FAIRFAX COUNTY
WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

COMPREHENSIVE ANNUAL FINANCIAL REPORT

For the Fiscal Year Ended
June 30, 2018

INTEGRATED SEWER SYSTEM
An Enterprise Fund of the County of Fairfax, Virginia

Published November, 2018

Integrated Sewer System

An Enterprise Fund of the

County of Fairfax, Virginia

Fairfax County
Wastewater Management

Quality of Water = Quality of Life

Comprehensive Annual Financial Report

For the Fiscal Year Ended June 30, 2018

Department of Public Works and Environmental Services
12000 Government Center Parkway, Suite 358
Fairfax, Virginia 22035
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www.fairfaxcounty.gov

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

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Integrated Sewer System · County of Fairfax, Virginia
Comprehensive Annual Financial Report
For the Fiscal Years Ended June 30, 2018

Table of Contents

Page

Introductor Section (*unaudited*)

Financial Section

Required Supplemental Information Section (*unaudited*)

STATISTICAL SECTION (*unaudited*)

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

INTRODUCTORY SECTION

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Integrated Sewer System

An Enterprise Fund of the County

of Fairfax, Virginia

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

June 30, 2017

Christopher P. Morrill

Executive Director/CEO

November 20, 2018

The Board of Supervisors
County of Fairfax
Commonwealth of Virginia

Honorable Chairman and Members of the Board:

We are pleased to submit the Comprehensive Annual Financial Report (CAFR) for the County of Fairfax, Virginia (the County) Integrated Sewer System (the System) for the fiscal year ended June 30, 2018. The financial statements included in this report conform to U.S. generally accepted accounting principles (GAAP) as promulgated by the Governmental Accounting Standards Board (GASB). Responsibility for both the accuracy of the presented data and completeness and fairness of the presentation, including all disclosures, rests with management. To the best of our knowledge and belief, the enclosed data are accurate in all material respects and are reported in a manner that presents fairly the financial position and results of operations of the System. All necessary disclosures have been included to enable the reader to gain the maximum understanding of the System's financial affairs.

The General Bond Resolution dated July 29, 1985, governing the issuance of sewer revenue bonds, as modified through July 2009, requires an annual audit of the financial records and transactions of the System by independent certified public accountants. The System's financial statements for the year ended June 30, 2018, were audited by the accounting firm of Cherry Bekaert LLP. The independent auditor concluded, based upon the audit, that there was a reasonable basis for rendering their opinion that the financial statements are fairly presented in conformity with GAAP. The report of the independent auditor is presented in the financial section of this CAFR.

This CAFR consists of management's representations concerning the finances of the System. To provide a reasonable basis for making these representations, the System's accounting system is dependent upon a strong foundation of internal accounting controls to ensure that financial information generated is both accurate and reliable; however, because the cost of a control should not exceed the benefits to be derived, the objective is to provide reasonable, rather than absolute assurance that the financial statements are free of any material misstatements. GAAP requires that management provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of the Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. The System's MD&A can be found immediately following the report of independent auditor.

Profile of the System

The Fairfax County, Virginia Integrated Sewer System is operated as the Wastewater Management Program (WWM), one of four major activities of the Department of Public Works and Environmental Services, and governed by the County of Fairfax, Board of Supervisors. The System handles approximately 96 million gallons of wastewater per day (MGD) generated mostly from approximately 945,000 County residents. More than 85 percent of the 416,000 County housing units and virtually all businesses in the County are connected to the public sewer system.

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The System consists of over 3,200 miles of sewer lines and force mains ranging in size from 8 inches to 72 inches, 63 pump stations ranging in capacity from 0.1 to 37 MGD, and 57 metering stations. The total System workforce is 317 employees. The sewer service area covers approximately 234 square miles in the Potomac River Watershed, a tributary shed of the Chesapeake Bay Basin.

Nearby counties, cities, and towns served by the System receive service through sales of service agreements. The System currently has agreements with the Counties of Loudoun and Arlington, Fort Belvoir, the Cities of Fairfax and Falls Church, and the Towns of Herndon and Vienna. As prescribed by each service agreement, each entity shares in the cost of operating the System. Each entity's share is determined on the basis of actual wastewater flows or reserved treatment capacity.

