	241,893	247,698	253,643	259,730	265,964
605			Total Operating Expenses		$ 2,734,286	$ 2,557,884	$ -	$ 2,557,884	$ 3,303,000	$ 3,407,872	$ 3,516,285	$ 3,628,365	$ 3,744,242	$ 3,864,052	$ 3,987,936	$ 4,116,038	$ 4,248,511
			Capital Equipment [1]														
606	G252302003566125	WTDOE	Equipment Expense	Bud Cap	$ 13,609	$ 14,607	$ (14,607)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
607	G252302003566150	WTDOE	Vehicles Exp SC Only	Bud Cap	-	-	-	-	-	-	-	-	-	-	-	-	-
608	G252302003566275	WTDOE	DO NOT USE Infrastrc	Bud Cap	-	-	-	-	-	-	-	-	-	-	-	-	-
609			Total Capital Equipment [1]		$ 13,609	$ 14,607	$ (14,607)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
610			Total WWT - Maintenance		$ 8,231,871	$ 8,383,390	$ (14,607)	$ 8,368,782	$ 9,473,143	$ 9,763,119	$ 10,062,190	$ 10,370,647	$ 10,688,792	$ 11,016,939	$ 11,355,409	$ 11,704,536	$ 12,064,664
			WWT - IT Services														
			Personnel Services														
611	G252302004500000	WTDPS	Regular Salaries	Labor	$ 915,733	$ 832,759	$ -	$ 832,759	$ 923,426	$ 951,129	$ 979,663	$ 1,009,053	$ 1,039,324	$ 1,070,504	$ 1,102,619	$ 1,135,698	$ 1,169,768
612	G252302004500050	WTDPS	Annual Comp Increas	Labor	-	55,151	-	55,151	-	-	-	-	-	-	-	-	-
613	G252302004500090	WTDPS	Reg Sal-Non Mert Emp	Labor	58,641	-	-	-	-	-	-	-	-	-	-	-	-
614	G252302004500110	WTDPS	Extra pay	Labor	109	-	-	-	-	-	-	-	-	-	-	-	-
615	G252302004500121	WTDPS	WPFO-Labor Charges	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
616	G252302004500130	WTDPS	Accrued Leave	Labor	55,726	-	-	-	-	-	-	-	-	-	-	-	-
617	G252302004500140	WTDPS	Leave Pay-Out	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
618	G252302004500150	WTDPS	Employee Leave Pay-out	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
619	G252302004501000	WTDPS	Fringe Benefits	Benefits	-	317,312	-	317,312	330,004	339,904	350,101	360,604	371,422	382,565	394,042	405,863	418,039
620	G252302004501010	WTDPS	FICA	Benefits	58,299	-	-	-	-	-	-	-	-	-	-	-	-
621	G252302004501011	WTDPS	Medicare	Benefits	13,634	-	-	-	-	-	-	-	-	-	-	-	-
622	G252302004501020	WTDPS	Retire Contrb-EE Sy	Benefits	261,864	-	-	-	-	-	-	-	-	-	-	-	-
623	G252302004501060	WTDPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
624	G252302004501061	WTDPS	Health OAP 90%	Benefits	69,927	-	-	-	-	-	-	-	-	-	-	-	-
625	G252302004501062	WTDPS	Health-HSA Plan	Benefits	3,000	-	-	-	-	-	-	-	-	-	-	-	-
626	G252302004501063	WTDPS	Health-MyChoice	Benefits	23,062	-	-	-	-	-	-	-	-	-	-	-	-
627	G252302004501070	WTDPS	Health Insurance-Cigna Low	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
628	G252302004501080	WTDPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
629	G252302004501090	WTDPS	Health-Kaiser	Benefits	1,942	-	-	-	-	-	-	-	-	-	-	-	-
630	G252302004501100	WTDPS	Insurance-Group Life	Benefits	1,169	-	-	-	-	-	-	-	-	-	-	-	-
631	G252302004501110	WTDPS	Delta Dental	Benefits	4,296	-	-	-	-	-	-	-	-	-	-	-	-
632			Total Personnel Services		$ 1,467,402	$ 1,205,222	$ -	$ 1,205,222	$ 1,253,430	$ 1,291,033	$ 1,329,764	$ 1,369,657	$ 1,410,747	$ 1,453,069	$ 1,496,661	$ 1,541,561	$ 1,587,808
			Operating Expenses														
633	G252302004510030	WTDOE	Computer Equipment	Inflation	$ 141,318	$ 418,535	$ -	$ 418,535	$ 155,000	$ 158,720	$ 162,529	$ 166,430	$ 170,424	$ 174,514	$ 178,703	$ 182,992	$ 187,384
634	G252302004510040	WTDOE	Computer Acces&Supl	Inflation	68,673	111,000	-	111,000	90,000	92,160	94,372	96,637	98,956	101,331	103,763	106,253	108,803
635	G252302004510200	WTDOE	Bldg Materials & Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
636	G252302004510600	WTDOE	Chemicals	Chemicals	-	-	-	-	-	-	-	-	-	-	-	-	-
637	G252302004510610	WTDOE	Tools County	Inflation	35	-	-	-	-	-	-	-	-	-	-	-	-
638	G252302004510630	WTDOE	Water Treat Eqp&Sup	Inflation	2,241	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
639	G252302004512990	WTDOE	Other Operating Supplies	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
640	G252302004520000	WTDOE	Ofc Eqp Maint&Repai	Repair	$ (0)	$ 350,000	$ -	$ 350,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
641	G252302004520020	WTDOE	Construct Maint/Repr	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
642	G252302004520030	WTDOE	Parks Ctr Facil M&R	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
643	G252302004520100	WTDOE	Scienti/Tech Eqp M&	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
644	G252302004521030	WTDOE	Translation Service	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
645	G252302004521050	WTDOE	Edu/Training Servic	Inflation	6,255	-	-	-	-	-	-	-	-	-	-	-	-
646	G252302004521060	WTDOE	Computer Services	Inflation	202,983	252,006	-	252,006	850,000	870,400	891,290	912,681	934,585	957,015	979,983	1,003,503	1,027,587
647	G252302004521061	WTDOE	PC Replacement	Inflation	$ 242,669	$ 245,743	$ -	$ 245,743	$ 358,000	$ 366,592	$ 375,390	$ 384,400	$ 393,625	$ 403,072	$ 412,746	$ 422,652	$ 432,795
648	G252302004521062	WTDOE	Tech Infra Chargeback	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
649	G252302004521080	WTDOE	Other Pro Cntrct Sv	Inflation	-	75,000	-	75,000	-	-	-	-	-	-	-	-	-
650	G252302004521110	WTDOE	Public Works Service	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
651	G252302004521250	WTDOE	Misc Servcices	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
652	G252302004542210	WTDOE	Mgmt/Prof Training	Inflation	-	50,000	-	50,000	18,000	18,432	18,874	19,327	19,791	20,266	20,753	21,251	21,761
653	G252302004542220	WTDOE	Technical Train Cnt	Inflation	-	-	-	-	28,600	29,286	29,989	30,709	31,446	32,201	32,974	33,765	34,575
654	G252302004543000	WTDOE	Cash Awards	Inflation	$ 464	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
655	G252302004544540	WTDOE	Credit Card Expense	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
656	G252302004544538	WTDOE	Professional Memberships	Inf/Emp	-	-	-	-	1,000	1,024	1,049	1,074	1,100	1,126	1,153	1,181	1,209
657	G252302004544539	WTDOE	Prof Subscriptions	Inf/Emp	-	-	-	-	2,500	2,560	2,621	2,684	2,749	2,815	2,882	2,951	3,022
658	G252302004544090	WTDOE	Services-Other Agency	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
659	G252302004544990	WTDOE	Other Operating Exp	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
660			Total Operating Expenses		$ 664,637	$ 1,502,285	$ -	$ 1,502,285	$ 1,503,100	$ 1,539,174	$ 1,576,115	$ 1,613,941	$ 1,652,676	$ 1,692,340	$ 1,732,956	$ 1,774,547	$ 1,817,136
			Capital Equipment [1]														
661	G252302004566125	WTDCE	Equipment Expense	Bud Cap	$ 67,929	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
662			Total Capital Equipment [1]		$ 67,929	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
663			Total WWT - IT Services		$ 2,199,968	$ 2,707,507	$ -	$ 2,707,507	$ 2,756,530	$ 2,830,207	$ 2,905,878	$ 2,983,598	$ 3,063,422	$ 3,145,409	$ 3,229,617	$ 3,316,108	$ 3,404,944
			WWT - Engineering														
			Personnel Services														
664	G252302005500000	WTDPS	Regular Salaries	Labor	$ 614,683	$ 479,740	$ -	$ 479,740	$ 528,683	$ 544,543	$ 560,880	$ 577,706	$ 595,037	$ 612,888	$ 631,275	$ 650,213	$ 669,720
665	G252302005500050	WTDPS	Annual Comp Increas	Labor	-	28,609	-	28,609	-	-	-	-	-	-	-	-	-
666	G252302005500090	WTDPS	Reg Sal- Non Mert Em	Labor	3,840	-	-	-	-	-	-	-	-	-	-	-	-
667	G252302005500090	WTDPS	Shift Differential	Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
668	G252302005500110	WTDPS	Extra pay	Labor	1,311	-	-	-	-	-	-	-	-	-	-	-	-
669	G252302005500130	WTDPS	Accrued Leave	Labor	(25,359)	-	-	-	-	-	-	-	-	-	-	-	-
670	G252302005501000	WTDPS	Employee Leave Pay-out	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
671	G252302005501000	WTDPS	Fringe Benefits	Benefits	-	221,607	-	221,607	230,471	237,385	244,507	251,842	259,397	267,179	275,194	283,450	291,954
672	G252302005501010	WTDPS	FICA	Benefits	36,420	-	-	-	-	-	-	-	-	-	-	-	-
673	G252302005501011	WTDPS	Medicare	Benefits	8,517	-	-	-	-	-	-	-	-	-	-	-	-
674	G252302005501020	WTDPS	Retire Contrb-EE Sy	Benefits	175,596	-	-	-	-	-	-	-	-	-	-	-	-
675	G252302005501060	WTDPS	Health Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
676	G252302005501061	WTDPS	Health OAP 90%	Benefits	37,755	-	-	-	-	-	-	-	-	-	-	-	-
677	G252302005501062	WTDPS	Health-HSA Plan	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
678	G252302005501063	WTDPS	Health-MyChoice	Benefits	2,863	-	-	-	-	-	-	-	-	-	-	-	-
679	G252302005501070	WTDPS	Health-Cigna Low	Benefits	11,527	-	-	-	-	-	-	-	-	-	-	-	-
680	G252302005501080	WTDPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
681	G252302005501090	WTDPS	Health-Kaiser	Benefits	19,451	-	-	-	-	-	-	-	-	-	-	-	-
682	G252302005501100	WTDPS	Insurance-Group Life	Benefits	844	-	-	-	-	-	-	-	-	-	-	-	-
683	G252302005501061	WTDPS	Delta Dental	Benefits	3,027	-	-	-	-	-	-	-	-	-	-	-	-
684	G252302005501110	WTDPS	Comm & Media Service	Benefits	474	-	-	-	-	-	-	-	-	-	-	-	-
685			Total Personnel Services		$ 890,948	$ 729,956	$ -	$ 729,956	$ 759,154	$ 781,929	$ 805,386	$ 829,548	$ 854,435	$ 880,068	$ 906,470	$ 933,664	$ 961,674
			Operating Expenses														
686	G252302005544990	WTDOE	Other Operating Exp	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
687			Total Operating Expenses		-	-	-	-	-	-	-	-	-	-	-	-	-
688			Total WWT - Engineering		$ 890,948	$ 729,956	$ -	$ 729,956	$ 759,154	$ 781,929	$ 805,386	$ 829,548	$ 854,435	$ 880,068	$ 906,470	$ 933,664	$ 961,674
689			Total Wastewater Treatment Department		$ 26,212,615	$ 33,295,224	$ (2,810,513)	$ 30,484,711	$ 33,231,634	$ 34,223,479	$ 35,244,530	$ 36,295,122	$ 37,376,042	$ 38,487,825	$ 39,632,875	$ 40,814,321	$ 42,033,689

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
			WPM - WASTEWATER PLANNING & MONITORING														
			WP&M - Fiscal														
			Personnel Services														
690	G252303001500000	WPMPS	Regular Salaries	Labor	$ 3,247,495	$ 2,346,852	$ -	$ 2,346,852	$ 5,267,004	$ 5,425,014	$ 5,587,765	$ 5,755,397	$ 5,928,059	$ 6,105,901	$ 6,289,078	$ 6,477,751	$ 6,672,083
691	G252303001500040	WPMPS	New Position-Regular Salaries	Labor	-	97,004	-	97,004	-	-	-	-	-	-	-	-	-
692	G252303001500050	WPMPS	Annual Comp Increas	Labor	-	139,953	-	139,953	-	-	-	-	-	-	-	-	-
693	G252303001500080	WPMPS	POS Turnover-Pay	Labor	-	(25,704)	-	(25,704)	-	-	-	-	-	-	-	-	-
694	G252303001500090	WPMPS	Reg Sal-Non Mert Em	Labor	81,271	12,027	-	12,027	-	-	-	-	-	-	-	-	-
695	G252303001500100	WPMPS	Shift Differential	Labor	9	-	-	-	-	-	-	-	-	-	-	-	-
696	G252303001500110	WPMPS	Extra pay	Labor	5,101	4,654	-	4,654	-	-	-	-	-	-	-	-	-
697	G252303001500130	WPMPS	Accrued Leave	Labor	(80,637)	132,804	-	132,804	-	-	-	-	-	-	-	-	-
698	G252303001500150	WPMPS	Leave Pay out	Labor	13,907	-	-	-	-	-	-	-	-	-	-	-	-
699	G252303001501000	WPMPS	Fringe Benefits	Benefits	903,625	819,940	-	819,940	2,176,415	2,241,707	2,308,959	2,378,227	2,449,574	2,523,061	2,598,753	2,676,716	2,757,017
700	G252303001501010	WPMPS	FICA	Benefits	127,144	-	-	-	-	-	-	-	-	-	-	-	-
701	G252303001501011	WPMPS	Medicare	Benefits	30,209	-	-	-	-	-	-	-	-	-	-	-	-
702	G252303001501020	WPMPS	Retire Contrb-EE Sy	Benefits	565,985	-	-	-	-	-	-	-	-	-	-	-	-
703	G252303001501055	WPMPS	OPEB Contributions	Benefits	443,367	272,767	-	272,767	-	-	-	-	-	-	-	-	-
704	G252303001501060	WPMPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
705	G252303001501061	WPMPS	Health OAP 90%	Benefits	93,233	-	-	-	-	-	-	-	-	-	-	-	-
706	G252303001501062	WPMPS	Health-HSA Plan	Benefits	3,902	-	-	-	-	-	-	-	-	-	-	-	-
707	G252303001501063	WPMPS	Health-MyChoice	Benefits	31,154	-	-	-	-	-	-	-	-	-	-	-	-
708	G252303001501070	WPMPS	Health-Cigna Low	Benefits	32,598	-	-	-	-	-	-	-	-	-	-	-	-
709	G252303001501080	WPMPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
710	G252303001501090	WPMPS	Health-Kaiser	Benefits	48,114	-	-	-	-	-	-	-	-	-	-	-	-
711	G252303001501100	WPMPS	Insurance-Group Life	Benefits	2,865	-	-	-	-	-	-	-	-	-	-	-	-
712	G252303001501110	WPMPS	Delta Dental	Benefits	8,830	-	-	-	-	-	-	-	-	-	-	-	-
713	G252303001502120	WPMPS	Worker Comp Ins Plc	Benefits	-	102,000	-	102,000	-	-	-	-	-	-	-	-	-
714			Total Personnel Services		$ 5,558,174	$ 3,902,297	$ -	$ 3,902,297	$ 7,443,419	$ 7,666,722	$ 7,896,723	$ 8,133,625	$ 8,377,634	$ 8,628,963	$ 8,887,832	$ 9,154,466	$ 9,429,100
			Operating Expenses														
715	G252303001510000	WPMOE	Office Equip&Furnit	Inflation	$ 78	$ 12,641	$ -	$ 12,641	$ 5,000	$ 5,120	$ 5,243	$ 5,369	$ 5,498	$ 5,629	$ 5,765	$ 5,903	$ 6,045
716	G252303001510020	WPMOE	Office Supplies	Inflation	1,059	2,564	-	2,564	1,000	1,024	1,049	1,074	1,100	1,126	1,153	1,181	1,209
717	G252303001510030	WPMOE	Computer Equipment	Inflation	103	-	-	-	2,000	2,048	2,097	2,147	2,199	2,252	2,306	2,361	2,418
718	G252303001510000	WPMOE	Othr NonCap Eqpt Pur	Inflation	$ 612	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
719	G252303001510020	WPMOE	Computer Acces&Supl	Inflation	277	4,652	-	4,652	5,000	5,120	5,243	5,369	5,498	5,629	5,765	5,903	6,045
720	G252303001510030	WPMOE	Printing Acces&Supl	Inflation	61	2,168	-	2,168	500	512	524	537	550	563	576	590	604
721	G252303001510000	WPMOE	Postage	Inf/Cust	$ 2,595	$ 283	$ -	$ 283	$ 2,000	$ 2,057	$ 2,115	$ 2,175	$ 2,236	$ 2,299	$ 2,365	$ 2,431	$ 2,500
722	G252303001510020	WPMOE	Bldg Maint & Repair	Repair	196	729	-	729	1,000	1,040	1,082	1,125	1,170	1,217	1,265	1,316	1,369
723	G252303001510030	WPMOE	Educational Supplie	Inflation	(213)	484	-	484	1,000	1,024	1,049	1,074	1,100	1,126	1,153	1,181	1,209
724	G252303001510000	WPMOE	Library Equipment	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
725	G252303001510020	WPMOE	Chemicals	Inflation	825	-	-	-	-	-	-	-	-	-	-	-	-
726	G252303001510030	WPMOE	Tools County	Inflation	26	-	-	-	-	-	-	-	-	-	-	-	-
727	G252303001510000	WPMOE	Eng Drft&Sur Eqp&Sup	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
728	G252303001510020	WPMOE	Hshl Aplnc/Supl/Rep	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
729	G252303001510030	WPMOE	Med&Lab Eqp and Sup	Inflation	188	-	-	-	200	205	210	215	220	225	231	236	242
730	G252303001510000	WPMOE	Park/Rctn Area Equi	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
731	G252303001510020	WPMOE	Lab Equip and Supl	Inflation	628	2,112	-	2,112	-	-	-	-	-	-	-	-	-
732	G252303001510030	WPMOE	Other Operating Sup	Inflation	1,626	3,810	-	3,810	2,000	2,048	2,097	2,147	2,199	2,252	2,306	2,361	2,418
733	G252303001510000	WPMOE	Automotive Equp&Supl	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
734	G252303001510020	WPMOE	Poli/Prison Eqp&Supl	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
735	G252303001510030	WPMOE	Uniform/Wear Appare	Inf/Emp	361	-	-	-	-	-	-	-	-	-	-	-	-
736	G252303001510000	WPMOE	Ofc Eqp Maint&Repai	Repair	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
737	G252303001510020	WPMOE	Construct Maint/Repr	Repair	-	-	-	-	10,000	10,400	10,816	11,249	11,699	12,167	12,653	13,159	13,686
738	G252303001510030	WPMOE	Scienti/Tech Eqp M&R	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
739	G252303001510000	WPMOE	Other Maint & Repai	Repair	$ 2,506	$ 4,269	$ -	$ 4,269	$ 5,000	$ 5,200	$ 5,408	$ 5,624	$ 5,849	$ 6,083	$ 6,327	$ 6,580	$ 6,843
740	G252303001510020	WPMOE	Financial Services	Inflation	138,220	93,805	-	93,805	150,000	153,600	157,286	161,061	164,927	168,885	172,938	177,089	181,339
741	G252303001510030	WPMOE	Audit/Acct Services	Inflation	41,789	50,000	-	50,000	50,000	51,200	52,429	53,687	54,976	56,295	57,646	59,030	60,446
742	G252303001510000	WPMOE	Educational/Training Services	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
743	G252303001510020	WPMOE	Computer Services	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
744	G252303001510030	WPMOE	Computer Replacement	Inflation	-	-	-	-	250,000	256,000	262,144	268,435	274,878	281,475	288,230	295,148	302,231
745	G252303001510000	WPMOE	Tech Infra Chrgbck	Inflation	$ 2,435	$ 2,435	$ -	$ 2,435	$ 20,000	$ 20,480	$ 20,972	$ 21,475	$ 21,990	$ 22,518	$ 23,058	$ 23,612	$ 24,179
746	G252303001510020	WPMOE	Other Pro Cntrct Sv	Inflation	112,387	1,243,268	(993,268)	250,000	250,000	256,000	262,144	268,435	274,878	281,475	288,230	295,148	302,231
747	G252303001510030	WPMOE	Comm & Media Servic	Inflation	2,779	1,414	-	1,414	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
748	G252303001510000	WPMOE	Telecommunication Chargeback	Inflation	$ 8,401	$ 6,151	$ -	$ 6,151	$ 50,000	$ 51,200	$ 52,429	$ 53,687	$ 54,976	$ 56,295	$ 57,646	$ 59,030	$ 60,446
749	G252303001510020	WPMOE	Licensing Fees	Inflation	26,756	14,000	-	14,000	16,000	16,384	16,777	17,180	17,592	18,014	18,447	18,889	19,343
750	G252303001510030	WPMOE	Meals	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
751	G252303001510000	WPMOE	Misc Services	Inflation	$ 5,967	$ 2,269	$ -	$ 2,269	$ 15,000	$ 15,360	$ 15,729	$ 16,106	$ 16,493	$ 16,888	$ 17,294	$ 17,709	$ 18,134
752	G252303001510020	WPMOE	Rent-Copier Equipment	Inflation	1,333	-	-	-	1,000	1,024	1,049	1,074	1,100	1,126	1,153	1,181	1,209
753	G252303001510030	WPMOE	Electricity County	Electricity	-	-	-	-	-	-	-	-	-	-	-	-	-
754	G252303001510000	WPMOE	OPEB	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
755	G252303001510020	WPMOE	Gen Liab Admin	Insurance	-	1,101	-	1,101	1,100	1,126	1,153	1,181	1,209	1,238	1,268	1,299	1,330
756	G252303001510030	WPMOE	Auto Liab Admin	Insurance	1,155	15,000	-	15,000	15,000	15,360	15,729	16,106	16,493	16,888	17,294	17,709	18,134
757	G252303001510000	WPMOE	Local Travel County	Inflation	$ 442	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
758	G252303001510020	WPMOE	Miscellaneous Travel	Inflation	633	7,367	-	7,367	3,500	3,584	3,670	3,758	3,848	3,941	4,035	4,132	4,231
759	G252303001510030	WPMOE	Certification	Inflation	2,362	1,726	-	1,726	3,000	3,072	3,146	3,221	3,299	3,378	3,459	3,542	3,627
760	G252303001542210	WPMOE	Mgmt/Prof Training	Inflation	34,443	5,000	-	5,000	40,000	40,960	41,943	42,950	43,980	45,036	46,117	47,224	48,357
761	G252303001542210	WPMOE	Technical Train Cnt	Inflation	22,248	10,322	-	10,322	5,000	5,120	5,243	5,369	5,498	5,629	5,765	5,903	6,045
762	G252303001542210	WPMOE	Reimb-Telephone Exp	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
763	G252303001542210	WPMOE	Other General Expenses	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
764	G252303001542210	WPMOE	Cash Awards	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
765	G252303001542210	WPMOE	Departmental Awards	Inflation	1,137	862	-	862	5,000	5,120	5,243	5,369	5,498	5,629	5,765	5,903	6,045

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
766	G252303001542210	WPMOE	Plaques and Awards	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
767	G252303001542210	WPMOE	Copying	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
768	G252303001542210	WPMOE	Phototypesetting	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
769	G252303001542210	WPMOE	Printing and Bindin	Inflation	383	500	-	500	1,000	1,024	1,049	1,074	1,100	1,126	1,153	1,181	1,209
770	G252303001542210	WPMOE	Assigned Agency Veh	Inflation	4,907	2,954	-	2,954	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
771	G252303001542210	WPMOE	Motor Pool	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
772	G252303001542210	WPMOE	Fuel	Fuel	1,561	-	-	-	2,000	2,080	2,163	2,250	2,340	2,433	2,531	2,632	2,737
773	G252303001542210	WPMOE	Service-Other Agenc	Inflation	239,851	2,773,261	-	2,773,261	500,000	512,000	524,288	536,871	549,756	562,950	576,461	590,296	604,463
774	G252303001542210	WPMOE	Mileage Allow Auto	Inflation	-	660	-	660	-	-	-	-	-	-	-	-	-
775	G252303001542210	WPMOE	Internal Fairfax Support	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
776	G252303001542210	WPMOE	Operating Bad Debt Expense	Inflation	-	-	-	284,748	-	-	-	-	-	-	-	-	-
777	G252303001542210	WPMOE	Prof Memberships	Inf/Emp	85,503	47,635	-	47,635	60,000	61,440	62,915	64,425	65,971	67,554	69,175	70,835	72,536
778	G252303001542210	WPMOE	Credit Card Expense	Inflation	(16)	-	-	-	-	-	-	-	-	-	-	-	-
779	G252303001542210	WPMOE	Other Operating Exp	Inflation	3,890	9,000	-	9,000	10,000	10,240	10,486	10,737	10,995	11,259	11,529	11,806	12,089
780	G252303001544990		Total Operating Expenses		$ 749,493	$ 4,322,442	$ (993,268)	$ 3,613,922	$ 1,502,300	$ 1,538,652	$ 1,575,888	$ 1,614,030	$ 1,653,100	$ 1,693,121	$ 1,734,116	$ 1,776,109	$ 1,819,125
			Recovered Costs														
781	G252303001500121	WPMRC	WPFO-Labor Charges	Labor	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
782	G252303001500122	WPMRC	WPFO-Agency OH Cost	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
783	G252303001542590	WPMRC	Misc Exp Reimb	Constant	$ (461,325)	$ (145,600)	$ 145,600	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
784			Total Recovered Costs		$ (461,325)	$ (145,600)	$ 145,600	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
			Capital Equipment [1]														
785	G252303001563040	WPMCE	Design-Consultant	Bud Cap	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
786	G252303001564100	WPMCE	Construct-Equip Acq	Bud Cap	-	-	-	-	-	-	-	-	-	-	-	-	-
787	G252303001566125	WPMCE	Equipment Expense	Bud Cap	-	-	-	-	-	-	-	-	-	-	-	-	-
788	G252303001566150	WPMCE	Vehicles Expense	Bud Cap	-	-	-	-	-	-	-	-	-	-	-	-	-
789			Total Capital Equipment [1]		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
790			**Total WP&M - Fiscal**		**$ 5,846,341**	**$ 8,079,139**	**$ (847,668)**	**$ 7,516,219**	**$ 8,945,719**	**$ 9,205,373**	**$ 9,472,611**	**$ 9,747,655**	**$ 10,030,733**	**$ 10,322,083**	**$ 10,621,947**	**$ 10,930,576**	**$ 11,248,226**
			WP&M - Engineer Planning														
			Personnel Services														
791	G252303002500000	WPMPS	Regular Salaries	Labor	$ 850,555	$ 934,244	$ -	$ 934,244	$ 1,085,415	$ 1,117,977	$ 1,151,517	$ 1,186,062	$ 1,221,644	$ 1,258,293	$ 1,296,042	$ 1,334,924	$ 1,374,971
792	G252303002500050	WPMPS	Annual Comp Increas	Labor	-	55,713	-	55,713	-	-	-	-	-	-	-	-	-
793	G252303002500080	WPMPS	POS Turnover-Pay	Labor	-	(44,110)	-	(44,110)	-	-	-	-	-	-	-	-	-
794	G252303002500090	WPMPS	Reg Sal-Non Mert Emp	Labor	5,481	808	-	808	-	-	-	-	-	-	-	-	-
795	G252303002500110	WPMPS	Extra pay	Labor	580	-	-	-	-	-	-	-	-	-	-	-	-
796	G252303002500130	WPMPS	Accrued Leave	Labor	(3,433)	-	-	-	-	-	-	-	-	-	-	-	-
797	G252303002500150	WPMPS	Leave Pay out	Labor	28,443	-	-	-	-	-	-	-	-	-	-	-	-
798	G252303002501000	WPMPS	Fringe Benefits	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
799	G252303002501010	WPMPS	FICA	Benefits	53,093	358,420	-	358,420	424,919	437,667	450,797	464,320	478,250	492,598	507,376	522,597	538,275
800	G252303002501011	WPMPS	Medicare	Benefits	12,417	-	-	-	-	-	-	-	-	-	-	-	-
801	G252303002501020	WPMPS	Retire Contrb-EE Sy	Benefits	227,684	-	-	-	-	-	-	-	-	-	-	-	-
802	G252303002501060	WPMPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
803	G252303002501061	WPMPS	Hleath OAP 90%	Benefits	22,018	-	-	-	-	-	-	-	-	-	-	-	-
804	G252303002501062	WPMPS	Health-HSA Plan	Benefits	1,400	-	-	-	-	-	-	-	-	-	-	-	-
805	G252303002501063	WPMPS	Health-MyChoice	Benefits	14,114	-	-	-	-	-	-	-	-	-	-	-	-
806	G252303002501070	WPMPS	Health-Cigna Low	Benefits	22,597	-	-	-	-	-	-	-	-	-	-	-	-
807	G252303002501080	WPMPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
808	G252303002501090	WPMPS	Health-Kaiser	Benefits	27,671	-	-	-	-	-	-	-	-	-	-	-	-
809	G252303002501100	WPMPS	Insurance-Group Life	Benefits	1,142	-	-	-	-	-	-	-	-	-	-	-	-
810	G252303002501110	WPMPS	Delta Dental	Benefits	3,834	-	-	-	-	-	-	-	-	-	-	-	-
811	G252303002501110	WPMPS	Computer Sys Lic Non	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
812			Total Personnel Services		$ 1,267,594	$ 1,305,075	$ -	$ 1,305,075	$ 1,510,334	$ 1,555,644	$ 1,602,313	$ 1,650,383	$ 1,699,894	$ 1,750,891	$ 1,803,418	$ 1,857,520	$ 1,913,246
			Operating Expenses														
813	G252303002544990	WPMCE	Other Operating Supplies	Repair	2,558	-	-	-	-	-	-	-	-	-	-	-	-
814	G252303002520110	WPMCE	Other Professional Consultant & Co	Inflation	$ -	$ -	$ -	$ -	$ 1,000,000	$ 1,100,000	$ 1,500,000	$ 1,536,000	$ 1,572,864	$ 1,610,613	$ 1,649,267	$ 1,688,850	$ 1,729,382
815	G252303002544990	WPMCE	Miscellaneous Services	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
816	G252303002520110	WPMCE	Certification	Inflation	$ -	$ -	$ -	$ -	$ 600	$ 614	$ 629	$ 644	$ 660	$ 676	$ 692	$ 708	$ 725
817	G252303002544990	WPMCE	Management / Professional Training	Inflation	-	-	-	-	6,000	6,144	6,291	6,442	6,597	6,755	6,918	7,084	7,254
818	G252303002520110	WPMCE	Technical Training County	Inflation	$ -	$ -	$ -	$ -	$ 1,000	$ 1,024	$ 1,049	$ 1,074	$ 1,100	$ 1,126	$ 1,153	$ 1,181	$ 1,209
819	G252303002544990	WPMCE	Cash Awards	Inflation	1,393	-	-	-	-	-	-	-	-	-	-	-	-
820	G252303002520110	WPMCE	Professinal Memberships	Inflation	$ -	$ -	$ -	$ -	$ 1,400	$ 1,434	$ 1,468	$ 1,503	$ 1,539	$ 1,576	$ 1,614	$ 1,653	$ 1,692
821	G252303002544990	WPMCE	Other Operating Exp	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
822			Total Operating Expenses		$ 3,951	$ -	$ -	$ -	$ 1,009,000	$ 1,109,216	$ 1,509,437	$ 1,545,664	$ 1,582,760	$ 1,620,746	$ 1,659,644	$ 1,699,475	$ 1,740,263
823			Total WP&M - Engineer Planning		$ 1,271,546	$ 1,305,075	$ -	$ 1,305,075	$ 2,519,334	$ 2,664,860	$ 3,111,751	$ 3,196,046	$ 3,282,654	$ 3,371,637	$ 3,463,062	$ 3,556,995	$ 3,653,509
			WP&M - Lab														
			Personnel Services														
824	G252303003500000	WPMPS	Regular Salaries	Labor	$ 1,457,313	$ 1,556,822	$ -	$ 1,556,822	$ 1,683,894	$ 1,734,411	$ 1,786,443	$ 1,840,036	$ 1,895,238	$ 1,952,095	$ 2,010,657	$ 2,070,977	$ 2,133,107
825	G252303003500050	WPMPS	Annual Comp Increas	Labor	-	92,840	-	92,840	-	-	-	-	-	-	-	-	-
826	G252303003500080	WPMPS	POS Turnover-Pay	Labor	-	(66,166)	-	(66,166)	-	-	-	-	-	-	-	-	-
827	G252303003500080	WPMPS	Reg Sal Non Mert Em	Labor	34,986	1,558	-	1,558	-	-	-	-	-	-	-	-	-
828	G252303003500080	WPMPS	Extra pay	Labor	72,205	34,075	-	34,075	-	-	-	-	-	-	-	-	-
829	G252303003500080	WPMPS	Accrued Leave	Labor	(16,659)	-	-	-	-	-	-	-	-	-	-	-	-
830	G252303003500080	WPMPS	Leave Pay out	Labor	5,664	-	-	-	-	-	-	-	-	-	-	-	-
831	G252303003500080	WPMPS	Fringe Benefits	Benefits	-	589,008	-	589,008	612,568	630,945	649,873	669,370	689,451	710,134	731,438	753,381	775,983
832	G252303003500080	WPMPS	FICA	Benefits	92,121	-	-	-	-	-	-	-	-	-	-	-	-
833	G252303003500080	WPMPS	Medicare	Benefits	21,541	-	-	-	-	-	-	-	-	-	-	-	-
834	G252303003500080	WPMPS	Retire Contrb-EE Sy	Benefits	417,951	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
835	G252303003500080	WPMPS	Health-Cigna High	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
836	G252303003500080	WPMPS	Health OAP 90%	Benefits	207,109	-	-	-	-	-	-	-	-	-	-	-	-
837	G252303003500080	WPMPS	Health-HSA Plan	Benefits	583	-	-	-	-	-	-	-	-	-	-	-	-
838	G252303003500080	WPMPS	Health-MyChoice	Benefits	3,701	-	-	-	-	-	-	-	-	-	-	-	-
839	G252303003500080	WPMPS	Health Insurance-Cigna Low	Benefits	16,491	-	-	-	-	-	-	-	-	-	-	-	-
840	G252303003500080	WPMPS	Health-BC/BS	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
841	G252303003500080	WPMPS	Health-Kaiser	Benefits	14,604	-	-	-	-	-	-	-	-	-	-	-	-
842	G252303003500080	WPMPS	Insurance-Group Life	Benefits	1,970	-	-	-	-	-	-	-	-	-	-	-	-
843	G252303003500080	WPMPS	Delta Dental	Benefits	8,268	-	-	-	-	-	-	-	-	-	-	-	-
844	G252303003500080	WPMPS	Workers Comp Idmty-P	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
845			Total Personnel Services		$ 2,337,847	$ 2,208,137	$ -	$ 2,208,137	$ 2,296,462	$ 2,365,356	$ 2,436,317	$ 2,509,406	$ 2,584,688	$ 2,662,229	$ 2,742,096	$ 2,824,359	$ 2,909,089
			Operating Expenses														
846	G252303003510000	WPMOE	Office Equip&Sup	Inflation	$ 232	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
847	G252303003510020	WPMOE	Office Supplies	Inflation	5,341	7,483	-	7,483	9,200	9,421	9,647	9,878	10,116	10,358	10,607	10,861	11,122
848	G252303003510020	WPMOE	Computer Equipment	Inflation	185	-	-	-	3,500	3,584	3,670	3,758	3,848	3,941	4,035	4,132	4,231
849	G252303003510020	WPMOE	Computer Acces&Supl	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
850	G252303003510020	WPMOE	IT Replacement Parts	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
851	G252303003510000	WPMOE	Printing Access & Suppl	Inflation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
852	G252303003510020	WPMOE	Postage	Inflation	2,715	-	-	-	2,300	2,355	2,412	2,470	2,529	2,590	2,652	2,715	2,781
853	G252303003510020	WPMOE	Bldg Maint & Repair	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
854	G252303003510020	WPMOE	Educational Supplies	Chemicals	790	-	-	-	29,124	30,289	31,501	32,761	34,071	35,434	36,851	38,325	39,858
855	G252303003510020	WPMOE	Chemicals	Chemicals	-	-	-	-	-	-	-	-	-	-	-	-	-
856	G252303003510000	WPMOE	Tools County	Repair	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
857	G252303003510020	WPMOE	Water Treat Eqp&Sup	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
858	G252303003510020	WPMOE	Hshl Aplnc/Supl/Repl	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
859	G252303003510020	WPMOE	Med&Lab Eqp and Supl	Inflation	-	14,170	-	14,170	-	-	-	-	-	-	-	-	-
860	G252303003510020	WPMOE	Lab Equip and Supl	Inflation	299,809	254,906	-	254,906	74,700	76,493	78,329	80,209	82,134	84,105	86,123	88,190	90,307
861	G252303003510000	WPMOE	Other Operating Sup	Inflation	$ 2,692	$ -	$ -	$ -	$ 16,476	$ 16,871	$ 17,276	$ 17,691	$ 18,116	$ 18,550	$ 18,996	$ 19,451	$ 19,918
862	G252303003510020	WPMOE	Uniform/Wear Appare	Inf/Emp	47,513	8,017	-	8,017	30,000	30,720	31,457	32,212	32,985	33,777	34,588	35,418	36,268
863	G252303003510020	WPMOE	Mis Pub Safe Eqp&Sup	Inflation	88	-	-	-	-	-	-	-	-	-	-	-	-
864	G252303003510020	WPMOE	Ofc Eqp Maint&Repai	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
865	G252303003510020	WPMOE	Bldg Maint&Rep Svcs	Inflation	1,536	9,123	-	9,123	281,000	287,744	294,650	301,721	308,963	316,378	323,971	331,746	339,708
866	G252303003510000	WPMOE	Plumbing M&R	Repair	$ 238	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
867	G252303003510020	WPMOE	Automotive Equip/M&R	Repair	-	-	-	-	3,000	3,120	3,245	3,375	3,510	3,650	3,796	3,948	4,106
868	G252303003510020	WPMOE	Scienti/Tech Eqp M&	Repair	30,173	37,850	-	37,850	3,500	3,640	3,786	3,937	4,095	4,258	4,429	4,606	4,790
869	G252303003510020	WPMOE	Other Maint & Repai	Repair	-	-	-	-	-	-	-	-	-	-	-	-	-
870	G252303003510020	WPMOE	Software Maint&Supp	Inflation	420	-	-	-	-	-	-	-	-	-	-	-	-
871	G252303003510000	WPMOE	Employment Services	Inflation	$ 1,620	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
872	G252303003510000	WPMOE	Edu/Training Servic	Inflation	$ 7,590	$ 24,515	$ -	$ 24,515	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
873	G252303003510020	WPMOE	Computer Services	Inflation	-	-	-	-	5,300	5,427	5,557	5,691	5,827	5,967	6,110	6,257	6,407
874	G252303003510020	WPMOE	Print/Typeset Servce	Inflation	4,721	-	-	-	-	-	-	-	-	-	-	-	-
875	G252303003510020	WPMOE	Other Pro Cntrct Sv	Inflation	119,045	132,208	-	132,208	235,000	240,640	246,415	252,329	258,385	264,586	270,937	277,439	284,098
876	G252303003510020	WPMOE	Comm & Media Servic	Inflation	-	-	-	-	14,500	14,848	15,204	15,569	15,943	16,326	16,717	17,119	17,529
877	G252303003510000	WPMOE	Safety&Emergency Svc	Inflation	$ 270	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
878	G252303003510020	WPMOE	Special Events	Inflation	-	-	-	-	19,900	20,378	20,867	21,367	21,880	22,405	22,943	23,494	24,058
879	G252303003510020	WPMOE	Licensing Fees	Inflation	-	-	-	-	530	543	556	569	583	597	611	626	641
880	G252303003510020	WPMOE	Meals	Inflation	464	-	-	-	-	-	-	-	-	-	-	-	-
881	G252303003510020	WPMOE	Misc Services	Inflation	50,304	45,348	-	45,348	-	-	-	-	-	-	-	-	-
882	G252303003510000	WPMOE	Local County Travel	Inflation	$ 1,423	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
883	G252303003510020	WPMOE	Miscellaneous Travel	Inflation	1,727	-	-	-	-	-	-	-	-	-	-	-	-
884	G252303003510020	WPMOE	Certification	Inflation	-	-	-	-	12,000	12,288	12,583	12,885	13,194	13,511	13,835	14,167	14,507
885	G252303003510020	WPMOE	Mgmt/Prof Training	Inflation	2,883	4,000	-	4,000	66,573	68,171	69,807	71,482	73,198	74,955	76,753	78,596	80,482
886	G252303003510020	WPMOE	Technical Train Cnt	Inflation	350	1,000	-	1,000	29,355	30,060	30,781	31,520	32,276	33,051	33,844	34,656	35,488
887	G252303003510000	WPMOE	Cash Awards	Inflation	$ 1,393	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
888	G252303003510020	WPMOE	Departmental Awards	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
889	G252303003510020	WPMOE	Microfilm Services	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
890	G252303003510020	WPMOE	Phototypesetting	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
891	G252303003510020	WPMOE	Services-Other Agency	Inflation	-	-	-	-	7,500	7,680	7,864	8,053	8,246	8,444	8,647	8,854	9,067
892	G252303003510020	WPMOE	Mileage Allow Auto	Inflation	-	-	-	-	-	-	-	-	-	-	-	-	-
893	G252303003510020	WPMOE	Prof Memberships	Inf/Emp	2,315	-	-	-	2,800	2,867	2,936	3,006	3,079	3,153	3,228	3,306	3,385
894	G252303003510020	WPMOE	Credit Card Expense	Inflation	16	-	-	-	-	-	-	-	-	-	-	-	-
895	G252303003510020	WPMOE	Refuse Disposal Expense	Inflation	4,232	2,000	-	2,000	3,000	3,072	3,146	3,221	3,299	3,378	3,459	3,542	3,627
896	G252303003510020	WPMOE	Other Operating Exp	Inflation	(1,914)	130,000	-	130,000	11,471	11,746	12,028	12,317	12,612	12,915	13,225	13,543	13,868
897			Total Operating Expenses		$ 588,170	$ 670,621	$ -	$ 670,621	$ 860,729	$ 881,956	$ 903,716	$ 926,022	$ 948,888	$ 972,328	$ 996,357	$ 1,020,991	$ 1,046,245
			Recovered Costs														
898	G252303003500121	WPMRC	WPFO-Labor Charges	Labor	$ (45,750)	$ (39,788)	$ -	$ (39,788)	$ (45,000)	$ (46,350)	$ (47,741)	$ (49,173)	$ (50,648)	$ (52,167)	$ (53,732)	$ (55,344)	$ (57,005)
899	G252303003501520	WPMRC	Reimb-CptlFringe Be	Benefits	-	-	-	-	-	-	-	-	-	-	-	-	-
900			Total Recovered Costs		$ (45,750)	$ (39,788)	$ -	$ (39,788)	$ (45,000)	$ (46,350)	$ (47,741)	$ (49,173)	$ (50,648)	$ (52,167)	$ (53,732)	$ (55,344)	$ (57,005)
			Capital Equipment [1]														
901	G252303003566125	WPMCE	Equiptment Exp SC Onl	Bud Cap	$ 12,825	$ 126,772	$ (126,772)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
902	G252303003566150	WPMCE	Vehicle Expense	Bud Cap	-	-	-	-	-	-	-	-	-	-	-	-	-
903			Total Capital Equipment [1]		$ 12,825	$ 126,772	$ (126,772)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
904			Total WP&M - Lab		$ 2,893,092	$ 2,965,742	$ (126,772)	$ 2,838,970	$ 3,112,191	$ 3,200,962	$ 3,292,292	$ 3,386,255	$ 3,482,928	$ 3,582,389	$ 3,684,720	$ 3,790,005	$ 3,898,329
905			Total WP&M Department		$ 10,010,979	$ 12,349,956	$ (974,440)	$ 11,660,264	$ 14,577,244	$ 15,071,196	$ 15,876,654	$ 16,329,956	$ 16,796,315	$ 17,276,109	$ 17,769,729	$ 18,277,576	$ 18,800,064

Footnotes on Page 14 of 14.