To treat the wastewater flows generated, the System operates and maintains one advanced wastewater treatment plant, the 67 MGD Noman M. Cole, Jr. Pollution Control Plant, and has 90 MGD of purchased capacity entitlement at five non-County facilities, all of which are advanced wastewater treatment facilities. Purchased capacity entitlements are managed through treatment by contract agreements with the District of Columbia Water and Sewer Authority (the Blue Plains Advanced Water Treatment Facility), Loudoun County, Alexandria Renew Enterprises (ARE), Upper Occoquan Sewage Authority (UOSA), and Arlington County. In addition, the System has purchased 0.1 MGD of capacity from the Prince William County Service Authority. As prescribed by each agreement, the System pays its share of the operating, capital, and/or debt costs of each entity's system based on actual wastewater flows and allocated capacity.

Factor Affecting Financial Condition

Local Economy

Business, Professional, and Occupational License (BPOL) and Sales Taxes are two revenue sources that are good indicators of economic activity in the County. BPOL receipts increased 4.4 percent over the fiscal year 2017 level, the strongest growth since fiscal year 2011. Sales Tax receipts were up 3.1 percent for the year. The unemployment rate in the County as of July 2018 was 2.4 percent, compared to 3.1 percent in July 2017. Residential sewer connections in the system, which are a measure of system growth, grew 0.2% in fiscal year 2018.

Debt Management

To finance major capital projects, the System borrows money by issuing sewer revenue bonds or sharing in debt issued by other service authorities. Authorization to issue any debt or share in any debt service rests with the County's Board of Supervisors. As of June 30, 2018, the System had $345.4 million in sewer revenue bonds, $20.8 million in VRA financing, and $231.8 million in UOSA debt outstanding. The System continues to maintain its status as a top rated bond issuer: AAA from Fitch Investor Service (Fitch) and Standard and Poor's Corporation (S&P) and AAA from Moody's Investors Service, Inc (Moody's).

Note 8 to the Financial Statements provides information pertaining to future debt service payments. Section 3.0 in the Statistical Section provides historical information regarding debt coverage and debt service requirements of the System.

Relevant Financial Policies

Sewer rates are reviewed and revised annually as part of the County's annual strategic planning and budgeting process in order to minimize the annual cost impact on customers due to increases in funding needs for Wastewater Program funding. The System's volumetric sewer service charges and service base charge increased a combined 2.9 percent in fiscal year 2018.

Major Initiatives and Accomplishments

Nutrient Removal at Area Treatment Plants - In August 2004, the Virginia Department of Environmental Quality proposed reduced nutrient waste load allocations for Virginia wastewater treatment facilities as amendments to the Water Quality Management Regulation (9VAC25-720). These load allocations were then incorporated into the Virginia's Phase I Watershed Implementation Plan for meeting the EPA Chesapeake Bay Total Maximum Daily Loads (TMDL). To meet the load allocations, enhanced nutrient removal was required of all wastewater treatment plants serving Fairfax County to meet more stringent Chesapeake Bay water quality standards by January 1, 2011. Significant capital funding has been needed to bring treatment facilities into compliance. At the Noman M. Cole, Jr. Pollution Control Plant, a new Moving Bed Bioreactor was constructed and brought on line in 2012 to comply with the new waste load allocation. As a result of the new facility, the Noman M. Cole, Jr. Pollution Control Plant was under its new waste load allocation by more than 50 percent. In fiscal year 2018, total nitrogen discharges from the County's Noman M. Cole, Jr. Pollution Control Plant averaged less than 1.7 mg/l.

Solid Stabilization and Disposal - The Noman M. Cole, Jr. Pollution Control Plant initiated a Biosolids Program in fiscal year 2014 to meet the new EPA Clean Air Act regulations. Phase I includes replacement of the Venturi Scrubbers on the incinerators to provide compliance with the new Clean Air Act Maximum Available Control Technology requirements that went into effect in March 2016. This project started construction in fiscal year 2014 and is expected to be completed in fiscal year 2020. Phase II, the Interim Biosolids project, includes rehabilitation of the thickened sludge storage and mixing equipment, odor control facilities, and lime conditioning facilities. The construction phase of this project started in fiscal year 2017. Phase III of the program focuses on the rehabilitation of the existing incineration system and supporting biosolids processing infrastructure. The preliminary design work for this phase was completed in fiscal year 2015 and construction is expected to commence in fiscal year 2020.