Table 3
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projection of Operating Expenses

Line No.	G/L Code		Description	Escalation Reference	Actual 2022	Adopted 2023	Adjustments	Adjusted 2023	Adjusted 2024	Projected Fiscal Year Ending June 30, 2025	2026	2027	2028	2029	2030	2031	2032
			TBC - Treatment by Contract														
906	550000	WPMOE	Pmt-Alex Sanitation	Input	$ 10,785,305	$ 12,300,000	$ (235,888)	$ 12,064,113	$ 12,395,527	$ 12,730,301	$ 13,074,077	$ 13,427,097	$ 13,789,607	$ 14,161,837	$ 14,544,094	$ 14,936,597	$ 15,339,694
907	550010	WPMOE	Pmt-Arlington Sewag	Input	2,045,814	2,400,000	134,430	2,534,430	2,592,722	2,654,947	2,718,666	2,783,914	2,850,728	2,919,145	2,989,205	3,060,946	3,134,408
908	550030	WPMOE	Pmt-Falls Church Sw	Repair	354,238	400,000	-	400,000	438,000	455,520	473,741	492,690	512,398	532,894	554,210	576,378	599,433
909	550040	WPMOE	Pmt-Harbor View Swg	Inflation	536,325	593,675	-	593,675	-	-	-	-	-	-	-	-	-
910	550050	WPMOE	Pmt-Inter-Jurisdict	AgentFee	-	2,319,462	(2,319,462)	-	-	-	-	-	-	-	-	-	-
911	550060	WPMOE	Pmt-Loudoun Water	AgentFee	-	1,508,488	(1,508,488)	-	-	-	-	-	-	-	-	-	-
912	550100	WPMOE	Payments-DC Water	Input	13,788,885	17,992,366	(3,624,348)	14,368,018	14,799,058	15,243,030	15,700,321	16,171,330	16,656,470	17,156,164	17,670,850	18,200,976	18,747,004
913	550110	WPMOE	Pmt-UOSA Sewage	Input	13,846,223	13,537,825	719,699	14,257,524	14,585,447	14,935,497	15,293,949	15,661,005	16,036,868	16,421,754	16,815,879	17,219,461	17,632,728
914	550120	WPMOE	Pmt-Loudoun Water	AgentFee	30,831	82,518	-	82,518	68,000	69,924	71,903	73,938	76,031	78,182	80,395	82,670	85,010
915	550210	WPMOE	Pmt-PWSA	AgentFee	344,813	-	-	-	380,000	390,754	401,812	413,184	424,878	436,901	449,267	461,981	475,058
916			Total TBC - Treatment by Contract		$ 41,732,433	$ 51,134,335	$ (6,834,057)	$ 44,300,278	$ 45,258,755	$ 46,479,973	$ 47,734,470	$ 49,023,158	$ 50,346,980	$ 51,706,878	$ 53,103,900	$ 54,539,009	$ 56,013,336
			Contracted Billing Services														
917	550020	WPMOE	FCWA	AgentFee	$ 7,270,494	$ 6,660,107	$ 1,139,893	$ 7,800,000	$ 7,800,000	$ 8,020,735	$ 8,247,724	$ 8,481,143	$ 8,721,175	$ 8,967,972	$ 9,221,792	$ 9,482,767	$ 9,751,200
918			Total Contracted Billing Service		$ 7,270,494	$ 6,660,107	$ 1,139,893	$ 7,800,000	$ 7,800,000	$ 8,020,735	$ 8,247,724	$ 8,481,143	$ 8,721,175	$ 8,967,972	$ 9,221,792	$ 9,482,767	$ 9,751,200
919			Total O&M Expenses & Capital Outlay		$ 105,337,007	$ 129,828,901	$ (12,124,513)	$ 117,989,136	$ 127,696,933	$ 131,317,255	$ 135,337,948	$ 139,097,310	$ 142,963,028	$ 146,937,700	$ 151,026,290	$ 155,234,457	$ 159,566,302
920			Capital Outlay		$ 202,308	$ 5,559,657	$ (5,559,657)	$ -	$ 1,430,000	$ 1,472,900	$ 1,517,087	$ 1,562,600	$ 1,609,478	$ 1,657,762	$ 1,707,495	$ 1,758,720	$ 1,811,481
921			Total O&M Expenses Net of Capital Outlay		$ 105,134,699	$ 124,269,244	$ (6,564,856)	$ 117,989,136	$ 126,266,933	$ 129,844,355	$ 133,820,861	$ 137,534,710	$ 141,353,550	$ 145,279,938	$ 149,318,795	$ 153,475,737	$ 157,754,821
922			Op. Exp. Adj.					-	-	-	-	-	-	-	-	-	-
923			Additional Personnel					-	1,101,995	1,669,997	1,871,507	1,927,653	1,985,482	2,045,047	2,106,398	2,169,590	2,234,678
924			Total Adj. O&M Expenses Net of Capital Outlay		$ 105,134,699	$ 124,269,244	$ (6,564,856)	$ 117,989,136	$ 127,368,928	$ 131,514,352	$ 135,692,369	$ 139,462,363	$ 143,339,032	$ 147,324,985	$ 151,425,193	$ 155,645,327	$ 159,989,499

Footnotes:

[1] WMP capitalizes budgeted equipment and capital outlays and therefore was reclassified to the forecasted Capital Improvement Program (reference Table 10).

[2] Forecasted amounts are based on: i) Forecasted amounts are based on the apportionment of costs from budgetary estimates and forecasts provided by the respective Treatment by Contract (TBC) provider and based on discussions with WMP staff.

Table 4
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis
Projection of Operating Expenses for Treatment By Contract (TBC)

Line No.	Description	Escalation Reference [1]	Proposed Budget	Adjustments	Adjusted 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
					Projected Fiscal Year Ending June 30,									
	AlexRenew - Alexandria Renew Enterprises													
	AlexRenew - O&M Costs Allocated to Fairfax Co.[2]													
1	Total Operating Expenses	O&M ARE	$ 28,386,991	$ -	$ 28,386,991	$ 29,096,666	$ 29,824,082	$ 30,569,684	$ 31,333,927	$ 32,117,275	$ 32,920,207	$ 33,743,212	$ 34,586,792	$ 35,451,462
2	Less: AlexRenew Only Expenses	Input	(3,818,766)	-	(3,818,766)	(3,914,235)	(4,012,091)	(4,112,393)	(4,215,203)	(4,320,583)	(4,428,597)	(4,539,312)	(4,652,795)	(4,769,115)
3	Joint Operating Expenses		$ 24,568,225	$ -	$ 24,568,225	$ 25,182,431	$ 25,811,992	$ 26,457,292	$ 27,118,724	$ 27,796,692	$ 28,491,609	$ 29,203,900	$ 29,933,997	$ 30,682,347
4	Percentage Allocation to Fairfax Co.		50.00%	0.00%	50.00%	50.12%	50.22%	50.32%	50.42%	50.51%	50.61%	50.71%	50.81%	50.91%
5	Operating Expenses Allocated to Fairfax Co.		$ 12,284,113	$ -	$ 12,284,113	$ 12,621,571	$ 12,962,449	$ 13,312,495	$ 13,671,952	$ 14,041,073	$ 14,420,091	$ 14,809,319	$ 15,208,980	$ 15,619,428
6	Less: Charges for Alexandria City Flow		-	-	-	-	-	-	-	-	-	-	-	-
7	Adjustments for Historical Budget to Actual Variance		-	(220,000)	(220,000)	(226,044)	(232,149)	(238,418)	(244,855)	(251,466)	(258,254)	(265,225)	(272,382)	(279,733)
8	Operating Expenses Allocated to Fairfax Co. - FY Adj		$ 12,284,113	$ (220,000)	$ 12,064,113	$ 12,395,527	$ 12,730,301	$ 13,074,077	$ 13,427,097	$ 13,789,607	$ 14,161,837	$ 14,544,094	$ 14,936,597	$ 15,339,694
9	Gross Joint Assets	IR&R ARE	$ 772,711,685	$ -	$ 772,711,685	$ 835,764,958	$ 877,553,006	$ 908,267,361	$ 940,056,719	$ 972,958,704	$ 1,007,012,259	$ 1,042,257,688	$ 1,078,736,707	$ 1,116,492,492
10	Funding Percentage per Agreement		0.70%	0.00%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%
11	Fairfax Co. Share (60%) [3]		3,245,389	-	3,245,389	3,510,213	3,685,723	3,814,723	3,948,238	4,086,427	4,229,451	4,377,482	4,530,694	4,689,268
12	Adjustments		-	-	-	-	-	-	-	-	-	-	-	-
13	IR&R Expenditures Allocated to Fairfax County [3]		$ 3,245,389	$ -	$ 3,245,389	$ 3,510,213	$ 3,685,723	$ 3,814,723	$ 3,948,238	$ 4,086,427	$ 4,229,451	$ 4,377,482	$ 4,530,694	$ 4,689,268
	Subtotal ARE - O&M Costs Allocated to Fairfax Co.				$ 15,317,171	$ 15,839,534	$ 16,372,146	$ 16,856,550	$ 17,341,957	$ 17,841,487	$ 18,355,533	$ 18,884,569	$ 19,428,988	$ 19,989,319
	Accruals/Fiscal Year End Adjustments [4]				-	-	-	-	-	-	-	-	-	-
	Total ARE - O&M Costs Allocated to Fairfax Co.				$ 15,317,171	$ 15,839,534	$ 16,372,146	$ 16,856,550	$ 17,341,957	$ 17,841,487	$ 18,355,533	$ 18,884,569	$ 19,428,988	$ 19,989,319
	Arlington County - WPCP													
	Arlington WPCP - O&M Costs Allocated to Fairfax Co.[5]													
	Escalation Factor													
14	Arlington Total Operating Expenses	Composite	$ 25,980,662	$ -	$ 25,980,662	$ 26,578,217	$ 27,216,094	$ 27,869,280	$ 28,538,143	$ 29,223,058	$ 29,924,411	$ 30,642,597	$ 31,378,019	$ 32,131,091
15	Annual Sewage Flow - Fairfax Co. to Arlington	Input	-	-	790,590	790,590	790,590	790,590	790,590	790,590	790,590	790,590	790,590	790,590
16	Annual Sewage Flow at Arlington (WPCP)	Input	-	-	8,104,407	8,104,407	8,104,407	8,104,407	8,104,407	8,104,407	8,104,407	8,104,407	8,104,407	8,104,407
17	Allocation Factor (Line 15/Line 16)		9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%
18	Fairfax County Allocable O&M Payment		$ 2,534,430	$ -	$ 2,534,430	$ 2,592,722	$ 2,654,947	$ 2,718,666	$ 2,783,914	$ 2,850,728	$ 2,919,145	$ 2,989,205	$ 3,060,946	$ 3,134,408
19	Accruals/Fiscal Year End Adjustments [6]		-	-	-	-	-	-	-	-	-	-	-	-
20	Total Arlington WPCP - O&M Costs Allocated to Fairfax Co.[5]		$ 2,534,430	$ -	$ 2,534,430	$ 2,592,722	$ 2,654,947	$ 2,718,666	$ 2,783,914	$ 2,850,728	$ 2,919,145	$ 2,989,205	$ 3,060,946	$ 3,134,408
	Blue Plains - DCWater													
	DCWater - O&M Costs Allocated to Fairfax Co.[7]													
21	Interceptors	Inflation	$ 513,594	$ -	$ 513,594	$ 529,002	$ 544,872	$ 561,218	$ 578,055	$ 595,397	$ 613,259	$ 631,657	$ 650,607	$ 670,125
22	Pumping Stations	Inflation	330,715	-	330,715	340,636	350,855	361,381	372,222	383,389	394,891	406,738	418,940	431,508
23	Screen Chambers	Inflation	88	-	88	91	94	97	100	103	106	109	112	115
24	Wastewater Treatment Plant	Inflation	8,672,978	-	8,672,978	8,933,167	9,201,162	9,477,197	9,761,513	10,054,358	10,355,989	10,666,669	10,986,669	11,316,269
25	D.C. Sludge Costs	DC Sludge	1,620,022	-	1,620,022	1,668,623	1,718,682	1,770,242	1,823,349	1,878,049	1,934,390	1,992,422	2,052,195	2,113,761
26	Indirect Costs	Inflation	2,209,011	-	2,209,011	2,275,281	2,343,539	2,413,845	2,486,260	2,560,848	2,637,673	2,716,803	2,798,307	2,882,256
27	Rental and User Fees	Inflation	379,795	-	379,795	391,189	402,925	415,013	427,463	440,287	453,496	467,101	481,114	495,547
28	WSSC Biosolids	Inflation	641,815	-	641,815	661,069	680,901	701,328	722,368	744,039	766,360	789,351	813,032	837,423
29	Excess Flow and Other Payments	Inflation	-	-	-	-	-	-	-	-	-	-	-	-
30	Additional Costs	Inflation	-	-	-	-	-	-	-	-	-	-	-	-
31	Accruals/Fiscal Year End Adjustments [8]	Inflation	-	-	-	-	-	-	-	-	-	-	-	-
32	Total DCWater - O&M Costs Allocated to Fairfax Co.[7]		$ 14,368,018	$ -	$ 14,368,018	$ 14,799,058	$ 15,243,030	$ 15,700,321	$ 16,171,330	$ 16,656,470	$ 17,156,164	$ 17,670,850	$ 18,200,976	$ 18,747,004
	Upper Occoquan Sewage Authority - UOSA													
	UOSA - O&M Costs Allocated to Fairfax Co.[9]													
33	UOSA Total Operating Expenses	Composite	$ 33,169,241	$ 995,077	$ 34,164,318	$ 34,950,097	$ 35,788,900	$ 36,647,833	$ 37,527,381	$ 38,428,038	$ 39,350,311	$ 40,294,719	$ 41,261,792	$ 42,252,075
34	Annual Sewage Flow - Fairfax Co. to UOSA (MG)	Input	-	-	4,678,570	4,678,570	4,678,570	4,678,570	4,678,570	4,678,570	4,678,570	4,678,570	4,678,570	4,678,570
35	Annual Sewage Flow at UOSA (MG)	Input	-	-	12,598,500	12,598,500	12,598,500	12,598,500	12,598,500	12,598,500	12,598,500	12,598,500	12,598,500	12,598,500
36	Allocation Factor		37.1%	0.0%	37.1%	37.1%	37.1%	37.1%	37.1%	37.1%	37.1%	37.1%	37.1%	37.1%
37	Fairfax County Allocable O&M Payment		12,317,706	369,531	12,687,237	12,979,043	13,290,540	13,609,513	13,936,142	14,270,609	14,613,104	14,963,818	15,322,950	15,690,701
38	Accruals/Fiscal Year End Adjustments [10]		-	-	-	-	-	-	-	-	-	-	-	-
39	Reserve and Maintenance Fund Deposits	Composite	$ 3,836,903	$ -	$ 3,836,903	$ 3,925,152	$ 4,019,355	$ 4,115,820	$ 4,214,599	$ 4,315,750	$ 4,419,328	$ 5,363,427	$ 5,492,149	$ 5,623,961
40	Fairfax Co. Reserved Capac. from UOSA	Input	-	-	22.10	22.10	22.10	22.10	22.10	22.10	22.10	22.10	22.10	22.10
41	Total Capacity of UOSA WWTP	Input	-	-	54.00	54.00	54.00	54.00	54.00	54.00	54.00	64.00	64.00	64.00
42	Allocation Factor		40.93%	40.93%	40.93%	40.93%	40.93%	40.93%	40.93%	40.93%	40.93%	34.53%	34.53%	34.53%

Footnotes on Page 2 of 2.

Table 4
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis
Projection of Operating Expenses for Treatment By Contract (TBC)

Line No.	Description	Escalation Reference [1]	Proposed Budget	Adjustments	Adjusted 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
			Projected Fiscal Year Ending June 30,											
43	Fairfax County Allocable R&M Deposits		$ 1,570,287	$ -	$ 1,570,287	$ 1,606,404	$ 1,644,957	$ 1,684,436	$ 1,724,863	$ 1,766,259	$ 1,808,650	$ 1,852,061	$ 1,896,511	$ 1,942,027
44	Accruals/Fiscal Year End Adjustments [10]		-	-	-	-	-	-	-	-	-	-	-	-
45	Total UOSA Allocated Cost		$ 13,887,993	$ 369,531	$ 14,257,524	$ 14,585,447	$ 14,935,497	$ 15,293,949	$ 15,661,005	$ 16,036,868	$ 16,421,754	$ 16,815,879	$ 17,219,461	$ 17,632,728
	Loudoun County Sanitation Authority													
47	Fairfax Flow to BRWRF		-		-	-	-	-	-	-	-	-	-	-
48	Total Wastewater Treated at BRWRF		-		-	-	-	-	-	-	-	-	-	-
49	Fairfax Proportion		0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
50	LCSA Total Operating Costs		$ 21,500,000		$ 21,500,000	$ 21,500,000	$ 21,500,000	$ 21,500,000	$ 21,500,000	$ 21,500,000	$ 21,500,000	$ 21,500,000	$ 21,500,000	$ 21,500,000
51	Fairfax County Allocable O&M Paymen		-		-	-	-	-	-	-	-	-	-	-

Footnotes:

[1] Escalation reference apply to costs beginning with the Fiscal Year 2024 and beyond.

[2] Forecasted amounts are based on: i) apportionment of costs from budgetary estimates by AlexRenew; and ii) escalation of costs based on information provided by AlexRenew and discussions with WMP Staff.

[3] Projected IR&R contribution based on the master indenture of trust agreement that entitles AlexRenew to collect IR&R Funds not to exceed 0.70% of the prior year's gross utility plant in service multiplied by the Fairfax Allocation of such plant in service (currently at 60.0%).

[4] Adjustment made for Historical Fiscal Years to account for: i) true up of the operating costs performed by AlexRenew at the end of the Fiscal Year; and ii) adjustments to account for the difference in the Fiscal Year period between AlexRenew and Fairfax County.

[5] Forecasted amounts are based on: i) apportionment of costs from budgetary estimates by Arlington County; and ii) escalation of costs based on information provided by Arlington County and discussions with WMP Staff.

[6] Adjustment made for Historical Fiscal Years to account for: i) true up of the operating costs performed by Arlington County at the end of the Fiscal Year, if any.

[7] Forecasted amounts are based on apportionment of costs from budgetary estimates by DCWater; and ii) escalation of costs based on information provided by DCWater and discussions with WMP Staff.

[8] Adjustment made for Historical Fiscal Years to account for: i) true up of the operating costs performed by DCWater at the end of the Fiscal Year; and ii) adjustments to account for the difference in the Fiscal Year period between DCWater and Fairfax County.

[9] Forecasted amounts are based on: i) apportionment of costs from budgetary estimates by UOSA; and ii) escalation of costs based on information provided by UOSA and discussions with WMP Staff.

[10] Adjustment made for Historical Fiscal Years to account for: i) true up of the operating costs performed by UOSA at the end of the Fiscal Year; and ii) Interest earnings and additional charges/credits that occurred during the Fiscal Year.

Table 5
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Historical and Projected Sales of Service (Bulk Sales) and Other Revenue

Line No.	Description	Escalation Factors	Actual [1] 2022	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	Sales of Service (Bulk Sales)												
1	City of Fairfax [2]	Calculated	$ 2,280,046	$ 2,417,651	$ 2,543,168	$ 2,609,502	$ 2,677,464	$ 2,747,116	$ 2,818,418	$ 2,891,431	$ 2,966,303	$ 3,043,354	$ 3,122,569
2	Town of Herndon [3]	Calculated	1,643,043	1,517,814	1,557,814	1,598,868	1,641,000	1,684,237	1,728,608	1,774,148	1,820,878	1,868,839	1,918,047
3	Arlington County [4]	Calculated	772,690	678,121	696,072	714,499	733,412	752,824	772,748	793,200	814,188	835,733	857,841
4	Fort Belvoir [5]	Calculated	2,692,819	2,791,257	2,918,916	3,039,675	3,219,088	3,391,601	3,571,014	3,760,779	3,960,893	4,171,359	4,395,626
5	City of Falls Church [6]	Calculated	672,472	752,043	764,393	783,450	802,240	820,654	839,487	858,749	878,447	898,595	919,197
6	Town of Vienna [7]	Calculated	651,000	800,569	856,778	879,177	902,067	925,514	949,516	974,095	999,300	1,025,237	1,051,900
7	FCWA [8]	Calculated	126,178	155,850	163,060	169,978	179,283	189,124	199,160	209,732	220,889	232,630	245,102
8	I-95 ERRF (Covanta) [9]	Calculated	268,775	270,016	282,508	294,493	310,615	327,665	345,053	363,369	382,698	403,040	424,648
9	LCSA [10]	Calculated	209,026	208,636	213,434	218,557	223,802	229,173	234,673	240,306	246,073	251,979	258,026
10	Sales of Service (Bulk Revenue)		$ 9,316,050	$ 9,591,955	$ 9,996,143	$ 10,308,201	$ 10,688,973	$ 11,067,909	$ 11,458,677	$ 11,865,808	$ 12,289,669	$ 12,730,765	$ 13,192,955
11	Percentage Change			2.96%	4.21%	3.12%	3.69%	3.55%	3.53%	3.55%	3.57%	3.59%	3.63%
	Other Revenues												
12	Miscellaneous Revenue	Constant	$ 278,169	$ 675,000	$ 675,000	$ 675,000	$ 675,000	$ 675,000	$ 675,000	$ 675,000	$ 675,000	$ 675,000	$ 675,000
13	Industrial Pretreatment Charges	Constant	-	-	-	-	-	-	-	-	-	-	-
14	Engineering Fees	Constant	-	-	-	-	-	-	-	-	-	-	-
15	Sale of Capital Equipment	Constant	42,385	-	-	-	-	-	-	-	-	-	-
16	Sales of Salvage	Constant	28,477	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
17	Subtotal Other Revenues		$ 349,031	$ 775,000	$ 775,000	$ 775,000	$ 775,000	$ 775,000	$ 775,000	$ 775,000	$ 775,000	$ 775,000	$ 775,000
18	Percentage Change			122.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Non-Recurring Revenues (to E&I Fund)												
19	Lateral Spur Fees [11]	Connections	$ 3,000	$ 10,000	$ 10,042	$ 10,084	$ 10,127	$ 10,169	$ 10,212	$ 10,255	$ 10,298	$ 10,341	$ 10,384
20	Connection Charges [11]	Connections	707,819	250,000	251,050	252,104	253,163	254,226	255,294	256,366	257,443	258,524	259,612
21	Frontage Fees [11]	Constant	-	-	-	-	-	-	-	-	-	-	-
22	Subtotal Non-Recurring Revenues		$ 710,819	$ 260,000	$ 261,092	$ 262,189	$ 263,290	$ 264,396	$ 265,506	$ 266,621	$ 267,741	$ 268,865	$ 269,996
23	Percentage Change			(63.42%)	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%
	Capital Contributions [12]												
24	City of Fairfax			$ 5,050,218	$ 7,578,054	$ 10,094,669	$ 8,982,985	$ 8,147,122	$ 5,877,555	$ 4,469,552	$ 3,854,785	$ 3,428,955	$ 3,422,687
25	Town of Herndon			1,599,871	1,816,065	2,755,548	2,842,161	4,174,065	4,533,774	3,800,710	3,106,355	2,052,677	1,246,935
26	Arlington County			959,923	1,089,639	1,653,329	1,705,297	2,504,439	2,720,265	2,280,426	1,863,813	1,231,606	748,161
27	City of Falls Church			602,963	536,636	840,401	534,043	610,494	434,877	217,901	162,901	165,216	168,519
28	Town of Vienna			1,503,041	2,255,373	3,004,366	2,673,507	2,424,739	1,749,272	1,330,224	1,147,257	1,020,522	1,018,657
29	Total Capital Reimbursement from SoS			$ 9,716,015	$ 13,275,766	$ 18,348,313	$ 16,737,994	$ 17,860,858	$ 15,315,743	$ 12,098,813	$ 10,135,112	$ 7,898,978	$ 6,604,959

Footnotes:

[1] Historical amounts obtained from information as provided by the County.