In addition to investing in new facilities to meet the new nutrient requirements, the System is also reinvesting in existing infrastructure to ensure continued operation, safety, and compliance of existing facilities and processes. A sustained reinvestment in the existing System is necessary for continued long term service and compliance.

Primary and Secondary Renewal Program - In fiscal year 2016, the Noman M. Cole, Jr. Pollution Control Plant initiated a renewal program of the facility's primary and secondary process areas. The goal of the program is to renew facilities to address current and future process, technological, and capacity needs. The program currently has two major phases: interim sustaining improvements and the major renewal program, which includes piloting of technologies. Assessment and design of the interim sustaining improvements are in progress and construction is scheduled to start in fiscal year 2021. Depending on the results of piloting and the technologies selected, construction on the major renewal program is estimated to start between fiscal years 2028 and 2030.

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GFOA Certificate of Achievement for Excellence in Financial Reporting - For the fifteenth consecutive year, the Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the System for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 2017. In order to be awarded a Certificate of Achievement, a government entity must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both GAAP and applicable financial reporting requirements.

A Certificate of Achievement is valid for one year only. We believe our current CAFR continues to meet the Certificate of Achievement Program's requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate. The Certificate of Achievement is a prestigious national award recognizing conformance with the highest standards of state and local government financial reports.

NACWA Platinum Peak Performance Award - The System's Noman M. Cole, Jr. Pollution Control Plant received the Platinum Peak Performance Award from the National Association of Clean Water Agencies (NACWA), recognizing the facility's accomplishments in protecting water quality in the County. The award recognizes plants that meet 100 percent of federal standards for preventing pollution for more than 5 consecutive years. The System's Noman M. Cole, Jr. Pollution Control Plant has been in compliance for 20 consecutive years. The plant has protected the water quality of the County's streams and watersheds, as well as the Chesapeake Bay.

Extraordinary Environmental Enterprise - The Wastewater Management program has received the designation of Extraordinary Environment Enterprise (E4) from the Virginia Department of Environmental Quality (DEQ) Virginia Environmental Excellence Program (VEEP) for its Environmental Management System (EMS). Currently, approximately 450 public and private organizations participate in the VEEP EMS certification program at the E2, E3, and E4 levels. Of these 450 organizations, approximately 33 facilities within the State have reached the E4 level of certification. This designation recognizes facilities that have fully implemented an EMS emphasizing pollution prevention, environmental outreach, and sustainability. This program encourages facilities to exceed compliance with federal and local regulations and engage in environmental stewardship and sustainability practices.

Utility of the Future Recognition (UOTF) - The Wastewater Management Program received an inaugural Utility of the Future Today recognition by the Water Environment Federation, National Association of Clean Water Agencies, Water Environment & Reuse Foundation, and Water Reuse Association. The UOTF concept was first introduced in 2013 to guide utilities of all sizes toward smarter, more efficient operations and a progression to full resource recovery with enhanced productivity, sustainability, and resiliency. Only 61 utilities from around the world received the inaugural recognition.

Acknowledgments

We express our sincere appreciation to all staff who contributed to this CAFR, especially the members of the System's Wastewater Planning and Monitoring Division of the Department of Public Works and Environmental Services and the Financial Reporting Division of the Department of Finance, who prepared and compiled this report. We commend them for their professionalism, hard work, and continued efforts to improve this report.

This CAFR reflects our continued commitment to the citizens of Fairfax County, the Board of Supervisors, and all interested readers of this report to provide information in conformance with the highest standards of financial reporting.

Respectfully,

Bryan J. Hill County Executive	Joseph M. Mondoro Chief Financial Officer	Anand Goutam Financial Manager (Acting) Integrated Sewer System

Integrated Sewer System
County of Fairfax, Virginia

Urban County Executive Form of Government
As of June 30, 2018

Board of Supervisor

Sharon S. Bulova, Chairman	At-large
Penelope A. Gross, Vice Chairman	Mason District
John C. Cook	Braddock District
Daniel G. Storck	Mount Vernon District
John W. Foust	Dranesville District
Linda Q. Smyth	Providence District
Catherine M. Hudgins	Hunter Mill District
Patrick S. Herrity	Springfield District
Jeffrey C. McKay	Lee District
Kathy L. Smith	Sully District

County Executive

Bryan J. Hill

Deputy County Executive

Robert A. Stalzer

Department of Public Works and Environmental Services

James W. Patteson, Director

Wastewater Collection Divi ion

Stacey Smalls, Director

Wastewater Treatment Division

Michael McGrath, Director

Wastewater Planning and Monitoring Divi ion

Shahram Mohsenin, Director

Department of Management and Budget

Joseph M. Mondoro, Chief Financial Officer

Department of Finance

Christopher J. Pietsch, Director

Office of the Count Attorney

Elizabeth D. Teare, County Attorney

Fairfax County
Wastewater Management

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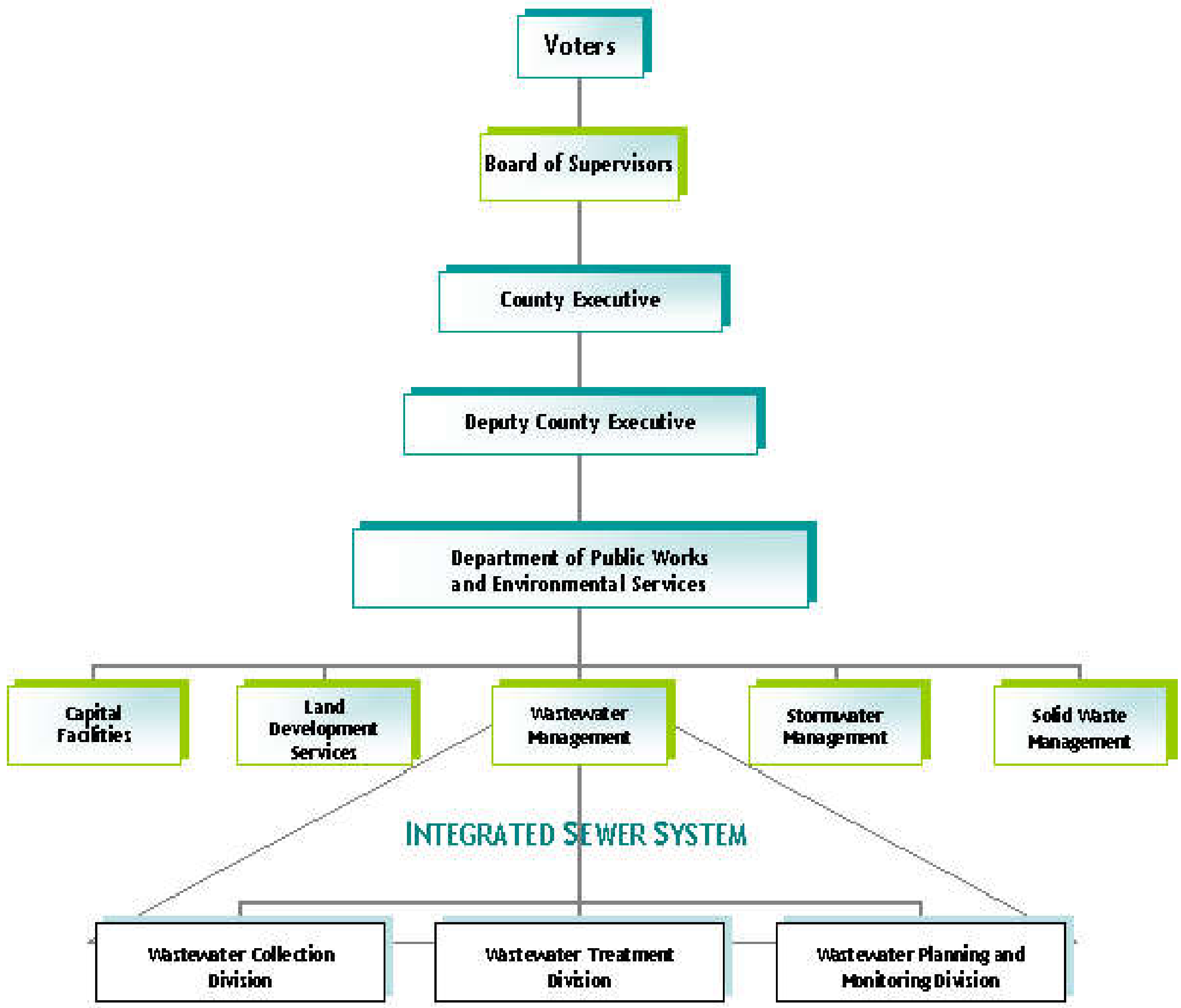
ORGANIZATION OF THE INTEGRATED SEWER SYSTEM · COUNTY OF FAIRFAX, VIRGINIA