[2] Amounts calculated from: i) assumptions as contained on the respective agreement; ii) review of historical invoices as provided by the County; iii) other information as provided by the County. Amounts shown estimated as follows:

Description	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
City of Fairfax:										
City of Fairfax Share of Noman Cole O&M Costs										
G252302002 NMColeJr PCP	$15,673,926	$15,921,958	$16,404,808	$16,901,574	$17,412,121	$17,936,752	$18,475,500	$19,030,256	$19,603,616	$20,196,556
G252302003 NMColeJr PCP	8,368,782	9,473,143	9,763,119	10,062,190	10,370,647	10,688,792	11,016,939	11,355,409	11,704,536	12,064,664
Other Direct Cost Allocation	9,710,895	10,257,129	10,569,275	10,890,715	11,221,513	11,561,912	11,912,052	12,272,828	12,645,422	13,030,368
Other Direct Cost Allocation - % of Total O&M	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%	28.8%
Forecast Adjustment	(1,012,608)	(1,069,567)	(1,102,116)	(1,135,634)	(1,170,128)	(1,205,624)	(1,242,135)	(1,279,755)	(1,318,607)	(1,358,748)
Total Noman Cole O&M Costs	$32,740,995	$34,582,664	$35,635,086	$36,718,845	$37,834,152	$38,981,832	$40,162,357	$41,378,738	$42,634,967	$43,932,840
Sewage Flows - City of Fairfax	973,621	973,621	973,621	973,621	973,621	973,621	973,621	973,621	973,621	973,621
Total Noman Cole Sewage Flow	14,437,838	14,497,304	14,558,748	14,620,736	14,682,868	14,745,544	14,808,473	14,871,873	14,935,419	14,999,652
Allocation Percentage - O&M Costs	6.74%	6.72%	6.69%	6.66%	6.63%	6.60%	6.57%	6.55%	6.52%	6.49%

Table 5
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Historical and Projected Sales of Service (Bulk Sales) and Other Revenue

Allocated O&M Cost to City of Fairfax	$2,207,900	$2,322,528	$2,383,107	$2,445,173	$2,508,782	$2,573,898	$2,640,576	$2,708,952	$2,779,319	$2,851,661
Plus: Overhead @ 9.5% of Allocated O&M Costs	209,751	220,640	226,395	232,291	238,334	244,520	250,855	257,350	264,035	270,908
Total Allocated O&M Cost to City of Fairfax	$2,417,651	$2,543,168	$2,609,502	$2,677,464	$2,747,116	$2,818,418	$2,891,431	$2,966,303	$3,043,354	$3,122,569
Adjustments for Accruals/True-Up	0	0	0	0	0	0	0	0	0	0
Adjusted Total Sales of Service Revenue - City of Fairfax	$2,417,651	$2,543,168	$2,609,502	$2,677,464	$2,747,116	$2,818,418	$2,891,431	$2,966,303	$3,043,354	$3,122,569
City of Fairfax Share of Noman Cole Capital Costs										
Noman Cole CIP Costs	$80,563,000	$120,888,000	$161,034,000	$143,300,000	$129,966,000	$93,761,000	$71,300,000	$61,493,000	$54,700,000	$54,600,000
Forecast Adjustment	0	0	0	0	0	0	0	0	0	0
Adjusted Noman Cole CIP Costs	$80,563,000	$120,888,000	$161,034,000	$143,300,000	$129,966,000	$93,761,000	$71,300,000	$61,493,000	$54,700,000	$54,600,000
Total Capacity - Noman Cole	67	67	67	67	67	67	67	67	67	67
Capacity Reservation City of Fairfax	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Capital Cost Allocation Percentage	6.27%	6.27%	6.27%	6.27%	6.27%	6.27%	6.27%	6.27%	6.27%	6.27%
City of Fairfax Share of Noman Cole Capital Costs	$5,050,218	$7,578,054	$10,094,669	$8,982,985	$8,147,122	$5,877,555	$4,469,552	$3,854,785	$3,428,955	$3,422,687
Adjustments for Accruals/True-Up	0	0	0	0	0	0	0	0	0	0
Adjusted Total Capital Reimbursement - City of Fairfax	$5,050,218	$7,578,054	$10,094,669	$8,982,985	$8,147,122	$5,877,555	$4,469,552	$3,854,785	$3,428,955	$3,422,687
[3] **Town of Herndon:**										
Trunk Sewer Operation and Maintenance Payment										
Actual O&M Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Plus Overhead @ 4%	0	0	0	0	0	0	0	0	0	0
Total Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	0	0	0	0	0	0	0	0	0	0
Town of Herndon Allocated Costs (@37.70%)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
District of Columbia Conveyance and Disposal Charge										
Blue Plains - O&M Payments	$14,368,018	$14,799,058	$15,243,030	$15,700,321	$16,171,330	$16,656,470	$17,156,164	$17,670,850	$18,200,976	$18,747,004
Sewage Flows - Herndon	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107
Total Flows sent to Blue Plains	10,271,901	10,308,392	10,345,013	10,381,794	10,418,737	10,455,842	10,493,075	10,530,502	10,568,058	10,605,840
Allocation Percentage	10.56%	10.53%	10.49%	10.45%	10.41%	10.38%	10.34%	10.30%	10.27%	10.23%
Blue Plains O&M Costs Allocable to Herndon	$1,517,814	$1,557,814	$1,598,868	$1,641,000	$1,684,237	$1,728,608	$1,774,148	$1,820,878	$1,868,839	$1,918,047
Adjustments for Accruals/True-Up	0	0	0	0	0	0	0	0	0	0
Adjusted Total Sales of Service Revenue - Herndon	$1,517,814	$1,557,814	$1,598,868	$1,641,000	$1,684,237	$1,728,608	$1,774,148	$1,820,878	$1,868,839	$1,918,047
Blue Plains - Capital Payment										
Blue Plains CIP Costs	$16,532,000	$18,766,000	$28,474,000	$29,369,000	$43,132,000	$46,849,000	$39,274,000	$32,099,000	$21,211,000	$12,885,000
Capacity Reservation - Herndon	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Total Capacity Reservation for County	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00
Allocation Percentage - Capital Costs	9.68%	9.68%	9.68%	9.68%	9.68%	9.68%	9.68%	9.68%	9.68%	9.68%
CIP costs allocated to Herndon	$1,599,871	$1,816,065	$2,755,548	$2,842,161	$4,174,065	$4,533,774	$3,800,710	$3,106,355	$2,052,677	$1,246,935
Adjustments	0	0	0	0	0	0	0	0	0	0
Total Capital Reimbursement - Herndon	$1,599,871	$1,816,065	$2,755,548	$2,842,161	$4,174,065	$4,533,774	$3,800,710	$3,106,355	$2,052,677	$1,246,935
Determination of Rate										
Adjusted Total Sales of Service Revenue - Herndon	$1,517,814	$1,557,814	$1,598,868	$1,641,000	$1,684,237	$1,728,608	$1,774,148	$1,820,878	$1,868,839	$1,918,047
Total Capital Reimbursement - Herndon	$1,599,871	$1,816,065	$2,755,548	$2,842,161	$4,174,065	$4,533,774	$3,800,710	$3,106,355	$2,052,677	$1,246,935
Total Payment due from Herndon	$3,117,685	$3,373,878	$4,354,417	$4,483,161	$5,858,301	$6,262,382	$5,574,858	$4,927,233	$3,921,516	$3,164,982
Sewage Flows (000's gallons)	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107	1,085,107
Rate Charged	$2.87	$3.11	$4.01	$4.13	$5.40	$5.77	$5.14	$4.54	$3.61	$2.92
Calculation of Balance (Informational)										
Beginning Balance Due from/(to) Herndon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Ending Balance Due from/(to) Herndon	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Table 5
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Historical and Projected Sales of Service (Bulk Sales) and Other Revenue

[4] **Arlington County:**										
District of Columbia Conveyance and Disposal Charge										
Blue Plains - O&M Payments	$13,988,223	$14,407,869	$14,840,105	$15,285,308	$15,743,867	$16,216,183	$16,702,668	$17,203,749	$17,719,862	$18,251,457
Sewage Flows - Arlington County	481,767	481,767	481,767	481,767	481,767	481,767	481,767	481,767	481,767	481,767
Total Flows sent to Blue Plains	10,271,901	10,308,392	10,345,013	10,381,794	10,418,737	10,455,842	10,493,075	10,530,502	10,568,058	10,605,840
Allocation Percentage	4.69%	4.67%	4.66%	4.64%	4.62%	4.61%	4.59%	4.57%	4.56%	4.54%
Blue Plains O&M Costs Allocable to Arlington County	$656,068	$673,358	$691,104	$709,315	$728,004	$747,183	$766,868	$787,066	$807,797	$829,067
Adjustments for Accruals/True-Up	0	0	0	0	0	0	0	0	0	0
Adjusted Blue Plains O&M Costs - Arlington County	$656,068	$673,358	$691,104	$709,315	$728,004	$747,183	$766,868	$787,066	$807,797	$829,067
Blue Plains Annual User Fee Payments (IMA)										
Fairfax County Payments	$379,795	$391,189	$402,925	$415,013	$427,463	$440,287	$453,496	$467,101	$481,114	$495,547
Capacity Reservation - Arlington	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
Total Capacity Reservation for Fairfax County	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00
Arlington County Share of Payments	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%
Blue Plains User Fee Payments (IMA)	$22,053	$22,714	$23,396	$24,098	$24,820	$25,565	$26,332	$27,122	$27,936	$28,774
Pimmit Run Trunk Sewer O&M Payment										
Annual O&M Costs - Fairfax Trunk Sewers	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sewage Flows - Arlington County	0	0	0	0	0	0	0	0	0	0
Annual Flow of Sewage - Pimmit Run System of Fairfax	1	1	1	1	1	1	1	1	1	1
Allocation Percentage - Pimmit Run O&M Costs	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pimmit Run O&M Costs Allocable to Arlington	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Adjustments for Accruals/True-Up	0	0	0	0	0	0	0	0	0	0
Adjusted Pimmit Run Trunk Sewer O&M payment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Sales of Services Receivables - Arlington County	$678,121	$696,072	$714,499	$733,412	$752,824	$772,748	$793,200	$814,188	$835,733	$857,841
Adjustments for Accruals/True-Up	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Adjusted Total Sales of Service Revenue for Arlington County	$678,121	$696,072	$714,499	$733,412	$752,824	$772,748	$793,200	$814,188	$835,733	$857,841
Blue Plains - Capital Payment										
Blue Plains CIP Costs	$18,502,000	$21,681,000	$33,403,000	$34,538,000	$46,802,000	$48,465,000	$39,519,000	$32,304,000	$21,421,000	$13,096,000
Capacity Reservation - Arlington	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
Total Capacity Reservation for County	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.00
Allocation Percentage	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%
CIP costs Allocated to Arlington	$1,074,310	$1,258,897	$1,939,529	$2,005,432	$2,717,535	$2,814,097	$2,294,652	$1,875,716	$1,243,800	$760,413
Accrual/Adjustments	0	0	0	0	0	0	0	0	0	0
Total Capital Reimbursement - Arlingtor	$959,923	$1,089,639	$1,653,329	$1,705,297	$2,504,439	$2,720,265	$2,280,426	$1,863,813	$1,231,606	$748,161
[5] **Fort Belvoir:**										
Noman Cole CIP Costs	80,563,000	120,888,000	161,034,000	143,300,000	129,966,000	93,761,000	71,300,000	61,493,000	54,700,000	54,600,000
Capacity Reservation - Fort Belvior	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Total Payment due from Herndon	67.00	67.00	67.00	67.00	67.00	67.00	67.00	67.00	67.00	67.00
Allocation Percentage	4.48%	4.48%	4.48%	4.48%	4.48%	4.48%	4.48%	4.48%	4.48%	4.48%
CIP costs Allocated to Arlington	$3,607,299	$5,412,896	$7,210,478	$6,416,418	$5,819,373	$4,198,254	$3,192,537	$2,753,418	$2,449,254	$2,444,776
Accrual/Adjustments	0	0	0	0	0	0	0	0	0	0
Total Capital Reimbursement - Fort Belvio	$3,607,299	$5,412,896	$7,210,478	$6,416,418	$5,819,373	$4,198,254	$3,192,537	$2,753,418	$2,449,254	$2,444,776
Norman Cole O&M Payment	0	0	0	0	0	0	0	0	0	0
Sewage Flows	419,626	419,626	419,626	419,626	419,626	419,626	419,626	419,626	419,626	419,626
Rate Charged	$6.65	$6.96	$7.24	$7.67	$8.08	$8.51	$8.96	$9.44	$9.94	$10.48
Total Sales of Services Receivables - Fort Belvoir	$2,791,257	$2,918,916	$3,039,675	$3,219,088	$3,391,601	$3,571,014	$3,760,779	$3,960,893	$4,171,359	$4,395,626

Table 5
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Historical and Projected Sales of Service (Bulk Sales) and Other Revenue

Accrual/Adjustments	0	0	0	0	0	0	0	0	0	0
Adjusted Total Sales of Service Revenue for Fort Belvoi	$2,791,257	$2,918,916	$3,039,675	$3,219,088	$3,391,601	$3,571,014	$3,760,779	$3,960,893	$4,171,359	$4,395,626
[6] **City of Falls Church:**										
AlexRenew O&M Payment										
AlexRenew WWTP O&M Costs	$15,317,171	$15,839,534	$16,372,146	$16,856,550	$17,341,957	$17,841,487	$18,355,533	$18,884,569	$19,428,988	$19,989,319
City of Falls Church Flows	402,753	402,753	402,753	402,753	402,753	402,753	402,753	402,753	402,753	402,753
Total Flows Sent to AlexRenew	6,464,977	6,496,224	6,521,784	6,547,456	6,573,240	6,599,137	6,625,124	6,651,247	6,677,459	6,703,829
Allocation Percentage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
AlexRenew O&M Costs allocable to City of Falls Church	$954,223	$982,019	$1,011,062	$1,036,895	$1,062,569	$1,088,886	$1,115,864	$1,143,517	$1,171,865	$1,200,918
Adjustments for Accruals/True-Up	(202,180)	(217,626)	(227,612)	(234,655)	(241,915)	(249,399)	(257,116)	(265,070)	(273,270)	(281,722)
Adjusted Total Sales of Service Revenue for the City of Falls Churcl	$752,043	$764,393	$783,450	$802,240	$820,654	$839,487	$858,749	$878,447	$898,595	$919,197
AlexRenew O&M Payment										
AlexRenew WWTP O&M Costs	$19,536,000	$17,387,000	$27,229,000	$17,303,000	$19,780,000	$14,090,000	$7,060,000	$5,278,000	$5,353,000	$5,460,000
City of Falls Church Flows	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total Flows Sent to AlexRenew	32	32	32	32	32	32	32	32	32	32
Allocation Percentage	3.09%	3.09%	3.09%	3.09%	3.09%	3.09%	3.09%	3.09%	3.09%	3.09%
AlexRenew O&M Costs allocable to City of Falls Church	$602,963	$536,636	$840,401	$534,043	$610,494	$434,877	$217,901	$162,901	$165,216	$168,519
Adjustments for Accruals/True-Up	0	0	0	0	0	0	0	0	0	0
Adjusted Total Sales of Service Revenue for the City of Falls Churcl	$602,963	$536,636	$840,401	$534,043	$610,494	$434,877	$217,901	$162,901	$165,216	$168,519
[7] **Town of Vienna**										
Payment Number 1 - O&M Payments										
A. Noman Cole O&M Payment										
Noman Cole O&M Costs	$32,740,995	$34,582,664	$35,635,086	$36,718,845	$37,834,152	$38,981,832	$40,162,357	$41,378,738	$42,634,967	$43,932,840
Plus: Overhead @4.0% of Allocable O&M Costs	1,309,640	1,383,307	1,425,403	1,468,754	1,513,366	1,559,273	1,606,494	1,655,150	1,705,399	1,757,314
Total Allocable Costs	$34,050,635	$35,965,970	$37,060,490	$38,187,599	$39,347,518	$40,541,105	$41,768,851	$43,033,887	$44,340,365	$45,690,153
Town of Vienna Sewage Flow	339,323	339,323	339,323	339,323	339,323	339,323	339,323	339,323	339,323	339,323
Total Noman Cole Sewage Flow	14,437,838	14,497,304	14,558,748	14,620,736	14,682,868	14,745,544	14,808,473	14,871,873	14,935,419	14,999,652
Allocation Percentage	2.35%	2.34%	2.33%	2.32%	2.31%	2.30%	2.29%	2.28%	2.27%	2.26%
Noman Cole O&M Costs allocable to Town of Vienna	$800,269	$841,816	$863,774	$886,270	$909,325	$932,927	$957,095	$981,878	$1,007,383	$1,033,604
B. Alex Renew O&M Payment	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Alex Renew O&M Costs Allocable to Fairfax	$15,317,171	$15,839,534	$16,372,146	$16,856,550	$17,341,957	$17,841,487	$18,355,533	$18,884,569	$19,428,988	$19,989,319
Plus: Overhead @ 4.0% of Allocable O&M Costs	612,687	633,581	654,886	674,262	693,678	713,659	734,221	755,383	777,160	799,573
Total Allocable Costs	$15,929,858	$16,473,116	$17,027,032	$17,530,812	$18,035,635	$18,555,146	$19,089,754	$19,639,952	$20,206,148	$20,788,892
Accotink Flows - Vienna	122	5,900	5,900	5,900	5,900	5,900	5,900	5,900	5,900	5,900
Total Flows to Alex Renew	6,464,977	6,496,224	6,521,784	6,547,456	6,573,240	6,599,137	6,625,124	6,651,247	6,677,459	6,703,829
Allocation Percentage	0.00%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%
Alex Renew O&M Cost Allocated to Town of Vienna	$300	$14,961	$15,404	$15,797	$16,188	$16,589	$17,000	$17,422	$17,854	$18,296
Total O&M Payments	$800,569	$856,778	$879,177	$902,067	$925,514	$949,516	$974,095	$999,300	$1,025,237	$1,051,900
Adjustments for Accruals/True-Up	0	0	0	0	0	0	0	0	0	0
Adjusted Total O&M Payments	$800,569	$856,778	$879,177	$902,067	$925,514	$949,516	$974,095	$999,300	$1,025,237	$1,051,900
Payment Number 2 - Capital Payments										
A. Capital Contributions for Nitrogen Removal	$104,511	$0	$0	$0	$0	$0	$0	$0	$0	$0
B. Noman Cole CIP	80,563,000	120,888,000	161,034,000	143,300,000	129,966,000	93,761,000	71,300,000	61,493,000	54,700,000	54,600,000
Capacity Reservation - Vienna	$67	$67	$67	$67	$67	$67	$67	$67	$67	$67
Total Capacity - Noman Cole	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1
Allocation Percentage - Capital Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Table 5
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Historical and Projected Sales of Service (Bulk Sales) and Other Revenue

Total Capital Payments	$1,503,041	$2,255,373	$3,004,366	$2,673,507	$2,424,739	$1,749,272	$1,330,224	$1,147,257	$1,020,522	$1,018,657
Accrual/Adjustments	104,511	0	0	0	0	0	0	0	0	0
Adjusted Total Capital Payments	$1,607,552	$2,255,373	$3,004,366	$2,673,507	$2,424,739	$1,749,272	$1,330,224	$1,147,257	$1,020,522	$1,018,657
[8] **FCWA:**										
Sewage Flows	19,487	19,487	19,487	19,487	19,487	19,487	19,487	19,487	19,487	19,487
Rate Charged	$8.00	$8.37	$8.72	$9.20	$9.71	$10.22	$10.76	$11.34	$11.94	$12.58
Total Sales of Services Receivables - Fairfax Water	$155,850	$163,060	$169,978	$179,283	$189,124	$199,160	$209,732	$220,889	$232,630	$245,102
Adjustments for Accruals/True-Up	0	0	0	0	0	0	0	0	0	0
Adjusted Total Sales of Service Revenue for Fairfax Wate	$155,850	$163,060	$169,978	$179,283	$189,124	$199,160	$209,732	$220,889	$232,630	$245,102
Blue Plains CIP Costs	$13,972,206	$15,860,297	$24,065,123	$24,821,542	$36,453,497	$39,594,961	$33,192,865	$27,128,832	$17,926,716	$10,889,903
Capacity Reservation - FCWA	67	67	67	67	67	67	67	67	67	67
Total Capacity - Noman Cole	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Allocation Percentage - Capital Costs	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%
Total Capital Payments	$208,540.39	$236,720.85	$359,180.93	$370,470.78	$544,082.04	$590,969.57	$495,415.89	$404,907.94	$267,562.93	$162,535.87
Accrual/Adjustments	(208,540)	(236,721)	(359,181)	(370,471)	(544,082)	(590,970)	(495,416)	(404,908)	(267,563)	(162,536)
Adjusted Total Capital Payments	$155,850	$163,060	$169,978	$179,283	$189,124	$199,160	$209,732	$220,889	$232,630	$245,102
[9] **I-95 ERRF (Covanta):**										
Sewage Flows	33,763	33,763	33,763	33,763	33,763	33,763	33,763	33,763	33,763	33,763
Rate Charged	$8.00	$8.37	$8.72	$9.20	$9.71	$10.22	$10.76	$11.34	$11.94	$12.58
Total Sales of Services Receivables - Covanta	$270,016	$282,508	$294,493	$310,615	$327,665	$345,053	$363,369	$382,698	$403,040	$424,648
Adjustments for Accruals/True-Up	0	0	0	0	0	0	0	0	0	0
Adjusted Total Sales of Service Revenue for Covanta	$270,016	$282,508	$294,493	$310,615	$327,665	$345,053	$363,369	$382,698	$403,040	$424,648
B. Noman Cole CIP	$80,563,000	$120,888,000	$161,034,000	$143,300,000	$129,966,000	$93,761,000	$71,300,000	$61,493,000	$54,700,000	$54,600,000
Capacity Reservation - Vienna	67	67	67	67	67	67	67	67	67	67
Total Capacity - Noman Cole	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Allocation Percentage - Capital Costs	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%
Total Capital Payments	$1,202,433	$1,804,299	$2,403,493	$2,138,806	$1,939,791	$1,399,418	$1,064,179	$917,806	$816,418	$814,925
Accrual/Adjustments	(1,202,433)	(1,804,299)	(2,403,493)	(2,138,806)	(1,939,791)	(1,399,418)	(1,064,179)	(917,806)	(816,418)	(814,925)
Adjusted Total Capital Payments	$270,016	$282,508	$294,493	$310,615	$327,665	$345,053	$363,369	$382,698	$403,040	$424,648
[10] **Loudoun County Sanitation Authority:**										
1. UOSA O&M Payments Billed to Fairfax Co.										
Fairfax Co. Paym. of O&M to UOSA	$12,687,237	$12,979,043	$13,290,540	$13,609,513	$13,936,142	$14,270,609	$14,613,104	$14,963,818	$15,322,950	$15,690,701
LCSA Share of Payments	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%	1.08%
UOSA O&M Payments Allocated to LCSA	$137,582	$140,746	$144,124	$147,583	$151,125	$154,752	$158,466	$162,270	$166,164	$170,152
2. UOSA Reserve Maintenance Billed to Fairfax Co.	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Fairfax County Payments	$1,570,287	$1,606,404	$1,644,957	$1,684,436	$1,724,863	$1,766,259	$1,808,650	$1,852,061	$1,896,511	$1,942,027
LCSA Share of Payments	4.52%	4.52%	4.52%	4.52%	4.52%	4.52%	4.52%	4.52%	4.52%	4.52%
UOSA R&M Payments Allocated to LCSA	$71,054	$72,688	$74,432	$76,219	$78,048	$79,921	$81,839	$83,804	$85,815	$87,875
Total Sales of Services Allocated to LCSA	$208,636	$213,434	$218,557	$223,802	$229,173	$234,673	$240,306	$246,073	$251,979	$258,026
Adjustments for Accruals/True-Up	0	0	0	0	0	0	0	0	0	0
Adjusted Total Sales of Service Revenue for LCSA	$208,636	$213,434	$218,557	$223,802	$229,173	$234,673	$240,306	$246,073	$251,979	$258,026