This report was prepared by:

Count of Fairfax, Virginia
Wa te ater Management Program and Department of Finance

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Wastewater Management Program

Anand Goutam, CPA, Financial Manager (Acting)
Tho Duong
Yvonne T. Sullivan

Department of Finance

Christopher J. Pietsch, Director
Richard Modie Jr., Chief, Financial Reporting Division
Javed Khan, CPA, Financial Reporting Manager
Michelle Ashcraft, CPA
Lillian Cheng, CPA
Xuan Wang

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

FINANCIAL SECTION

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

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Cherry Bekaert LLP
CPAs & Advisors

Report of Independent Auditor

Board of Supervisors
County of Fairfax, Virginia

Report on the Financial Statements

We have audited the accompanying financial statements of the Integrated Sewer System (the "System"), an enterprise fund of the County of Fairfax, Virginia, as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

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, 2018, and the changes in financial position and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

Other Information

As discussed in Note 1(a), the financial statements referred to above present only the System and do not purport to, and do not present fairly the financial position of the County of Fairfax, Virginia, as of June 30, 2018, the changes in its financial position or its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Change in Accounting Principle

As discussed in Note 11 to the basic financial statements, the System implemented the provisions of Governmental Accounting Standards Board ("GASB") Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, during the year ended June 30, 2018. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3-9 and the required supplementary information on pages 43-45 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the GASB, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the System's basic financial statements. The introductory and statistical sections, as listed in the table of contents, are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The introductory and statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated November 19, 2018, on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

Cherry Bekaert LLP

Tysons Corner, Virginia
November 19, 2018

Integrated Sewer System · County of Fairfax, Virginia
Management's Discus ion and Anal is *(unaudited)*
June 30, 2018

This section of the County of Fairfax, Virginia Integrated Sewer System's (System) Comprehensive Annual Financial Report presents a discussion and analysis of the System's financial performance for the fiscal year that ended on June 30, 2018.

The System is a County of Fairfax, Virginia (County) business-type activity, which is funded separately from other County activities. The System is accounted for separately in an enterprise fund and it is included in the County's Comprehensive Annual Financial Report.

We encourage readers to consider the information presented here in conjunction with the System's financial statements and notes to the financial statements to enhance their understanding of the System's financial performance.

Financial Highlight

The System's total net position was $1,155.9 million as of June 30, 2018, compared to $1,108.3 million as of June 30, 2017, as restated due to the implementation of Governmental Accounting Standards Board (GASB) Statement No. 75.

Operating revenues of $199.8 million exceeded operating expenses of $164.7 million, which include depreciation and amortization of $63.7 million, by $35.1 million, for the year ended June 30, 2018. After factoring in non-operating revenues and expenses (availability fees, investment revenue, interest expense, and capital contributions), the result was a $47.6 million increase in net position for fiscal year 2018.

The System's cash and cash equivalents decreased by $10.2 million during fiscal year 2018, which is primarily due to a net cash outflow of $33.0 million from capital expenditures at the Noman M. Cole Treatment Plant. This decrease compares to a $93.8 million increase in the prior fiscal year, which was primarily due to a net cash inflow in 2017 from the sale of the Series 2017 sewer revenue bonds.

Overview of the Financial Statement

The financial section of this annual report consists of (1) the report of independent auditor, (2) this management's discussion and analysis, and (3) the financial statements of the System. The financial statements, which include notes to explain information presented in the financial statements and to provide more detailed data, report information about the System using the economic resources measurement focus and the accrual basis of accounting, which are similar to those used by private sector companies. The following required financial statements provide both short-term and long-term information about the System's overall financial status.

Statement of Net Position

The Statement of Net Position presents information on all of the System's assets, liabilities, and deferred inflows and outflows of resources, with assets and deferred outflows of resources less liabilities and deferred inflows of resources reported as net position. This statement provides information about the nature and the amounts of investments in resources (assets) and the obligations to the System's creditors (liabilities). It provides a basis for evaluating the capital structure of the System and assessing the liquidity and financial flexibility of the System.