[11] Amounts Shown considered as a Non-recurring Revenue pursuant to the General Bond Resolution

[12] Amounts Shown reflect SOS customer direct capital contributions. Other SOS customers such as Fort Belvoir are charged a single rate to recover both operating and capital cost apportionment and is considered an operating revenue of the County

Table 6
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Development of Wastewater System Revenue Requirements and Revenue Sufficiency

Line No.	Description	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1	Total Operating Expenses (Including TBC) [1]	$ 117,989,136	$ 127,368,928	$ 131,514,352	$ 135,692,369	$ 139,462,363	$ 143,339,032	$ 147,324,985	$ 151,425,193	$ 155,645,327	$ 159,989,499
	Debt Service [2]										
	Senior Debt Service										
2	Existing Debt	$ 36,830,504	$ 36,991,731	$ 36,976,929	$ 37,020,171	$ 37,010,629	$ 36,995,085	$ 31,357,802	$ 31,133,335	$ 31,151,242	$ 31,130,179
3	Proposed Debt [3]	-	6,899,711	13,799,422	25,364,314	36,929,206	43,979,496	51,029,785	60,952,189	60,952,189	64,564,895
4	Subtotal - Senior Debt Service	$ 36,830,504	$ 43,891,442	$ 50,776,351	$ 62,384,485	$ 73,939,836	$ 80,974,581	$ 82,387,587	$ 92,085,524	$ 92,103,431	$ 95,695,075
	Subordinate Debt Service										
5	Existing Debt (Includes UOSA Planned Debt) [4]	$ 22,673,913	$ 22,710,182	$ 23,213,182	$ 23,367,136	$ 23,180,279	$ 23,193,983	$ 11,029,670	$ 10,900,227	$ 10,811,472	$ 10,750,084
6	Proposed Debt [5]	-	646,015	646,015	646,015	1,451,427	1,451,427	1,451,427	3,492,731	3,492,731	4,244,416
7	Subtotal - Subordinate Debt Service	$ 22,673,913	$ 23,356,198	$ 23,859,198	$ 24,013,152	$ 24,631,706	$ 24,645,410	$ 12,481,097	$ 14,392,957	$ 14,304,203	$ 14,994,500
8	Total Debt Service	$ 59,504,417	$ 67,247,640	$ 74,635,549	$ 86,397,637	$ 98,571,542	$ 105,619,991	$ 94,868,684	$ 106,478,482	$ 106,407,634	$ 110,689,575
	Other Revenue Requirements										
9	Transfer to Capital - Subfund C69300 (Programmed)	$ 77,203,392	$ 76,405,257	$ 85,504,251	$ 87,782,322	$ 90,294,082	$ 98,295,427	$ 124,801,837	$ 130,237,046	$ 148,181,141	$ 163,371,677
10	Transfer to Extension - Subfund 69300A	3,000,000	1,478,908	-	-	-	-	-	-	-	-
11	Transfer to Reserves - Fund 69000	1,100,000	3,854,709	1,703,599	1,716,993	1,549,313	1,593,152	1,638,063	1,685,017	1,734,302	1,785,276
12	Capital Improvements Funded from Rates	5,559,657	5,726,447	5,898,240	6,075,188	6,257,443	6,445,167	6,638,522	6,837,677	7,042,807	7,254,092
13	Total Other Revenue Requirements	$ 86,863,049	$ 87,465,321	$ 93,106,090	$ 95,574,503	$ 98,100,838	$ 106,333,745	$ 133,078,421	$ 138,759,740	$ 156,958,250	$ 172,411,045
14	Gross Revenue Requirements	$ 264,356,602	$ 282,081,889	$ 299,255,991	$ 317,664,508	$ 336,134,743	$ 355,292,769	$ 375,272,090	$ 396,663,416	$ 419,011,211	$ 443,090,118
	Less Income and Funds from Other Sources:										
15	Sales of Service (Bulk Revenue) [6]	$ 9,591,955	$ 9,996,143	$ 10,308,201	$ 10,688,973	$ 11,067,909	$ 11,458,677	$ 11,865,808	$ 12,289,669	$ 12,730,765	$ 13,192,955
16	Other Operating Revenues [7]	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000
17	Unrestricted Interest Income [8]	1,453,000	1,638,000	1,604,000	1,557,000	1,804,000	1,979,000	2,116,000	2,288,000	2,485,000	2,669,000
18	Transfers from Reserves - Fund 69000	-	-	-	-	-	-	-	-	-	-
19	Availability Fees Used to Pay Debt	17,000,000	18,307,324	18,925,227	19,812,527	20,499,356	21,394,863	22,090,616	23,013,509	23,708,357	24,736,209
20	Subtotal Other Operating Revenues	$ 28,819,955	$ 30,716,467	$ 31,612,427	$ 32,833,500	$ 34,146,265	$ 35,607,541	$ 36,847,424	$ 38,366,179	$ 39,699,122	$ 41,373,164
21	Net Revenue Requirements	$ 235,536,647	$ 251,365,422	$ 267,643,564	$ 284,831,008	$ 301,988,478	$ 319,685,228	$ 338,424,666	$ 358,297,237	$ 379,312,089	$ 401,716,954
	Revenues from Proposed Sewer Service Charges:										
22	Proposed Rate Adjustments - Effective	0.0%	6.2%	5.9%	5.9%	5.5%	5.3%	5.3%	5.3%	5.3%	5.3%
23	Rate Revenues Under Proposed Rates	$ 235,536,647	$ 251,365,421	$ 267,643,564	$ 284,831,008	$ 301,988,478	$ 319,685,227	$ 338,424,666	$ 358,297,237	$ 379,312,089	$ 401,716,955
24	Rate Revenue Surplus/(Deficiency)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Footnotes on Page 2 of 2.

Table 6
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Development of Wastewater System Revenue Requirements and Revenue Sufficiency

Line No.	Description	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032

Footnotes:

[1] Amounts shown derived from information as contained on Table 3.

[2] The total Outstanding Senior Lien Debt Service include debt service associated with the Sewer Revenue Bonds, Series 2012 (the "Series 2012 Bonds"), the Sewer Revenue Refunding Bonds, Series 2014 (the "Series 2014 Bonds"), the Sewer Revenue Refunding Bonds, Series 2016A (the "Series 2016A Bonds"), the Sewer Revenue Bonds, Series 2017 (the "Series 2017 Bonds"), and the Sewer Revenue Bonds, Series 2021 (the "Series 2021 Bonds").

[3] The following table summarizes the assumptions utilized for additional Senior Lien Debt:

	2024	2026	2028	2032
Term-Years	30	30	30	30
Interest Rate	4.50%	5.00%	5.20%	5.60%
Issue Month - Principal Pmt (Jan=1)	1	1	1	7
Total Projects Funded (Millions)	$ 208.4	$ 327.5	$ 194.9	$ 10.6
Total Principal Issued (Millions)	$ 224.8	$ 355.6	$ 211.9	$ 10.8
Annual Debt Service (Millions)	$ 13.8	$ 11.6	$ 7.1	$ 0.0

[4] Amount shown includes debt service associated with outstanding VRA Loan 2001 C-515259-01, VRA Loan 2002 C-515273-01 and various outstanding UOSA debt issues.

[5] Based on discussions with WMP staff, forecast assumes the County will participate in issuances by UOSA.

[6] Amounts shown derived from information as contained on Table 5.

[7] Other Revenues includes revenues derived from: miscellaneous revenue, pretreatment changes and the sale of property. Amount shown include Non-Recurring Revenues from growth related miscellaneous charges.

[8] Amounts shown derived from information as contained on Table 9.

Table 7
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Operating Results and Debt Service Coverage Analysis

Line No.	Description	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	Operating Revenues: [1]										
1	Sewer Service Charges (Retail Customers)	$ 235,536,647	$ 251,365,421	$ 267,643,564	$ 284,831,008	$ 301,988,478	$ 319,685,227	$ 338,424,666	$ 358,297,237	$ 379,312,089	$ 401,716,955
2	Sales of Service (Bulk revenue)	9,591,955	9,996,143	10,308,201	10,688,973	11,067,909	11,458,677	11,865,808	12,289,669	12,730,765	13,192,955
3	Other Revenues [2]	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000
4	Interest Income	1,453,000	1,638,000	1,604,000	1,557,000	1,804,000	1,979,000	2,116,000	2,288,000	2,485,000	2,669,000
5	Other	-	-	-	-	-	-	-	-	-	-
6	Total Operating Revenues Before Availability Charges	$ 247,356,602	$ 263,774,565	$ 280,330,765	$ 297,851,981	$ 315,635,387	$ 333,897,905	$ 353,181,474	$ 373,649,906	$ 395,302,854	$ 418,353,910
	Operating Expenses: [3]										
7	Total Operating Expenses	$ 117,989,136	$ 127,368,928	$ 131,514,352	$ 135,692,369	$ 139,462,363	$ 143,339,032	$ 147,324,985	$ 151,425,193	$ 155,645,327	$ 159,989,499
8	Net Operating Revenues	$ 129,367,466	$ 136,405,637	$ 148,816,413	$ 162,159,612	$ 176,173,024	$ 190,558,873	$ 205,856,489	$ 222,224,713	$ 239,657,526	$ 258,364,411
	Non-Recurring Revenues and Revenue Subfund Credit: [4]										
9	Availability Charge Revenues [5]	$ 17,000,000	$ 18,307,324	$ 18,925,227	$ 19,812,527	$ 20,499,356	$ 21,394,863	$ 22,090,616	$ 23,013,509	$ 23,708,357	$ 24,736,209
10	Availability Charge Interest Income [5]	-	-	-	-	-	-	-	-	-	-
11	Other Non-recurring Revenues [6]	260,000	261,092	262,189	263,290	264,396	265,506	266,621	267,741	268,865	269,996
12	Moneys Held to Credit of Revenue Subfund [7]	-	-	-	-	-	-	-	-	-	-
13	Net Revenues [8]	$ 146,627,466	$ 154,974,053	$ 168,003,828	$ 182,235,429	$ 196,936,775	$ 212,219,242	$ 228,213,726	$ 245,505,963	$ 263,634,749	$ 283,370,616
	Rate Covenant Test [9]										
	TEST 1 - Net Revenue Less Excluded Revenues										
14	Net Revenues [8]	$ 146,627,466	$ 154,974,053	$ 168,003,828	$ 182,235,429	$ 196,936,775	$ 212,219,242	$ 228,213,726	$ 245,505,963	$ 263,634,749	$ 283,370,616
	Less: Excluded Revenues [4]:										
15	Availability Charge Revenues	$ (17,000,000)	$ (18,307,324)	$ (18,925,227)	$ (19,812,527)	$ (20,499,356)	$ (21,394,863)	$ (22,090,616)	$ (23,013,509)	$ (23,708,357)	$ (24,736,209)
16	Availability Charge Interest Earned	-	-	-	-	-	-	-	-	-	-
17	Other Non-recurring Revenues [6]	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000	775,000
18	Net Revenues Available Less Excluded Revenues	$ 130,402,466	$ 137,441,729	$ 149,853,601	$ 163,197,902	$ 177,212,419	$ 191,599,379	$ 206,898,110	$ 223,267,454	$ 240,701,392	$ 259,409,408
	Debt Service Requirements:										
	Principal and Interest Requirements [10]										
19	Sewer Revenue Refunding Bonds, Series 2014	$ 5,935,177	$ 5,958,531	$ 5,921,406	$ 5,947,398	$ 5,966,138	$ 5,971,740	$ 248,831	$ -	$ -	$ -
20	Series 2016A Refunding Bonds [11]	12,724,794	12,729,304	12,741,460	12,751,085	12,718,658	12,687,763	12,768,179	12,783,231	12,793,075	12,761,377
21	Sewer Revenue Bonds, Series 2017 [11]	5,549,950	5,549,542	5,554,292	5,554,979	5,555,958	5,561,990	5,563,208	5,563,969	5,569,031	5,573,323
22	Series 2021A [11]	11,724,933	11,858,704	11,864,121	11,871,058	11,874,225	11,877,944	11,881,933	11,890,485	11,893,485	11,899,829
23	Series 2021B [11]	895,650	895,650	895,650	895,650	895,650	895,650	895,650	895,650	895,650	895,650
24	Series 2024 Bonds [11]	-	6,899,711	13,799,422	13,799,422	13,799,422	13,799,422	13,799,422	13,799,422	13,799,422	13,799,422
25	Series 2026 Bonds [11]	0	0	0	11,564,892	23,129,784	23,129,784	23,129,784	23,129,784	23,129,784	23,129,784
26	Series 2028 Bonds [11]	0	0	0	0	0	7,050,289	14,100,578	14,100,578	14,100,578	14,100,578
28	Series 2030 Bonds [11]	0	0	0	0	0	0	0	9,922,404	9,922,404	9,922,404
29	Series 2032 Bonds [11]	0	0	0	0	0	0	0	0	0	3,612,706
30	Total Debt Service Requirements	$ 36,830,504	$ 43,891,442	$ 50,776,351	$ 62,384,485	$ 73,939,836	$ 80,974,581	$ 82,387,587	$ 92,085,524	$ 92,103,431	$ 95,695,075
31	**Calculated Coverage**	**3.54**	**3.13**	**2.95**	**2.62**	**2.40**	**2.37**	**2.51**	**2.42**	**2.61**	**2.71**
32	**Required Coverage**	**1.25**	**1.25**	**1.25**	**1.25**	**1.25**	**1.25**	**1.25**	**1.25**	**1.25**	**1.25**
33	**Policy Target**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
	-AND-										

Footnotes on Page 2 of 3.

Table 7
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Operating Results and Debt Service Coverage Analysis

	TEST 2 - Net Revenues With Excluded Revenues										
34	Net Revenues [8]	$ 146,627,466	$ 154,974,053	$ 168,003,828	$ 182,235,429	$ 196,936,775	$ 212,219,242	$ 228,213,726	$ 245,505,963	$ 263,634,749	$ 283,370,616
	Debt Service Requirements:										
	Subordinate Obligations [12]:										
35	EDA Facilities Revenue Bonds, Series 2021 [11]	$ 1,699,350	$ 1,696,683	$ 1,697,583	$ 1,697,283	$ 1,696,354	$ 1,700,000	$ 1,697,250	$ 1,697,479	$ 1,700,021	$ 1,700,063
35	Subtotal VRA Debt Service	$ 1,699,350	$ 1,696,683	$ 1,697,583	$ 1,697,283	$ 1,696,354	$ 1,700,000	$ 1,697,250	$ 1,697,479	$ 1,700,021	$ 1,700,063
	UOSA Subordinate Debt										
36	UOSA Existing Subordinate Debt	$ 20,974,563	$ 21,013,499	$ 21,515,599	$ 21,669,853	$ 21,483,925	$ 21,493,983	$ 9,332,420	$ 9,202,748	$ 9,111,452	$ 9,050,022
37	Subtotal UOSA Debt Service	$ 20,974,563	$ 21,013,499	$ 21,515,599	$ 21,669,853	$ 21,483,925	$ 21,493,983	$ 9,332,420	$ 9,202,748	$ 9,111,452	$ 9,050,022
38	UOSA Proposed Subordinate Debt [13]	-	646,015	646,015	646,015	646,015	646,015	646,015	646,015	646,015	646,015
39	UOSA Proposed Subordinate Debt [13]	-	-	-	-	805,412	805,412	805,412	805,412	805,412	805,412
40	UOSA Proposed Subordinate Debt [13]	-	-	-	-	-	-	-	2,041,303	2,041,303	2,041,303
41	UOSA Proposed Subordinate Debt [13]	-	-	-	-	-	-	-	-	-	751,685
42	Total Subordinate Obligations	$ 22,673,913	$ 23,356,198	$ 23,859,198	$ 24,013,152	$ 24,631,706	$ 24,645,410	$ 12,481,097	$ 14,392,957	$ 14,304,203	$ 14,994,500
43	Principal and Interest Requirements [10]	$ 36,830,504	$ 43,891,442	$ 50,776,351	$ 62,384,485	$ 73,939,836	$ 80,974,581	$ 82,387,587	$ 92,085,524	$ 92,103,431	$ 95,695,075
44	Total Debt Service Requirements	$ 59,504,417	$ 67,247,640	$ 74,635,549	$ 86,397,637	$ 98,571,542	$ 105,619,991	$ 94,868,684	$ 106,478,482	$ 106,407,634	$ 110,689,575
45	**Calculated Coverage**	**2.46**	**2.30**	**2.25**	**2.11**	**2.00**	**2.01**	**2.41**	**2.31**	**2.48**	**2.56**
46	**Required Minimum Coverage**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
47	**Min. Recommended Target for Test 2 - 2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
48	Net Revenues [8]	$ 146,627,466	$ 154,974,053	$ 168,003,828	$ 182,235,429	$ 196,936,775	$ 212,219,242	$ 228,213,726	$ 245,505,963	$ 263,634,749	$ 283,370,616
	Less Transfers to Other Funds [14]:										
49	Debt Service Subfund [15]	$ 36,830,504	$ 43,891,442	$ 50,776,351	$ 62,384,485	$ 73,939,836	$ 80,974,581	$ 82,387,587	$ 92,085,524	$ 92,103,431	$ 95,695,075
50	Subordinate Obligations Subfund [16]	22,673,913	23,356,198	23,859,198	24,013,152	24,631,706	24,645,410	12,481,097	14,392,957	14,304,203	14,994,500
51	Amount Available for Other Purposes	$ 87,123,049	$ 87,726,413	$ 93,368,279	$ 95,837,792	$ 98,365,234	$ 106,599,251	$ 133,345,042	$ 139,027,481	$ 157,227,115	$ 172,681,041

Footnotes:

[1] Operating Revenues reflect rates recently adopted by the Board of Supervisors pursuant to the Rate Ordinance.

	Projected Fiscal Year Ending June 30,									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	(Existing)	(Recommended)	(Recommended)	(Recommended)	(Recommended)	(Recommended)	(Identified)	(Identified)	(Identified)	(Identified)
Recommended Rates										
Quarterly Base Charge	$ 40.14	$ 44.81	$ 49.73	$ 52.62	$ 55.41	$ 58.35	$ 61.45	$ 64.71	$ 68.14	$ 71.76
Quarterly Billing Charge	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00
Flow Charge	8.09	8.46	8.81	9.33	9.83	10.35	10.90	11.48	12.09	12.74
Effective Rate Revenue Adjustment (%)		6.2%	5.9%	5.9%	5.5%	5.3%	5.3%	5.3%	5.3%	5.3%
Annualized Rate Revenue Adjustment (%) [*]		6.2%	5.8%	5.9%	5.3%	5.3%	5.3%	5.3%	5.3%	5.4%

[*] Reflects expected annualized increase to rate revenues from adopted and forecasted rate changes, everything else held constant, and assuming they are effective for an entire fiscal year or 12 months.

[2] Amounts shown include other miscellaneous revenues of the System (customer service fees, sale of property, etc.); amounts do not include Non-Recurring Revenues associated with lateral spur fees and connection charges.

[3] Amounts include the Operating Component of the Cost of Contracted Services, i.e., treatment by contract (TbCs) costs. Amounts shown do not include depreciation and amortization expenses, which are non-cash expenses and are not considered Operating Expenses as defined in the General Bond Resolution.

[4] The sum of the amounts shown for Non-recurring Revenue and the Revenue Subfund credit balance is defined in the General Bond Resolution as the “Excluded Revenues”.

[5] Amounts shown represent fees charged to new development and interest income earned on the balance of deposits from such fees for the allocable share of conveyance, treatment and disposal capacity constructed by the County for the benefit of such development.

[6] Amounts shown include lateral spur fees, connection charges for meter replacement and other similar charges which are considered as a Non-recurring Revenues in the General Bond Resolution (represents a one-time charge generally to new development to initiate or receive service).

Table 7
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Operating Results and Debt Service Coverage Analysis

Footnotes (continued):

[7] Pursuant to the General Bond Resolution, Net Revenues shall include income previously received and currently held by the County to the credit of the Revenue Subfund and all rights to receive the same (cash and cash equivalents). For the purposes of this report, no recognition for the availability of funds held by the County in the Revenue Subfund has been assumed for purposes of determining Net Revenues as defined in the General Bond Resolution; such amounts were assumed to be available for ongoing System purposes (Operating Expenses and Capital Project Funding) exclusive of compliance with the rate covenant per the General Bond Resolution.

[8] Net Revenues as defined in the General Bond Resolution includes: i) Non-recurring Revenues (e.g., availability fee revenue and investment earnings on available balances, connection fees, reconnection fees, charges for meter replacements, etc.); and ii) income previously received and currently held by the County to the credit of the Revenue Subfund and all rights to receive the same.

[9] Rate Covenant requirements as defined in the General Bond Resolution under Article V, Section 501.

[10] Amounts shown reflect Debt Service Requirement on all Outstanding Bonds and Additional Parity Bonds assumed to be issued during the Forecast Period on parity with the Outstanding Bonds. Amounts shown reflect payments required to the Sinking Fund (accrual basis) and not when such Bonds are paid.

[11] The financial forecast assumes the issuance of additional parity bonds to fund certain improvements to the System. The terms of the debt assume: i) level annual debt service payments over a 30 year repayment period; ii) interest rate of ranging from 4.50% - 5.20%; iii) debt service reserve funded from the debt proceeds; and iii) issuance costs equal to 1.5% of the principal amount of bonds.

[12] Subordinate Obligations as defined in the General Bond Resolution includes any Debt Service Component of the Cost of Contracted Services (for the UOSA debt obligation) (other than Parity Debt Service Components) and any other obligations of the County with respect to the System (VRA obligations).

[13] Based on discussions with WMP staff, forecast assumes the County will participate in issuances by UOSA.

[14] Amounts shown reflect transfers to other subfunds as delineated in the General Bond Resolution.

[15] Amounts shown reflect transfers to the Debt Service Subfund associated with the payment of the Principal and Interest Requirements on the Outstanding and Additional Parity Bonds based on the deposit requirements delineated in the General Bond Resolution (on an accrual basis and not when the payments are made). Also included in the recognized deposits would be funds required to pay Parity Indebtedness, if any, which are required to be set aside in a special account in the Debt Service Subfund.

[16] Amounts shown reflect transfers to the Subordinate Obligations Subfund associated with the payment of debt on any loans considered subordinate to the Senior Lien Bonds and the Parity Indebtedness.

Table 8
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Summary of Debt Service Payments - Outstanding and Additional Debt [1]

Line No.	Description	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028
	Outstanding Senior Lien Debt Service:						
1	Sewer Revenue Bonds Series 2014	$ 5,935,177	$ 5,958,531	$ 5,921,406	$ 5,947,398	$ 5,966,138	$ 5,971,740
2	Series 2016A Refunding Bonds	12,724,794	12,729,304	12,741,460	12,751,085	12,718,658	12,687,763
3	Sewer Revenue Bonds, Series 2017	5,549,950	5,549,542	5,554,292	5,554,979	5,555,958	5,561,990
4	Sewer Revenue Bonds Series 2021A	11,724,933	11,858,704	11,864,121	11,871,058	11,874,225	11,877,944
5	Sewer Revenue Bonds Series 2021B	895,650	895,650	895,650	895,650	895,650	895,650
6	Subtotal - Current Senior Lien Debt Service	$ 36,830,504	$ 36,991,731	$ 36,976,929	$ 37,020,171	$ 37,010,629	$ 36,995,085
	Additional Senior Lien Debt Service:						
7	Series 2024 Bonds [2]	$ -	$ 6,899,711	$ 13,799,422	$ 13,799,422	$ 13,799,422	$ 13,799,422
8	Series 2026 Bonds [2]	-	-	-	11,564,892	23,129,784	23,129,784
9	Series 2028 Bonds [2]	-	-	-	-	-	7,050,289
10	Series 2030 Bonds [2]	-	-	-	-	-	-
11	Series 2032 Bonds [2]	-	-	-	-	-	-
12	Subtotal - Additional Senior Debt Service	$ -	$ 6,899,711	$ 13,799,422	$ 25,364,314	$ 36,929,206	$ 43,979,496
13	Total Senior Debt Service	$ 36,830,504	$ 43,891,442	$ 50,776,351	$ 62,384,485	$ 73,939,836	$ 80,974,581
	Outstanding Subordinate Debt Service:						
14	EDA Facilities Revenue Bonds, Series 2021	$ 1,699,350	$ 1,696,683	$ 1,697,583	$ 1,697,283	$ 1,696,354	$ 1,700,000
15	UOSA Existing Subordinate Debt [3]	20,974,563	21,013,499	21,515,599	21,669,853	21,483,925	21,493,983
16	Subtotal - Current Subordinate Debt Service	$ 22,673,913	$ 22,710,182	$ 23,213,182	$ 23,367,136	$ 23,180,279	$ 23,193,983
	Additional Subordinate Debt Service:						
17	Series 2023 Bonds - UOSA	$ -	$ 646,015	$ 646,015	$ 646,015	$ 646,015	$ 646,015
18	Series 2026 Bonds - UOSA	-	-	-	-	805,412	805,412
19	Series 2029 Bonds - UOSA	-	-	-	-	-	-
20	Series 2032 Bonds - UOSA	-	-	-	-	-	-
21	Subtotal - Subordinate Debt Service	$ -	$ 646,015	$ 646,015	$ 646,015	$ 1,451,427	$ 1,451,427
22	Total Subordinate Debt Service	$ 22,673,913	$ 23,356,198	$ 23,859,198	$ 24,013,152	$ 24,631,706	$ 24,645,410
23	Total Debt Service (Senior Lien and Subordinate)	$ 59,504,417	$ 67,247,640	$ 74,635,549	$ 86,397,637	$ 98,571,542	$ 105,619,991

Footnotes:

[1] Amounts are shown reflect deposits to the sinking fund for future debt service payments (i.e., accrued payments) and do not reflect actual debt service payments (i.e., cash basis).

[2] The financial forecast assumes the issuance of additional parity bonds to fund certain improvements to the System. The terms of the debt assume:
i) level annual debt service payments over a 30 year repayment period; ii) interest rate of ranging from 4.50% - 5.20%;
iii) debt service reserve funded from the debt proceeds; and iii) issuance costs equal to 1.5% of the principal amount of bonds.

[3] Represents subordinated indebtedness issued on behalf of the County by UOSA as the contractual wastewater treatment provider.

Table 9
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Fund Balances and Interest Income Determination

Line No.	Description	Historical FY 2022	Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	ENDING FUND BALANCE SUMMARY											
1	Revenue and Operating Fund - 69000 / 69010	$ 76,711,372	$ 73,254,512	$ 77,109,221	$ 78,812,820	$ 80,529,813	$ 82,079,126	$ 83,672,278	$ 85,310,340	$ 86,995,358	$ 88,729,659	$ 90,514,935
2	Availability Charge Funds - 69000A [1]	-	-	-	-	-	-	-	-	-	-	-
3	VRA Debt Service Reserve - 69000B	-	-	-	-	-	-	-	-	-	-	-
4	Sewer Construction Fund - 69300	61,691,725	124,570,451	84,202,155	39,354,647	36,971,698	62,273,223	56,416,644	80,929,141	78,769,547	94,743,496	106,119,265
5	Sewer Construction Subfund - 69300A	-	3,260,000	5,000,000	5,262,189	5,525,478	5,789,874	6,055,380	6,322,001	6,589,742	6,858,607	7,128,604
6	Parity Debt Service Reserve - 69030	32,463,311	37,020,171	50,819,593	50,819,593	73,939,836	73,939,836	82,387,587	82,387,587	92,294,308	92,294,308	95,907,014
7	Sewer Bond Construction - 69310 (Exist Proceeds)	135,385,503	447,000	450,000	453,000	456,000	459,000	463,000	467,000	471,000	475,000	479,000
8	Sewer Bond Construction - 69310 (Add'l Proceeds)	-	-	98,670,808	-	163,059,131	-	101,250,000	-	62,214,516	-	-
9	Total Projected Ending Balance	$ 306,251,911	$ 238,552,134	$ 316,251,778	$ 174,702,248	$ 360,481,956	$ 224,541,059	$ 330,244,888	$ 255,416,069	$ 327,334,471	$ 283,101,070	$ 300,148,817
	Allocation of Ending Fund Balances											
10	Existing Customers	$ 294,565,119	$ 225,224,873	$ 297,956,724	$ 156,407,195	$ 333,863,615	$ 197,922,718	$ 300,585,357	$ 225,756,538	$ 294,108,520	$ 249,875,119	$ 265,622,292
11	New Customers (Includes DSR Allocation)	11,686,792	13,327,262	18,295,053	18,295,053	26,618,341	26,618,341	29,659,531	29,659,531	33,225,951	33,225,951	34,526,525
	REVENUE AND OPERATING FUND - 69000 / 69010											
12	Beginning Balance		$ 76,711,372	$ 73,254,512	$ 77,109,221	$ 78,812,820	$ 80,529,813	$ 82,079,126	$ 83,672,278	$ 85,310,340	$ 86,995,358	$ 88,729,659
	Transfers In:											
13	Operations		$ 1,100,000	$ 3,854,709	$ 1,703,599	$ 1,716,993	$ 1,549,313	$ 1,593,152	$ 1,638,063	$ 1,685,017	$ 1,734,302	$ 1,785,276
14	Debt Service Reserve - 69030		-	-	-	9,542	-	5,652,827	-	15,683	-	0
15	VRA Debt Service Reserve - 69000B		-	-	-	-	-	-	-	-	-	-
16	Subtotal		$ 1,100,000	$ 3,854,709	$ 1,703,599	$ 1,726,535	$ 1,549,313	$ 7,245,979	$ 1,638,063	$ 1,700,701	$ 1,734,302	$ 1,785,276
	Transfers Out:											
17	Operations		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	Debt Service Reserve - 69030		4,556,860	0	0	0	0	0	0	0	0	0
19	Sewer Construction Fund 69300		0	0	0	9,542	0	5,652,827	0	15,683	0	0
20	CIP		0	0	0	0	0	0	0	0	0	0
21	Subtotal		$ 4,556,860	$ -	$ -	$ 9,542	$ -	$ 5,652,827	$ -	$ 15,683	$ -	$ 0
22	Interest Rate		0.66%	0.66%	0.73%	0.73%	0.75%	0.76%	0.78%	0.79%	0.81%	0.82%
23	Interest Income		$ 495,000	$ 496,000	$ 572,000	$ 584,000	$ 608,000	$ 632,000	$ 657,000	$ 682,000	$ 709,000	$ 736,000
24	Recognition Of Interest in Revenue Requirement	Yes	495,000	496,000	572,000	584,000	608,000	632,000	657,000	682,000	709,000	736,000
25	Ending Balance (Excl. New Customer Share)		$ 73,254,512	$ 77,109,221	$ 78,812,820	$ 80,529,813	$ 82,079,126	$ 83,672,278	$ 85,310,340	$ 86,995,358	$ 88,729,659	$ 90,514,935
	AVAILABILITY CHARGE FUNDS - 69000A [1]											
26	Beginning Balance		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27	Transfer In - Availability Charges Collection		$ 17,000,000	$ 18,307,324	$ 18,925,227	$ 19,812,527	$ 20,499,356	$ 21,394,863	$ 22,090,616	$ 23,013,509	$ 23,708,357	$ 24,736,209
28	Transfer In - Sale of Capacity / Other Contribution		0	0	0	0	0	0	0	0	0	0
	Transfers Out:											
29	Debt Service		$ 17,000,000	$ 18,307,324	$ 18,925,227	$ 19,812,527	$ 20,499,356	$ 21,394,863	$ 22,090,616	$ 23,013,509	$ 23,708,357	$ 24,736,209
30	CIP		-	-	-	-	-	-	-	-	-	-
31	Total Transfers Out		$ 17,000,000	$ 18,307,324	$ 18,925,227	$ 19,812,527	$ 20,499,356	$ 21,394,863	$ 22,090,616	$ 23,013,509	$ 23,708,357	$ 24,736,209
32	Interest Rate		0.66%	0.66%	0.73%	0.73%	0.75%	0.76%	0.78%	0.79%	0.81%	0.82%
33	Interest Income		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34	Recognition Of Interest in Revenue Requirement	No	-	-	-	-	-	-	-	-	-	-
35	Ending Balance (Availability Charges Fund		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	VRA DEBT SERVICE RESERVE - FUND 69000B											
36	Beginning Balance		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Revenues / Transfers In:											
37	New Debt		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Expenditures / Transfers Out											
38	Operating Reserves - Fund 69000		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
39	Interest Rate	Med. Term	0.66%	0.66%	0.73%	0.73%	0.75%	0.76%	0.78%	0.79%	0.81%	0.82%
40	Interest Income		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41	Recognition of Interest in Revenue Requirement	Yes	-	-	-	-	-	-	-	-	-	-
42	Ending Balance		$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
	SEWER CONSTRUCTION FUND 69300 [3]											
	Renewals and Replacements - Fund 69300											
43	Beginning Balance		$ 61,691,725	$ 124,570,451	$ 84,202,155	$ 39,354,647	$ 36,971,698	$ 62,273,223	$ 56,416,644	$ 80,929,141	$ 78,769,547	$ 94,743,496
	Revenues / Transfers In:											
44	Transfers In From Operations		$ 77,203,392	$ 76,405,257	$ 85,504,251	$ 87,782,322	$ 90,294,082	$ 98,295,427	$ 124,801,837	$ 130,237,046	$ 148,181,141	$ 163,371,677
45	Transfers In From Revenue Fund 69000		-	-	-	9,542	-	5,652,827	-	15,683	-	0
46	Total Transfers In		$ 77,203,392	$ 76,405,257	$ 85,504,251	$ 87,791,864	$ 90,294,082	$ 103,948,254	$ 124,801,837	$ 130,252,729	$ 148,181,141	$ 163,371,677
	Expenditures / Transfers Out											
47	Transfers Out Capital Expenditures		$ 14,324,666	$ 116,773,553	$ 130,351,760	$ 90,174,812	$ 64,992,557	$ 109,804,833	$ 100,289,340	$ 132,412,323	$ 132,207,193	$ 151,995,908
48	Interest Rate		0.66%	0.66%	0.73%	0.73%	0.75%	0.76%	0.78%	0.79%	0.81%	0.82%
49	Interest Income		$ 615,000	$ 689,000	$ 453,000	$ 280,000	$ 371,000	$ 453,000	$ 534,000	$ 632,000	$ 700,000	$ 825,000
50	Recognition Of Interest in Revenue Requirement	Yes	615,000	689,000	453,000	280,000	371,000	453,000	534,000	632,000	700,000	825,000
51	Ending Balance Fund 69300		$ 124,570,451	$ 84,202,155	$ 39,354,647	$ 36,971,698	$ 62,273,223	$ 56,416,644	$ 80,929,141	$ 78,769,547	$ 94,743,496	$ 106,119,265
	Service Line Extensions - Subfund 69300A											
52	Beginning Balance		$ -	$ 3,260,000	$ 5,000,000	$ 5,262,189	$ 5,525,478	$ 5,789,874	$ 6,055,380	$ 6,322,001	$ 6,589,742	$ 6,858,607
	Revenues / Transfers In:											
53	Transfers In From Operations		$ 3,000,000	$ 1,478,908	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
54	Non-Recurring Revenues		260,000	261,092	262,189	263,290	264,396	265,506	266,621	267,741	268,865	269,996
55	Total Transfers In		$ 3,260,000	$ 1,740,000	$ 262,189	$ 263,290	$ 264,396	$ 265,506	$ 266,621	$ 267,741	$ 268,865	$ 269,996
	Expenditures / Transfers Out											
56	Transfers Out Capital Expenditures		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57	Interest Rate		0.66%	0.66%	0.73%	0.73%	0.75%	0.76%	0.78%	0.79%	0.81%	0.82%
58	Interest Income		$ 11,000	$ 27,000	$ 38,000	$ 40,000	$ 42,000	$ 45,000	$ 48,000	$ 51,000	$ 54,000	$ 57,000
59	Recognition Of Interest in Revenue Requirement	Yes	11,000	27,000	38,000	40,000	42,000	45,000	48,000	51,000	54,000	57,000
60	Ending Balance Fund C69300A		$ 3,260,000	$ 5,000,000	$ 5,262,189	$ 5,525,478	$ 5,789,874	$ 6,055,380	$ 6,322,001	$ 6,589,742	$ 6,858,607	$ 7,128,604

Footnotes on Page 2 of 2

Table 9
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Projected Fund Balances and Interest Income Determination

Line No.	Description	Historical FY 2022	Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	SENIOR SINKING FUND - 69020											
61	Annual Senior Debt Service		$ 36,830,504	$ 43,891,442	$ 50,776,351	$ 62,384,485	$ 73,939,836	$ 80,974,581	$ 82,387,587	$ 92,085,524	$ 92,103,431	$ 95,695,075
62	Average Balance		$ 12,276,835	$ 14,630,481	$ 16,925,450	$ 20,794,828	$ 24,646,612	$ 26,991,527	$ 27,462,529	$ 30,695,175	$ 30,701,144	$ 31,898,358
63	Interest Rate		0.66%	0.66%	0.73%	0.73%	0.75%	0.76%	0.78%	0.79%	0.81%	0.82%
64	Interest Income		81,000	97,000	124,000	152,000	184,000	206,000	213,000	243,000	248,000	262,000
65	Recognition Of Interest in Revenue Requirements	Yes	81,000	97,000	124,000	152,000	184,000	206,000	213,000	243,000	248,000	262,000
	DEBT SERVICE RESERVE - FUND 69030											
66	Beginning Balance		$ 32,463,311	$ 37,020,171	$ 50,819,593	$ 50,819,593	$ 73,939,836	$ 73,939,836	$ 82,387,587	$ 82,387,587	$ 92,294,308	$ 92,294,308
	Revenues / Transfers In											
67	Transfer In - Deficiency Below Reserve Requirement from Reserve		$ 4,556,860	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
68	Transfer in New Debt Proceeds		-	13,799,422	-	23,129,784	-	14,100,578	-	-	-	-
	Expenditures / Transfers Out											
69	Transfer Out - Excess Above Requirement to Reserves		$ -	$ -	$ -	$ 9,542	$ -	$ 5,652,827	$ -	$ 15,683	$ -	$ -
70	Interest Rate		0.66%	0.66%	0.73%	0.73%	0.75%	0.76%	0.78%	0.79%	0.81%	0.82%
71	Interest Income		$ 214,000	$ 290,000	$ 373,000	$ 457,000	$ 553,000	$ 596,000	$ 640,000	$ 652,000	$ 745,000	$ 758,000
72	Recognition Of Interest in Revenue Requirements	Yes	214,000	290,000	373,000	457,000	553,000	596,000	640,000	652,000	745,000	758,000
73	Ending Balance Fund C69030		$ 37,020,171	$ 50,819,593	$ 50,819,593	$ 73,939,836	$ 73,939,836	$ 82,387,587	$ 82,387,587	$ 92,294,308	$ 92,294,308	$ 95,907,014
	SUBORDINATE DEBT SINKING FUND - 69040											
74	Annual Subordinate Debt Service		$ 22,673,913	$ 23,356,198	$ 23,859,198	$ 24,013,152	$ 24,631,706	$ 24,645,410	$ 12,481,097	$ 14,392,957	$ 14,304,203	$ 14,994,500
75	Average Balance		$ 5,668,478	$ 5,839,049	$ 5,964,799	$ 6,003,288	$ 6,157,927	$ 6,161,353	$ 3,120,274	$ 3,598,239	$ 3,576,051	$ 3,748,625
76	Interest Rate		0.66%	0.66%	0.73%	0.73%	0.75%	0.76%	0.78%	0.79%	0.81%	0.82%
77	Interest Income		$ 37,000	$ 39,000	$ 44,000	$ 44,000	$ 46,000	$ 47,000	$ 24,000	$ 28,000	$ 29,000	$ 31,000
78	Recognition Of Interest in Revenue Requirement	Yes	37,000	39,000	44,000	44,000	46,000	47,000	24,000	28,000	29,000	31,000
	SEWER BOND CONSTRUCTION - FUND 69310 (Existing Proceeds)											
79	Beginning Balance		$ 135,385,503	$ 447,000	$ 450,000	$ 453,000	$ 456,000	$ 459,000	$ 463,000	$ 467,000	$ 471,000	$ 475,000
	Revenues / Transfers In											
80	Transfers In		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
81	Interest Income from Additional Debt Proceed		-	-	-	-	-	-	-	-	-	-
	Expenditures / Transfers Out											
82	Transfers Out - CIP		$ 135,385,503	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83	Interest Rate		0.66%	0.66%	0.73%	0.73%	0.75%	0.76%	0.78%	0.79%	0.81%	0.82%
84	Interest Income		$ 447,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000
85	Recognition Of Interest in Revenue Requirement	No	-	-	-	-	-	-	-	-	-	-
86	Ending Balance Fund C69310		$ 447,000	$ 450,000	$ 453,000	$ 456,000	$ 459,000	$ 463,000	$ 467,000	$ 471,000	$ 475,000	$ 479,000
	SEWER BOND CONSTRUCTION - FUND 69310 (Additional Debt Proceeds)											
87	Total Beginning Balance		$ -	$ -	$ 98,670,808	$ -	$ 163,059,131	$ -	$ 101,250,000	$ -	$ 62,214,516	$ -
	Transfers In - Additional Debt Proceeds											
88	Transfers In Series 2017 Bonds		$ -	$ 208,373,162	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89	Total Transfers Out CIP Funded From New Bonds		$ 4,730,174	$ 211,170,808	$ 2,579,192	$ 329,309,131	$ 3,190,869	$ 202,500,000	$ 9,322,138	$ 140,464,516	$ 16,035,484	$ 58,250,000
	Transfers Out - CIP											
90	Series 2017 Bonds		$ -	$ 109,702,354	$ 98,670,808	$ -	$ -	$ -	$ -	$ -	$ -	$ -
91	Sweep Interest Income to Fund 69310		-	-	-	-	-	-	-	-	-	-
92	Total Transfers Out CIP Funded From New Bonds		$ 4,730,174	$ 112,500,000	$ 101,250,000	$ 166,250,000	$ 166,250,000	$ 101,250,000	$ 110,572,138	$ 78,250,000	$ 78,250,000	$ 58,250,000
93	Interest Rate		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
94	Interest Income		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
95	Recognition Of Interest in Revenue Requirement	No	-	-	-	-	-	-	-	-	-	-
96	Ending Balance Fund C69310B		$ -	$ 98,670,808	$ -	$ 163,059,131	$ -	$ 101,250,000	$ -	$ 62,214,516	$ -	$ -
97	**TOTAL UNRESTRICTED INTEREST INCOME**		$ 1,453,000	$ 1,638,000	$ 1,604,000	$ 1,557,000	$ 1,804,000	$ 1,979,000	$ 2,116,000	$ 2,288,000	$ 2,485,000	$ 2,669,000

Footnotes:

[1] Fund C69000A will be used only to finance new customer capital projects. Fund C69000A includes new customer monies from Fund C6930

Table 10
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Allocated Ten-Year Estimated Capital Improvement Program for the Wastewater System (in $000s)