Statement of Revenues, Expenses, and Changes in Net Position

All of the revenues and expenses for the fiscal year are accounted for in the Statement of Revenues, Expenses, and Changes in Net Position. This statement measures the results of the System's operations for the fiscal year and can be used to determine whether the System has successfully recovered all of its expenses through its user fees and charges and its other revenues.

Statement of Cash Flows

The Statement of Cash Flows reports all cash receipts, cash payments, and changes in cash from operating, investing, and capital and related financing activities. This statement provides information about all the sources and uses of cash and the net change in the balance of cash and cash equivalents for the fiscal year.

FINANCIAL ANAL SIS OF THE SYSTEM

Net Position

Net position may serve as a useful indicator of an entity's financial position. The following table presents a summary of the Statements of Net Position for the System as of June 30, 2018 and 2017:

Summary of Net Position
As of June 30
($ in millions)

	2018	$ Change	% Change	2017*
Assets:				
Current assets:				
Unrestricted	$ 152.7	16.9	12.4	$ 135.8
Restricted	117.0	(25.6)	(18.0)	142.6
Noncurrent assets:				
Capital assets (net)	1,569.5	38.4	2.5	1,531.1
Other non-current assets	1.8	(0.3)	(14.3)	2.1
Total assets	1,841.0	29.4	1.6	1,811.6
Deferred outflows of resources	35.9	(1.1)	(3.0)	37.0
Liabilities:				
Current liabilities	57.4	8.3	16.9	49.1
Noncurrent liabilities	657.1	(28.0)	(4.1)	685.1
Total liabilities	714.5	(19.7)	(2.7)	734.2
Deferred inflows of resources	6.4	0.3	4.9	6.1
Net position:				
Net investment in capital assets	1,038.4	34.4	3.4	1,004.0
Restricted	18.2	4.0	28.2	14.2
Unrestricted	99.4	9.3	10.3	90.1
Total net position	$ 1,156.0	47.7	4.3	$ 1,108.3

*Fiscal year 2017 has been restated due to GASB 75

Nearly 89.8 percent and 90.6 percent of the System's total net position for the fiscal years 2018 and 2017, respectively, is represented by its investment in capital assets (e.g. treatment plants, sewer lines, and equipment) net of depreciation and amortization, less the outstanding debt that was issued to acquire these assets. The $0.3 million increase in deferred inflows of resources in fiscal year 2018 is primarily attributable to the implementation of GASB 75 which established deferred inflows of resources related to other postemployment benefits (OPEB). See Note 7 to the financial statements for more information related to the OPEB plan and detailed information on the related deferred inflows of resources. Excluding the deferred inflows of resources related to GASB 75, the total deferred inflows of resources decreased by $1.0 million due to a $0.3 million decrease in deferred gain on refunding of debt and a $0.7 million decrease in deferred inflows of resources related to the pension plan. See Note 6 to the financial statements for more information related to the pension plan and detailed information on the related deferred inflows of resources. The $1.1 million decrease in deferred outflows of resources is primarily the result of a $2.0 million decrease in deferred loss on refunding of debt. Although the System's investment in its capital assets is reported net of related debt, it should be noted that the resources to pay this debt must be provided from other resources, since the capital assets themselves are not intended to be used to liquidate these liabilities. The $47.7 million increase in net position in fiscal year 2018 was primarily the result of operating revenue exceeding total operating expenses due to increased revenue from sales of service and capital contributions.

The restricted portion of net position represents resources that are subject to external restrictions on how they may be used. Certain assets are restricted for capital projects and for debt service. See Note 4 to the financial statements for detailed information pertaining to the restricted net position.

The unrestricted portion of net position represents resources that are not subject to any external restrictions as to use; hence, they are available for future operations. The $9.3 million increase of unrestricted net position for fiscal year 2018 was primarily due to capital contributions. The unrestricted amount also includes a $1.5 million decrease of unrestricted net position due to the implementation of GASB 75, resulting in the restatement of fiscal year 2017 ending net position. More information on this restatement can be found in Note 11 to the financial statements.