Line No.	Project #	Description	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total Cost
		WASTEWATER TREATMENT DIVISION											
1	WTD1	Accotink Odor Control Facility	$ 4,300,000	$ 853,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,153,000
2	WTD2	APW/CW System Optimization	310,000	535,000	881,000	2,000,000	2,000,000	6,000,000	6,000,000	6,000,000	5,000,000	-	28,726,000
3	WTD3	Activated Sludge Effluent (ASE) Pump Station	3,500,000	5,300,000	5,300,000	7,500,000	3,000,000	183,000	-	-	-	-	24,783,000
4	WTD4	Biosolids Processing Rehabilitation, Phase III	18,200,000	18,300,000	18,200,000	20,200,000	5,900,000	-	-	-	-	-	80,800,000
5	WTD5	Biosolids Phase IV	58,000	79,000	762,000	1,500,000	8,800,000	16,000,000	12,300,000	369,000	-	-	39,868,000
6	WTD6	Expansion to 80 MGD	-	-	-	-	-	-	6,300,000	6,300,000	9,700,000	9,700,000	32,000,000
7	WTD7	Future Regulatory Project	-	-	-	-	-	-	3,000,000	4,000,000	10,000,000	16,000,000	33,000,000
8	WTD8	Major Sustaining Evaluation	1,200,000	7,000	500,000	-	-	-	-	-	-	-	1,707,000
9	WTD9	MSP - Current Needs: Barscreens and Degrit	$ 41,000	$ 749,000	$ 1,200,000	$ 3,400,000	$ 5,700,000	$ 5,700,000	$ 3,100,000	$ 224,000	$ -	$ -	$ 20,114,000
10	WTD10	MSP - Energy Improvements	541,000	8,300,000	8,200,000	-	-	-	-	-	-	-	17,041,000
11	WTD11	MSP - FF Capacity Improvments	840,000	2,900,000	36,000,000	23,300,000	12,700,000	14,100,000	1,000,000	-	-	-	90,840,000
12	WTD12	MSP - Future Needs: Filters and Clarifiers	-	-	1,000,000	1,500,000	541,000	15,200,000	14,700,000	15,700,000	1,100,000	-	49,741,000
13	WTD13	MSP - In-house Projects	2,000,000	3,400,000	600,000	-	-	-	-	-	-	-	6,000,000
14	WTD14	MSP - MBBR Capacity	41,000	951,000	4,800,000	4,700,000	225,000	-	-	-	-	-	10,717,000
15	WTD15	Master Filtration	-	-	-	-	-	-	-	-	-	-	-
16	WTD16	Miscellaneous Small Projects	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	60,000,000
17	WTD17	Modernization of Support and Administrative Facilities	$ 2,500,000	$ 3,400,000	$ 541,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,441,000
18	WTD18	Next Generation Biosolids Program	-	-	-	-	-	6,900,000	6,900,000	6,900,000	6,900,000	6,900,000	34,500,000
19	WTD19	Primary and Secondary Sustaining Project	13,200,000	32,400,000	32,400,000	25,200,000	27,600,000	78,000	-	-	-	-	130,878,000
20	WTD20	Primary and Secondary In-House Projects	4,000,000	2,000,000	-	-	-	-	-	-	-	-	6,000,000
21	WTD21	Primary and Secondary Program, Phase II	232,000	-	150,000	3,000,000	4,000,000	4,000,000	2,000,000	6,000,000	6,000,000	6,000,000	31,382,000
22	WTD22	Raw Wastewater Pump Station -B3	11,900,000	1,014,000	-	-	-	-	-	-	-	-	12,914,000
23	WTD23	Raw Wastewater Pump Station -B4	11,700,000	34,700,000	44,500,000	45,000,000	43,500,000	9,600,000	-	-	-	-	189,000,000
24	WTD24	Unidentified Future Projects	-	-	-	-	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	60,000,000
25		**Total Wastewater Treatment Division**	$ 80,563,000	$ 120,888,000	$ 161,034,000	$ 143,300,000	$ 129,966,000	$ 93,761,000	$ 71,300,000	$ 61,493,000	$ 54,700,000	$ 54,600,000	$ 971,605,000
		TREATMENT BY CONTRACT											
		ASA Program											
26	TbC3	ASA Construction- Joint Projects	$ 19,536,000	$ 17,387,000	$ 27,229,000	$ 17,303,000	$ 19,780,000	$ 14,090,000	$ 7,060,000	$ 5,278,000	$ 5,353,000	$ 5,460,000	$ 138,476,000
27		Subtotal ASA Program	$ 19,536,000	$ 17,387,000	$ 27,229,000	$ 17,303,000	$ 19,780,000	$ 14,090,000	$ 7,060,000	$ 5,278,000	$ 5,353,000	$ 5,460,000	$ 138,476,000
		Blue Plains Program Total											
28	TbC5	Blue Plains Capital Projects	$ 16,532,000	$ 18,766,000	$ 28,474,000	$ 29,369,000	$ 43,132,000	$ 46,849,000	$ 39,274,000	$ 32,099,000	$ 21,211,000	$ 12,885,000	$ 288,591,000
29		Subtotal Blue Plains Program Total	$ 16,532,000	$ 18,766,000	$ 28,474,000	$ 29,369,000	$ 43,132,000	$ 46,849,000	$ 39,274,000	$ 32,099,000	$ 21,211,000	$ 12,885,000	$ 288,591,000
		Arlington Program											
30	TbC12	Arlington Process Upgrades	$ 1,970,000	$ 2,915,000	$ 4,929,000	$ 5,169,000	$ 3,670,000	$ 1,616,000	$ 245,000	$ 205,000	$ 210,000	$ 211,000	$ 21,140,000
31		Subtotal Arlington Program	$ 1,970,000	$ 2,915,000	$ 4,929,000	$ 5,169,000	$ 3,670,000	$ 1,616,000	$ 245,000	$ 205,000	$ 210,000	$ 211,000	$ 21,140,000
		UOSA Projects Place Holder											
32	TbC14	Nutrient Cap	$ 1,201,693	$ 1,259,014	$ 639,650	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,100,356
33	TbC15	Hydraulic Improvements	-	-	-	-	-	-	-	-	-	-	-
34	TbC16	Master Planning	-	-	-	-	-	-	-	-	-	-	-
35	TbC17	Delivery System Expansion to 54 mg	618,522	151,004	660,917	314,522	-	-	-	-	-	-	1,744,965
36	TbC18	Delivery System Expansion to 64 mg	-	-	-	-	-	-	-	-	-	-	-
37	TbC19	Reserve Maintenance	2,909,959	1,387,628	1,278,626	1,475,700	3,190,869	7,619,708	9,322,138	6,578,895	16,035,484	10,645,506	60,444,513
38		Subtotal UOSA Projects Place Holder	$ 4,730,174	$ 2,797,646	$ 2,579,192	$ 1,790,222	$ 3,190,869	$ 7,619,708	$ 9,322,138	$ 6,578,895	$ 16,035,484	$ 10,645,506	$ 65,289,835
39		**Total Treatment By Contract**	$ 42,768,174	$ 41,865,646	$ 63,211,192	$ 53,631,222	$ 69,772,869	$ 70,174,708	$ 55,901,138	$ 44,160,895	$ 42,809,484	$ 29,201,506	$ 513,496,835

Footnotes on Page 3 of 3.

Table 10
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Allocated Ten-Year Estimated Capital Improvement Program for the Wastewater System (in $000s)

Line No.	Project #	Description	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total Cost
		WASTEWATER COLLECTION DIVISION (WCD)											
		Pumping Stations											
40	PS1	Accotink Pump Station	$ 2,826,868	$ 12,234,720	$ 28,234,613	$ 28,234,613	$ 16,441,022	$ -	$ -	$ -	$ -	$ -	$ 87,971,836
41	PS2	SCADA Master Plan and Implementation	500,000	250,000	1,960,242	3,964,045	3,964,045	2,678,997	-	-	-	-	13,317,329
42	PS3	Braddock Road	-	75,000	178,952	472,286	1,283,762	4,585,000	4,550,000	350,000	-	-	11,495,000
43	PS4	Keene Mill	-	-	100,000	180,762	472,286	1,316,952	4,550,000	4,550,000	350,000	-	11,520,000
44	PS5	Holmes Run Pump Station	6,806,325	10,102,433	2,306,350	-	-	-	-	-	-	-	19,215,108
45	PS6	Little Hunting Creek Forcemain	1,995,312	7,517,352	1,382,024	1,329,392	-	-	-	-	-	-	12,224,080
46	PS7	LLV Low Pressure System	305,480	1,575,500	-	-	-	-	-	-	-	-	1,880,980
47	PS8	Lake Barcroft Odor Control Facility	441,138	2,132,254	2,253,881	573,240	-	-	-	-	-	-	5,400,513
48	PS9	Difficult Run Odor and Grit	610,340	3,069,963	548,958	-	-	-	-	-	-	-	4,229,261
49	PS10	Freund House Screens	1,193,888	93,553	-	-	-	-	-	-	-	-	1,287,441
50	PS11	Jones Point Pump Station and Forcemain	468,770	1,440,900	3,315,000	1,670,000	-	-	-	-	-	-	6,894,670
51	PS12	Pender, George Mason, Spring Hill, and Jermantown Road	-	150,000	161,000	489,000	1,044,500	4,323,000	3,052,500	-	-	-	9,220,000
52	PS13	Edgewater and The Fairfax	121,119	233,395	425,683	3,303,088	3,943,896	-	-	-	-	-	8,027,181
53	PS14	Rivertowers, Pike Branch, and Jefferson Ave	-	-	-	-	200,000	161,000	413,306	1,063,694	4,698,000	1,584,000	8,120,000
54	PS15	Waynewood I & II	121,119	233,395	425,683	3,211,975	4,035,009	-	-	-	-	-	8,027,181
55	PS16	Piney Branch and Ordway Road	-	-	100,000	80,500	395,500	981,000	4,030,000	1,333,000	-	-	6,920,000
56	PS17	Penderbrook and Wesley House	240,000	346,500	1,865,000	518,000	-	-	-	-	-	-	2,969,500
57	PS18	Long Branch, Lorton Valley, and Hunter Estates	-	-	-	-	-	150,000	120,000	182,613	864,262	4,093,750	5,410,625
58	PS19	Oxford and Washington Woods	182,196	294,143	1,591,306	2,561,270	-	-	-	-	-	-	4,628,915
59	PS20	Saville Lane Pump Station	5,651,229	687,872	-	-	-	-	-	-	-	-	6,339,101
60	PS21	Downscrest	57,692	42,981	178,459	216,054	1,497,361	1,763,125	-	-	-	-	3,755,673
61	PS22	Wellington I Pump Station	288,500	1,409,304	9,000	-	-	-	-	-	-	-	1,706,804
62	PS23	Oak Marr Pump Station	1,906,000	2,176,500	-	-	-	-	-	-	-	-	4,082,500
63	PS24	Langley Pump Station and Forcemain	3,154,920	321,466	-	-	-	-	-	-	-	-	3,476,386
64	PS25	Mount Vernon Terrace Forcemain	-	1,367,811	1,367,811	-	-	-	-	-	-	-	2,735,621
65	PS26	Wellington I Forcemain	1,098,000	-	-	-	-	-	-	-	-	-	1,098,000
66	PS27	Wellington II Pump Station	346,930	-	-	-	-	-	-	-	-	-	346,930
67	PS28	Riverwood Forcemain	248,264	1,120,384	126,109	-	-	-	-	-	-	-	1,494,757
68	PS29	Covanta FM	1,170,046	3,010,000	5,781,000	2,724,000	-	-	-	-	-	-	12,685,046
69	PS30	PLANNING-Future Pump Stations	-	-	-	-	-	15,000,000	15,450,000	15,913,500	16,390,905	16,882,632	79,637,037
70	PS31	PLANNING-Miscellaneous Repairs	1,501,150	1,546,185	1,586,469	1,640,347	1,689,558	1,740,245	1,792,452	1,846,226	1,901,612	1,958,661	17,202,904
71	PS32	Langley Emergency	160,171	-	-	-	-	-	-	-	-	-	160,171
72	PS33	Pump Station Condition Assessment	500,000	250,000	-	-	-	-	-	-	-	-	750,000
73		Toal Pumping Stations	$ 31,895,458	$ 51,681,610	$ 53,897,541	$ 51,168,572	$ 34,966,939	$ 32,699,319	$ 33,958,258	$ 25,239,032	$ 24,204,780	$ 24,519,043	$ 364,230,551
		Gravity Sewers											
74	GS1	CIPP Lining Program	$ 7,106,513	$ 8,487,200	$ 8,741,816	$ 9,004,070	$ 9,274,193	$ 14,328,628	$ 14,758,486	$ 15,201,241	$ 15,657,278	$ 16,126,997	$ 118,686,422
75	GS2	Augusta Drive Sewer	341,940	-	-	-	-	-	-	-	-	-	341,940
76	GS3	West Springfield Stream Crossing	822,347	-	-	-	-	-	-	-	-	-	822,347
77	GS4	Old Mill Sewer Replacement	1,883,000	-	-	-	-	-	-	-	-	-	1,883,000
78	GS5	Indian Run Sewer Reinforcement	2,031,000	1,216,000	-	-	-	-	-	-	-	-	3,247,000
79	GS6	Celadon Lane Sewer Replacement	3,421,941	1,177,485	-	-	-	-	-	-	-	-	4,599,426
80	GS7	Sag Replacement Package 2	1,769,040	5,316,120	1,004,296	-	-	-	-	-	-	-	8,089,456
81	GS8	Springfield Estates Gravity Bypass	269,755	1,631,000	7,299,500	-	-	-	-	-	-	-	9,200,255
82	GS9	Pohick Creek Rehabilitation-All Phases	540,415	6,393,646	1,598,411	9,242,885	7,766,522	7,838,515	1,922,088	-	-	-	35,302,483
83	GS10	Creek Bed Program	500,000	500,000	500,000	500,000	500,000	500,000	-	-	-	-	3,000,000
84	GS11	PLANNING-Sewer Condition Assessment	3,000,000	3,090,000	3,182,700	3,278,181	3,376,526	3,477,822	3,582,157	3,689,622	3,800,310	3,914,320	34,391,638
85	GS12	Carderock Gravity Sewer Rehabilitation	2,676,372	2,588,071	-	-	-	-	-	-	-	-	5,264,443
86	GS13	Little Hunting Creek Sewer Sag	1,046,000	-	-	-	-	-	-	-	-	-	1,046,000
87	GS14	Little Pimmit Run Sewer Relocation	1,361,919	1,539,900	4,472,000	-	-	-	-	-	-	-	7,373,819
88	GS15	Belleview System Modifications	744,023	796,038	2,261,036	8,635,631	8,635,631	8,327,216	-	-	-	-	29,399,575
89	GS16	Cameron Run Inflow and Infiltration	63,113	-	-	-	-	-	-	-	-	-	63,113
90	GS17	PLANNING-Future Inflow and Infiltration ($3M/year)	-	-	-	-	-	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	15,000,000
91	GS18	Utility Intrusion Analysis and Resolution	30,000	-	-	-	-	-	-	-	-	-	30,000
92	GS19	Surveying Missing Pipe Invert Data	54,376	-	-	-	-	-	-	-	-	-	54,376
93	GS20	Meter Rehabilitation - Project 1	134,130	-	-	-	-	-	-	-	-	-	134,130
94	GS21	Chain Bridge Vault - Site Safety Improvements	187,506	9,000	-	-	-	-	-	-	-	-	196,506
95	GS22	Meter Rehabilitation - Project 4	624,116	3,195,629	3,688,553	813,500	-	-	-	-	-	-	8,321,798
96	GS23	PLANNING-Miscellaneous Rehabilitation, Repairs & Replacements	3,000,000	3,000,000	3,000,000	6,000,000	6,000,000	15,000,000	15,000,000	15,000,000	20,000,000	20,000,000	106,000,000
97		Toal Gravity Sewers	$ 31,607,506	$ 38,940,089	$ 35,748,313	$ 37,474,267	$ 35,552,872	$ 52,472,181	$ 38,262,731	$ 36,890,863	$ 42,457,588	$ 43,041,316	$ 392,447,727

Footnotes on Page 3 of 3.

Table 10
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Allocated Ten-Year Estimated Capital Improvement Program for the Wastewater System (in $000s)

Line No.	Project #	Description	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total Cost
		Expansion											
98	E1	Tysons West	$ 4,249,959	$ 7,376,187	$ 32,795,933	$ 41,651,713	$ 41,651,713	$ 8,121,750	$ -	$ -	$ -	$ -	$ 135,847,255
99	E2	Tysons East	-	1,922,400	-	-	922,830	2,738,478	2,730,975	32,650,936	40,954,121	21,152,129	103,071,869
100	E3	Utility Management Plan	1,301,154	686,323	-	-	-	-	-	-	-	-	1,987,478
101	E4	Rt 1 Sewer Capacity Access Improvements	-	4,830,000	-	46,375,000	46,375,000	-	-	-	-	-	97,580,000
102	E5	Accotink Gravity Sewer Improvements	1,846,187	1,731,459	18,220,000	18,240,000	9,140,000	-	-	-	-	-	49,177,646
103	E6	Herndon Capacity	-	464,200	2,823,389	13,066,731	18,746,781	4,326,180	-	-	-	-	39,427,282
104	E7	Merrifield Capacity Upgrade	2,813,023	975,692	350,580	-	-	-	-	-	-	-	4,139,295
105	E8	Lakevale Capacity Improvements	523,036	528,777	5,194,960	-	-	-	-	-	-	-	6,246,773
106	E9	Future Capacity Upgrades	-	-	-	-	-	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	25,000,000
107		Toal Expansion	$ 10,733,359	$ 18,515,039	$ 59,384,862	$ 119,333,444	$ 116,836,324	$ 20,186,408	$ 7,730,975	$ 37,650,936	$ 45,954,121	$ 26,152,129	$ 462,477,598
		Extension & Improvement Projects											
108	E11	Extension & Improvement Projects	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
109		Subtotal Extension & Improvement Projects	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
110		**Total Wastewater Collection Division**	$ 74,236,324	$ 109,136,737	$ 149,030,716	$ 207,976,284	$ 187,356,135	$ 105,357,908	$ 79,951,965	$ 99,780,830	$ 112,616,490	$ 93,712,488	$ 1,219,155,875
		C&C Conveyance Projects											
111	OP1	Oversizing Projects - County Responsibility	$ -	$ 22,500,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 112,500,000
112		Total Oversizing Program	$ -	$ 22,500,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 11,250,000	$ 112,500,000
113		**Capital Outlay (From Operations)**	$ 5,559,657	$ 5,726,447	$ 5,898,240	$ 6,075,188	$ 6,257,443	$ 6,445,167	$ 6,638,522	$ 6,837,677	$ 7,042,807	$ 7,254,092	$ 63,735,240
114		Total System Capital Projects	$ 203,127,155	$ 300,116,830	$ 390,424,148	$ 422,232,693	$ 404,602,447	$ 286,988,783	$ 225,041,625	$ 223,522,403	$ 228,418,781	$ 196,018,085	$ 2,880,492,950

Footnotes:
[1] Amounts shown reflect estimated proportionate share of County allocable capital costs pursuant to the service agreement with UOSA to maintain the County's capacity rights with UOSA.

Table 11
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Funding Sources for the Allocated Ten-Year Estimated Capital Improvement Program for the Wastewater System (in $000s)

Line No.	Description	Projected Fiscal Year Ending June 30, 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total Cost
	Funding Requirements											
1	New Customer / Expansion	$ 91,052,284	$ 141,699,645	$ 180,760,922	$ 207,344,568	$ 191,150,897	$ 123,352,104	$ 95,164,867	$ 102,096,892	$ 111,637,390	$ 96,507,413	$ 1,340,766,982
2	Existing Customer / Non-Expansion	102,358,856	145,141,419	191,314,913	198,150,132	195,590,691	148,320,936	117,777,945	111,290,400	108,882,414	92,905,714	$ 1,411,733,418
3	Existing Customer / Non-Expansion	9,716,015	13,275,766	18,348,313	16,737,994	17,860,858	15,315,743	12,098,813	10,135,112	7,898,978	6,604,959	$ 127,992,550
3	Total	$ 203,127,155	$ 300,116,830	$ 390,424,148	$ 422,232,693	$ 404,602,447	$ 286,988,783	$ 225,041,625	$ 223,522,403	$ 228,418,781	$ 196,018,085	$ 2,880,492,950
4	SOS Contributions	$ (9,716,015)	$ (13,275,766)	$ (18,348,313)	$ (16,737,994)	$ (17,860,858)	$ (15,315,743)	$ (12,098,813)	$ (10,135,112)	$ (7,898,978)	$ (6,604,959)	(127,992,550)
5	Net Funding Requirements - Existing	$ 193,411,140	$ 286,841,064	$ 372,075,835	$ 405,494,699	$ 386,741,588	$ 271,673,040	$ 212,942,812	$ 213,387,291	$ 220,519,804	$ 189,413,127	$ 2,752,500,400
6	Deferred Funding [1]	(33,411,140)	(51,841,064)	(134,575,835)	(142,994,699)	(149,241,588)	(54,173,040)	4,557,188	4,112,709	(3,019,804)	28,086,873	(532,500,400)
7	Net Funding Requirements - Existing	$ 160,000,000	$ 235,000,000	$ 237,500,000	$ 262,500,000	$ 237,500,000	$ 217,500,000	$ 217,500,000	$ 217,500,000	$ 217,500,000	$ 217,500,000	$ 2,220,000,000
	Funding Sources:											
8	Rate Revenues	$ 5,559,657	$ 5,726,447	$ 5,898,240	$ 6,075,188	$ 6,257,443	$ 6,445,167	$ 6,638,522	$ 6,837,677	$ 7,042,807	$ 7,254,092	$ 63,735,240
9	Rev & Op Fund - 69000 / 69010	-	-	-	-	-	-	-	-	-	-	-
10	Availability Fee Fund - 69000A	-	-	-	-	-	-	-	-	-	-	-
11	Construction (E&I) Fund - 69300	14,324,666	116,773,553	130,351,760	90,174,812	64,992,557	109,804,833	100,289,340	132,412,323	132,207,193	151,995,908	1,043,326,945
12	Construction (E&I) Fund - 69300A (Extensions)	-	-	-	-	-	-	-	-	-	-	-
13	Bond Construction Fund - 69310	135,385,503	-	-	-	-	-	-	-	-	-	135,385,503
14	Grants / Contributions	-	-	-	-	-	-	-	-	-	-	-
15	New Debt 1 - Existing	-	44,124,343	44,950,257	-	-	-	-	-	-	-	89,074,599
16	New Debt 1 - New	-	43,078,011	42,470,551	-	-	-	-	-	-	-	85,548,563
17	New Debt 1 - Oversizing Program	-	22,500,000	11,250,000	-	-	-	-	-	-	-	33,750,000
18	New Debt 2 - Existing	-	-	-	74,867,903	76,775,950	-	-	-	-	-	151,643,853
19	New Debt 2 - New	-	-	-	78,341,875	75,033,181	-	-	-	-	-	153,375,057
20	New Debt 2 - Oversizing Program	-	-	-	11,250,000	11,250,000	-	-	-	-	-	22,500,000
21	New Debt 3 - Existing	-	-	-	-	-	44,975,836	49,778,694	-	-	-	94,754,530
22	New Debt 3 - New	-	-	-	-	-	37,404,456	40,221,306	-	-	-	77,625,762
23	New Debt 3 - Oversizing Program	-	-	-	-	-	11,250,000	11,250,000	-	-	-	22,500,000
24	New Debt 4 - Existing - UOSA	2,682,804	1,586,736	1,462,836	-	-	-	-	-	-	-	5,732,375
25	New Debt 4 - New - UOSA	2,047,370	1,210,910	1,116,357	-	-	-	-	-	-	-	4,374,637
26	New Debt 4 - Oversizing Program	-	-	-	-	-	-	-	-	-	-	-
27	New Debt 5 - Existing - UOSA	-	-	-	1,015,357	1,809,759	4,321,655	-	-	-	-	7,146,771
28	New Debt 5 - New - UOSA	-	-	-	774,865	1,381,110	3,298,052	-	-	-	-	5,454,027
29	New Debt 5 - Oversizing Program	-	-	-	-	-	-	-	-	-	-	-
30	New Debt 6 - Existing - UOSA	-	-	-	-	-	-	5,287,220	3,731,340	9,094,816	-	18,113,376
31	New Debt 6 - New - UOSA	-	-	-	-	-	-	4,034,918	2,847,556	6,940,668	-	13,823,143
32	New Debt 6 - Oversizing Program	-	-	-	-	-	-	-	-	-	-	-
33	New Debt 7 - Existing - UOSA	-	-	-	-	-	-	-	-	-	6,037,792	6,037,792
34	New Debt 7 - New - UOSA	-	-	-	-	-	-	-	-	-	4,607,714	4,607,714
35	New Debt 7 - Oversizing Program	-	-	-	-	-	-	-	-	-	-	-
36	New Debt 8 - Existing - UOSA	-	-	-	-	-	-	-	-	-	-	-
37	New Debt 8 - New - UOSA	-	-	-	-	-	-	-	-	-	-	-
38	New Debt 8 - Oversizing Program	-	-	-	-	-	-	-	-	-	-	-
39	New Debt 9 - Existing	-	-	-	-	-	-	-	31,512,134	25,163,905	-	56,676,039
40	New Debt 9 - New	-	-	-	-	-	-	-	28,908,971	25,800,610	-	54,709,581
41	New Debt 9 - Oversizing Program	-	-	-	-	-	-	-	11,250,000	11,250,000	-	22,500,000
42	New Debt 10 - Existing	-	-	-	-	-	-	-	-	-	17,831,606	17,831,606
43	New Debt 10 - New	-	-	-	-	-	-	-	-	-	18,522,888	18,522,888
44	New Debt 10 - Oversizing Program	-	-	-	-	-	-	-	-	-	11,250,000	11,250,000
45	Subordinate Debt - UOSA	-	-	-	-	-	-	-	-	-	-	-
46	Total	$ 160,000,000	$ 235,000,000	$ 237,500,000	$ 262,500,000	$ 237,500,000	$ 217,500,000	$ 217,500,000	$ 217,500,000	$ 217,500,000	$ 217,500,000	$ 2,220,000,000

Footnotes:
[1] Based on discussions with WMP staff, certain capital improvements were deferred to reduce existing customer impacts and to recognize timing adjustments for the actual need of funds.
[2] UOSA is a Treatment by Contract provider (TBC) to the County and funds all jointly shared improvements through the issuance of additional indebtedness.

Table 12
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Forecasted Statements of Flows of Financial Resources and Changes in Fund Balance

Line No.		Projected Fiscal Year Ending June 30,									
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1	Beginning Balance [1]	$ 306,251,911	$ 238,552,134	$ 316,251,778	$ 174,702,248	$ 360,481,956	$ 224,541,059	$ 330,244,888	$ 255,416,069	$ 327,334,471	$ 283,101,070
	Operating Revenues:										
2	Sewer Service Charges [2]	$ 235,536,647	$ 251,365,421	$ 267,643,564	$ 284,831,008	$ 301,988,478	$ 319,685,227	$ 338,424,666	$ 358,297,237	$ 379,312,089	$ 401,716,955
3	Sales of Service (Bulk Revenue)										13,192,955
4	Other Operating Revenues [3]				1,038,290						
5	Subtotal Operating Revenues	$246,163,602	$262,397,657	$278,988,953	$296,558,271	$314,095,782	$332,184,411	$351,332,095	$371,629,647	$393,086,719	$415,954,906
		9,591,955	9,996,143	10,308,201	10,688,973	11,067,909				1,043,865	
	Non -Operating Revenues:	1,035,000	1,036,092	1,037,189		1,039,396	1,040,506	11,865,808	12,289,669	12,730,765	
6	Proposed (New) Debt Proceeds [4]	$ 4,730,174	$ 211,170,808	$ 2,579,192	$ 329,309,131	$	$ 202,500,000	$ 1,041,621 9,322,138	$ 1,042,741 140,464,516	$ 16,035,484	$ 1,044,996 58,250,000
7	Additions to Debt Reserve Fund [4]								9,922,404		
8	Availability Fees	$ 17,000,000	$ 18,307,324	$ 18,925,227	$ 19,812,527	$ 20,499,356	$ 21,394,863	$ 22,090,616	$ 23,013,509	$ 23,708,357	$ 24,736,209
9	Unrestricted Interest Earned				23,129,784 1,557,000	3,190,869					
10	Restricted Interest Income [5]	$ 447,000	$ 13,799,422 3,000	$ 3,000	$	$ 3,000	$ 14,100,578 4,000	$ 4,000	$ 4,000	$ 4,000 2,485,000	$ 4,000
11	Grants				3,000						
12	Subtotal	$ 23,630,174 1,453,000 -	$ 244,918,554 1,638,000 -	$ 23,111,419 1,604,000 -	$ 373,811,443 1,804,000 -	$ 25,497,225 1,979,000 239,978,442	$ 1,979,000	$ 33,532,754 2,116,000	$ 175,692,430 2,288,000	$ 42,232,842	$ 89,271,915 3,612,706 2,669,000
13	TOTAL FUNDS AVAILABLE	$ 576,045,687	$ 745,868,345	$ 618,352,150	$ 845,071,962	$ 700,074,963	$ 796,703,911	$ 715,109,737	$ 802,738,146	$ 762,654,032	$ 788,327,891
	Operating Expenses										
14	Personnel Services	$ 36,739,452	$ 42,315,816	$ 43,585,290	$ 44,892,849	$ 46,239,635	$ 47,626,824	$ 49,055,628	$ 50,527,297	$ 52,043,116	$ 53,604,410
15	Operating Expenses							-	-	-	46,797,211
16	Recovered Costs						41,840,527			(486,775)	
17	TBC and Billing Agent Costs										54,853,834
18	General Fund Transfer	35,478,010	36,978,362	38,106,659	39,564,065	40,686,827	49,333,673				
19	Operating Expense Adjustment					(435,097) 1,927,653		43,025,615	44,244,772	45,501,417	
20	Subtotal	$ 72,217,462 (72,217,462)	$ 79,294,178 (79,294,178)	$ 81,691,949 (81,691,949)	$ 84,456,914 (84,456,914)	$ 48,043,385 (48,043,385)	$ 139,462,363 (447,474)	$ 92,081,243 (360,285)	$ 94,772,069 (373,302)	$ 97,057,758 (486,775)	$ 155,255,455 (500,634)
		3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	50,638,958	52,920,028	53,417,980	3,000,000
	Capital Expenses by Funding Source		1,101,995	1,669,997	1,871,507		1,985,482	3,000,000	3,000,000	3,000,000	2,234,678
21	Cash Reserves / Rate Revenues [6]	$ 14,324,666	$ 116,773,553	$ 130,351,760	$ 90,174,812	$ 64,992,557	$ 109,804,833	2,045,047 100,289,340	2,106,398 132,412,323	2,169,590 132,207,193	$ 151,995,908
22	Availability Charge Fund										
23	Existing Debt Proceeds	-							-		
24	New Debt Proceeds [7]					166,250,000					
25	Grant Funding	135,385,503									
26	Use of Operating Reserves to Fund UOSA		112,500,000	101,250,000	166,250,000		101,250,000				
27	Subtotal	$ 4,730,174 - -	$ 235,000,000 - -	$ 237,500,000 - -	$ 262,500,000 - -	$ - 237,500,000 -	$ 217,500,000 - -	$ 10,572,128 217,500,000 -	$ 217,500,000 78,250,000 -	$ 217,500,000 78,250,000 -	$ 58,250,000 217,500,000 7,254,092
		5,559,657	5,726,447	5,898,240	6,075,188	6,257,443	6,445,167	-	-	-	-
		-	-	-	-	-	-	6,638,522 -	6,837,677	7,042,807 -	-

Footnotes on Page 2 of 2

Table 12
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Forecasted Statements of Flows of Financial Resources and Changes in Fund Balance

	Debt Service:												
28	Existing Senior Debt Service	$ 36,830,504	$ 36,991,731	$ 36,976,929	$ 37,020,171	$ 37,010,629	$ 36,995,085	$ 31,357,802	$ 31,133,335	$ 31,151,242	$ 31,130,179		
29	Proposed Senior Debt Service [4]				25,364,314								
30	Existing Subordinate Debt Service										10,750,084		
31	Proposed Subordinate Debt Service [7]						23,193,983		3,492,731	60,952,189			
32	Subtotal	$ 59,504,417	$ 67,247,640	$ 74,635,549	$ 86,397,637	$ 92,571,542	$ 43,979,496	$ 94,868,684	$ 106,478,482	$ 106,407,634	$ 110,689,575		
		22,673,913	22,710,182	23,213,182	23,367,136	23,180,279		51,029,785	60,952,189		64,564,895		
33	TOTAL USE OF FUNDS	$ 337,493,553	$ 429,616,568	$ 443,649,901	$ 484,590,006	$ 475,533,905	$ 459,023	$ 459,693,669	$ 475,403,675	$ 479,552,961	$ 488,179,074		
		-	646,015	646,015			1,451,427						
34	ENDING BALANCE BEFORE RESERVES	$ 238,552,134	$ 316,251,777	$ 174,702,249	$ 360,481,957	$ 224,541,058	$ 330,244,888	$ 255,416,069	$ 327,334,470	$ 283,101,070	$ 300,148,818		
		-											
	RESERVES / RESTRICTIONS:												
35	Operating Reserve Target (150 Days)	$ 48,488,686	$ 52,343,395	$ 54,046,994	$ 55,763,987	$ 57,313,300	$ 58,906,452	$ 60,544,514	$ 62,229,532	$ 63,963,833	$ 65,749,109		
36	Debt Reserve Balance										95,907,014		
37	Debt Proceeds						82,387,587						
38	Availability Charge Balance					459,000							
39	Sewer Construction Fund - 69300A [8]	37,020,171	50,819,593	50,819,593	73,939,836	73,939,836	101,713,000		-				
40	Subtotal	$ 89,215,857	$ 207,283,796	$ 110,581,775	$ 298,744,432	$ 137,502,009	$ 249,062,418	$ 82,387,587	$ 149,721,102	$ 92,294,308	$ 223,799,097	$ 92,294,308	$ 163,591,748	$ 169,263,727
		447,000		453,000					62,685,516				
41	UNRESTRICTED ENDING BALANCE	$ 149,336,277	$ 108,967,981	$ 64,120,473	$ 61,737,525	$ 87,039,049	$ 81,182,470	$ 105,694,967	$ 103,535,373	$ 119,509,322	$ 130,885,091		
		-	-	-	-	-	-	6,322,001	6,589,742		7,128,604		
								-		-	-		

Footnotes:

[1] Reflects starting fund balance, but is exclusive of funds held in the debt service sinking fund

[2] Includes recommended rate adjustments as follows

	Projected Fiscal Year Ending June 30,									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	(Existing)	(Recommended)	(Recommended)	(Recommended)	(Recommended)	(Recommended)	(Identified)	(Identified)	(Identified)	(Identified)
Quarterly Base Charge	$ 40.14	$ 44.81	$ 49.73	$ 52.62	$ 55.41	$ 58.35	$ 61.45	$ 64.71	$ 68.14	$ 71.76
Flow Charge	$ 8.09	$ 8.46	$ 8.81	$ 9.33	$ 9.83	$ 10.35	$ 10.90	$ 11.48	$ 12.09	$ 12.74
Effective Rate Revenue Increase	n/a	6.2%	5.9%	5.9%	5.5%	5.3%	5.3%	5.3%	5.3%	5.3%
Effective Rate Revenue Increase	n/a	6.2%	5.8%	5.9%	5.3%	5.3%	5.3%	5.3%	5.3%	5.4%

[3] Represents other operating revenues from lateral spur fees, connection charges, miscellaneous revenues, sale of property, etc

[4] Represents the proposed issuance of the Series 2024 UOSA Bonds, Series 2026 UOSA Bonds, and Series 2029 UOSA Bonds as well as the Series 2024 Bonds on or about January 1, 2024, the Series 2026 Bonds on or about January 1, 2026, and the Series 2028 Bonds on or about January 1, 2028. Terms assume 30 year level debt with proceeds to fund deposits to the debt service reserve fund.

[5] Includes Interest Income on debt proceeds and availability charge fund balances

[6] Includes capital funding from rate revenues, E&I fund balances and operating reserves

[7] Represents additional debt service from UOSA issued bonds on behalf of the County

[8] Represents restricted funds held on balance within the SC Fund for line extensions

Table 13
Fairfax County, Virginia
Wastewater Revenue Sufficiency and Rate Analysis

Comparison of Typical Quarterly Residential Bills for Wastewater Service [1][2]

Line No.	Description	Billing Cycle	Residential Service for a 5/8" or 3/4" Meter: 0 Gallons	2,000 Gallons	4,000 Gallons	6,000 Gallons	8,000 Gallons	10,000 Gallons	12,000 Gallons	16,000 Gallons	18,000 Gallons	20,000 Gallons	30,000 Gallons	40,000 Gallons
	Fairfax County													
1	Existing Rates - FY23 [3]	Quarterly	$40.14	$56.32	$72.50	$88.68	$104.86	$121.04	$137.22	$169.58	$185.76	$201.94	$282.84	$363.74
2	Proposed Rates - FY24 [3]	Quarterly	44.81	61.73	78.65	95.57	112.49	129.41	146.33	180.17	197.09	214.01	298.61	383.21
	Other Neighboring Utilities:													
3	City of Alexandria [3][4][5]	Monthly	39.42	67.06	94.70	122.34	149.98	177.62	205.26	260.54	288.18	315.82	454.02	592.22
4	Arlington County	Quarterly	11.09	30.31	49.53	68.75	87.97	107.19	126.41	164.85	184.07	203.29	299.39	395.49
5	DCWASA [4][6]	Monthly	66.05	96.15	126.25	156.35	186.45	216.55	246.65	306.85	336.95	367.05	517.55	668.05
6	Loudoun Water [4]	Quarterly	37.80	48.66	59.52	70.38	81.24	92.10	102.96	124.68	135.54	146.40	200.70	255.00
7	Prince William County S.A. [3][4]	Monthly	36.30	49.60	62.90	76.20	89.50	102.80	116.10	142.70	156.00	169.30	235.80	302.30
8	Washington Suburban Sanitary Commission [4][7]	Quarterly	29.38	45.60	61.82	78.04	101.46	119.48	137.50	210.18	232.78	255.38	477.28	626.58
9	**Other Neighboring Virginia Utilities' Average**		$36.67	$56.23	$75.79	$95.34	$116.10	$135.96	$155.81	$201.63	$222.25	$242.87	$364.12	$473.27

Footnotes:

[1] Unless otherwise noted, amounts shown reflect residential rates in effect October, 2022 and are exclusive of taxes or franchise fees, if any, and do not include any surcharges for service rendered outside the corporate limits of the local jurisdiction, for specific capital improvements or for any other purpose. All rates are as reported by the respective utility. This comparison is intended to show comparable charges for similar service for comparison purposes only and is not intended to be a complete listing of all rates and charges offered by each listed utility.

[2] It should be noted that utilities may differ as to the term of billing period (e.g., monthly billing) and units of measurement (e.g., ccf) used in order to determine the respective utility customer's wastewater bill. For purposes of this comparison, all bills shown have been adjusted to match bills rendered on a monthly basis and recognized in units of gallons.

[3] Unless otherwise noted, utilities shown cap the wastewater user charge based on a customers metered water use during the winter months (referred to as a "billing cap"). While the billing cap may vary by customer and by utility, for comparison purposes the billing cap was not reflected in order to present the potential wastewater bill for residential customers that may have higher use than the typical residential customer.

[4] Utilities shown bill a fixed cost or base charge per billing period per respective account or meter.

[5] Alexandria Renew Enterprises provides wastewater treatment services, while the City provides wastewater collection services. Alexandria Renew Enterprises incorporates a sewer billing cap, however the City does not and no cap was applied in calculation of the City's charges for this comparison.

[6] Amounts shown assumes: i) the Clean Rivers Impervious Area Charge of $18.14 per month associated with runoff entering the sewer system; ii) a 50% allocation of the $7.75 metering fee; iii) a 50% allocation of the a Right-of-Way fee to the District of Columbia of $0.25 per 1,000 gallons; iv) 50% allocation of the PILOT fee charged to water and wastewater customers of $0.79 per 1,000 gallons; and v) the residential wastewater flow charge of $15.05 per 1,000 gallons.

[7] The Washington Suburban Sanitary Commission ("WSSC") bills customers of the utility by calculating the respective customer's average daily flow of use, which is in turn used to determine the variable rate charged to the customer. The calculated bill assumes 5,333 gallons per month or approximately 175 gallons per day. Amounts shown assume a 50% allocation of the quarterly Account Maintenance fee of $17.04 and a $11.72 infrastructure fee. Amounts shown also include a Bay Restoration Fee of $5.00 per month.

Table 14
Fairfax County Wastewater Management
Fiscal Year 2023 Availability Charge Study

Calculation of Weighted Cost by Treatment Facility per MGD of Reserved Capacity

Line No.	Description	Treatment by Contract: Upper Occoquan Service Authority (UOSA)	Blue Plains Advanced Wastewater Treatment Plant - DC Water (Blue Plains)	Alexandria Renew Enterprises (ARE)	Arlington County Water Pollution Control Plant (Arlington)	Loudon County Sanitation Authority	Noman Cole (Fairfax County)	Total
	WASTEWATER TREATMENT							
1	Gross Fixed Capacity Rights / Assets [1]	$341,231,346	$343,412,799	$406,346,261	$52,877,446	$20,942,294	$800,627,676	$1,965,437,822
2	Less Fixed Asset Allocation to SOS Customers (Dont Direct Pay C	(15,440,332)	n/a	n/a	n/a	n/a	(47,798,667)	(63,239,000)
3	Less Donated Assets	n/a	n/a	n/a	n/a	n/a	(24,837)	(24,837)
4	Plus 10 Year CIP CIP (Inflated) [3]	65,951,519	243,905,942	134,202,049	21,140,000	0	561,349,572	1,026,549,081
5	Less Allowance for Retirements for CIP	n/a	n/a	n/a	n/a	n/a	(207,699,342)	(207,699,342)
6	Plus Land, Easements, and CWIP	n/a	n/a	n/a	n/a	n/a	137,154,367	137,154,367
7	Total	$391,742,532	$587,318,741	$540,548,310	$74,017,446	$20,942,294	$1,243,608,768	$2,858,178,092
8	Total Reserved Capacity (MGD)	22.10	31.00	32.40	3.00	1.00	67.00	156.50
9	Sales of Service Reservations (MGD) [4]	(1.00)	(4.80)	(1.00)	0.00	0.00	(9.45)	(16.25)
10	Net Retail Reservations	21.10	26.20	31.40	3.00	1.00	57.55	140.25
11	Less Reserved Capacity for Reliability (MGD)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Net Reliable Retail Capacity (MGD)	21.10	26.20	31.40	3.00	1.00	57.55	140.25
13	Cost per GPD of Reliable Capacity (Line 7 / $1,000,000 / Line 12)	$18.57	$22.42	$17.21	$24.67	$20.94	$21.61	$125.42
14	Other Adjustments [5]	$4.32	0.00	0.00	0.00	0.00	0.00	4.32
15	Adjusted Cost per GPD of Reliable Capacity	$22.89	$22.42	$17.21	$24.67	$20.94	$21.61	$129.74
16	Retail Customers Annual Treated Flows (10yr Max kgal) [6]	5,270,965	9,750,610	7,447,460	854,830	0	13,317,755	36,641,620
17	Retail Customers Annual Treated Flows (ADF-MGD)	14.44	26.71	20.40	2.34	0.00	36.49	100.39
18	Remaining Reliable Retail Capacity (MGD) (Line 12 - Line 17)	6.66	0.00	11.00	0.66	1.00	21.06	40.38
19	Capacity as % of Total Remaining Capacity	16.49%	0.00%	27.23%	1.63%	2.48%	52.17%	100.00%
20	**Weighted cost of Reliable Capacity for Retail Customers**	**$3.77**	**$0.00**	**$4.69**	**$0.40**	**$0.52**	**$11.27**	**$20.65**
	WASTEWATER NON-TREATMENT							
21	Gross Fixed Capacity Rights / Assets [1]	$4,434,649	$0	$5,893,325	$0	$0	$941,571,090	$951,899,065
22	Less Donated Assets	n/a	n/a	n/a	n/a	n/a	(230,001,685)	(230,001,685)
23	Less Grants	n/a	n/a	n/a	n/a	n/a	0	0
24	Plus 10 Year CIP CIP (Inflated) [3]	0	0	0	0	0	1,492,371,497	1,492,371,497
25	Less Allowance for Retirements for CIP	n/a	n/a	n/a	n/a	n/a	(552,177,454)	(552,177,454)
26	Plus Land, Easements, and CWIP	n/a	n/a	n/a	n/a	n/a	66,426,478	66,426,478
27	Total	$4,434,649	$0	$5,893,325	$0	$0	$1,718,189,927	$1,728,517,901
28	Net Reliable Retail Reservations (MGD)							140.25
29	**Cost per MGD of Capacity**							**$12.32**
30	**Treatment and Transmission Cost per MGD of Capacity**							**$32.97**

Footnotes:

[1] Amounts shown provided by the County and are booked net of the Sale of Service customers that make direct capital contributions.
[2] Reflects adjustment to remove SOS customer allocations that do not make direct capital contribution payments to the County (i.e., paid via rates)
[3] Amounts shown reflect the County's most recent CIP and include treatment and transmission projects only.
[4] Amounts shown represent reserved capacity for Sale of Service customers
[5] The adjustment shown is the to show the most recent cost of capacity as calculated by UOSA using an incremental approach while all other costs were calculated using the buy in method.
[6] The flows shown above are the 10 year max treated flows.

Table 15

Fairfax County Wastewater Management
Fiscal Year 2023 Availability Charge Study

Summary of Calculated and Existing Availability Fees

Line No.	Description	Fee
	Existing Availability Fee:	
	LOS GPD Basis	
1	Fee ($ per GPD)	$30.69
2	Level of Service (per GPD)	280
3	Fee ($ per ERC)	$8,592.00
	Fixture Unit Basis	
4	Fixture Units	20.00
5	Fee per fixture Unit	$430.00
6	Existing Fee	$8,600.00
	Calculated Availability Fee:	
7	Net Assets / CIP ($ per GPD)	$32.97
8	Level of Service (per GPD)	280
9	Fee ($ per ERC)	$9,232.87
	Carrying Costs:	
10	Years of Carry Cost	5.0
11	Current Weighted Cost of Capital	4.29%
12	Carry Cost ($ per ERC)	$1,981.77
13	Carry Cost ($ per GPD)	$7.08
	Total Calculated Fee	
14	Per ERC	$11,214.64
15	Per GPD	$40.05
	Total Calculated Fee (Rounded Down)	
16	Per ERC	$11,210.00
17	Per GPD	$40.04
18	Per Fixture Unit	$560.50
	Difference to Existing Fee:	
19	Change in Fee per GPD - Amount	$9.35
20	Change in Fee per GPD - Percent	30.47%
21	Change in Fee per Fixture Unit - Amount	$130.50
22	Change in Fee per Fixture Unit - Percent	30.35%
23	Change in LOS (per GPD) - Amount	0
24	Change in LOS (per GPD) - Percent	0.00%
25	Change in Fee per ERC - Amount	$2,618.00
26	Change in Fee per ERC - Percent	30.47%

Table 16

Fairfax County,
Virginia
Comparison of Availability Fee Charges for Equivalent Residential Unit [1]

Line No.	Description	Residential 5/8" x 3/4" Meter Wastewater
	Fairfax County	
1	Existing Availability Fee	$8,592
2	Recommended Availability Fee	$8,860
	Other Surveyed Virginia Utilities:	
3	City of Alexandria	$8,859
4	Arlington County [2]	$3,240
5	DCWASA	$2,809
6	Loudoun Water	$8,972
7	Prince William County S.A.	$10,800
8	Washington Suburban Sanitary Commission [3]	$14,500
9	Washington Suburban Sanitary Commission (Unimproved) [3]	$3,500
10	Other Surveyed Virginia Utilities' Average	$7,526

Footnotes:

[1] Unless otherwise noted, amounts shown reflect residential rates in effect December 2022 and are exclusive of taxes or franchise fees, if any, and reflect rates charged for inside the city service. All rates are as reported by the respective utility. This comparison is intended to show comparable charges for comparison purposes only.

[2] Impact Fee for Arlington County assumes 24 fixture units (DFU's) per Single Family Residential Uni at a cost of $135/DFU.

[3] WSSC charges a separate availability fees for areas designated as unimproved or "improved".