Changes in Net Position

The following table summarizes the Statements of Revenues, Expenses, and Changes in Net Position for the System for the fiscal years ended June 30, 2018 and 2017:

Summary of Revenues, Expenses, and Changes in Net Position
For the Fiscal Years Ended June 30
($ in millions)

	2018	$ Change	% Change	2017*
Operating revenues - sales of service	$ 199.8	4.0	2.0	$ 195.8
Less operating expenses:				
Personnel services	32.8	(0.3)	(0.9)	33.1
Materials and supplies	17.4	1.8	11.5	15.6
Contractual services and other	50.7	3.7	7.9	47.0
Depreciation and amortization	63.7	0.3	0.5	63.4
Total operating expenses	164.6	5.5	3.5	159.1
Operating income	35.2	(1.5)	(4.1)	36.7
Nonoperating revenues (expenses):				
Availability fees	26.0	0.8	3.2	25.2
Investment and other revenues	2.5	1.5	150.0	1.0
Interest and other expenses	(23.6)	(3.6)	18.0	(20.0)
Total nonoperating revenues (expenses)	4.9	(1.3)	(21.0)	6.2
Income/(Loss) before contributions	40.1	(2.8)	(6.5)	42.9
Capital contributions	7.6	(4.9)	(39.2)	12.5
Change in net position	47.7	(7.7)	(13.9)	55.4
Total net position at beginning of year as restated	1,108.3	55.4	5.3	1,052.9
Total net position at end of year	$ 1,156.0	47.7	4.3	$ 1,108.3

*Fiscal year 2017 total net position at end of year has been restated due to GASB 75.

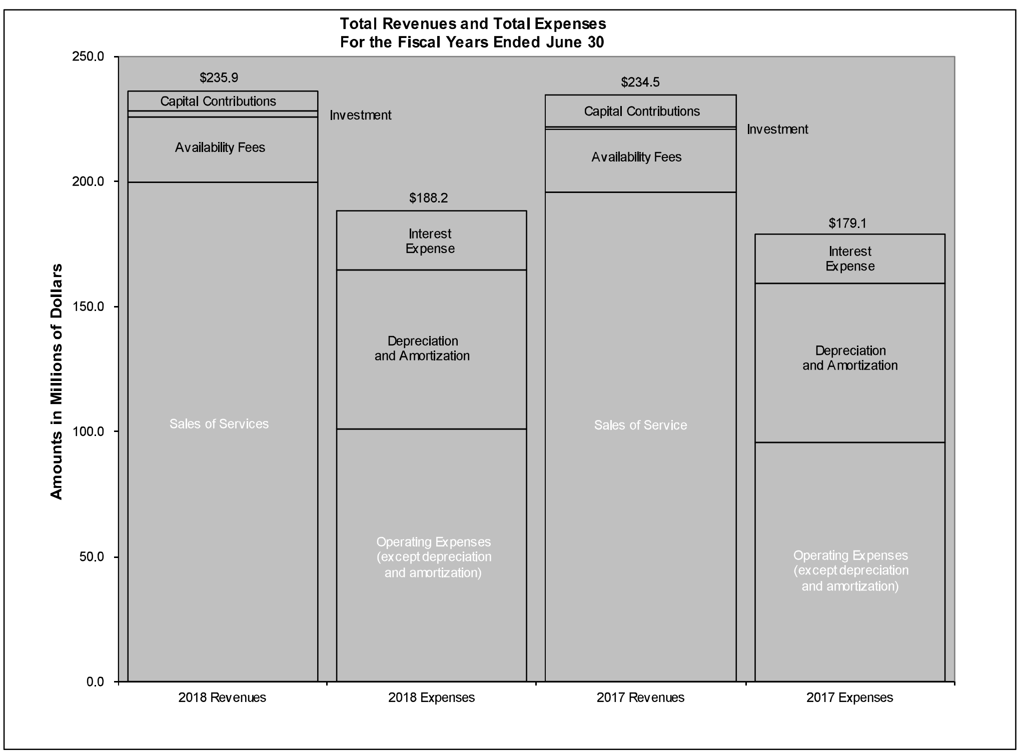
The System's operating revenues consist of volumetric service charges and a service base charge to County users and to neighboring jurisdictions, which reflect a 2.9 percent rate increase implemented during fiscal year 2018. Operating income in fiscal year 2018 decreased 4.1 percent compared to prior year, which is consistent with the increase in operating expenses. Operating expenses increased $5.5 million in fiscal year 2018. This was primarily due to an increase in personnel services, materials and supplies, and contractual services.

Sewer rates are established by the County Board of Supervisors pursuant to Chapter 67.1 of the County Code. Rates and code language are reviewed annually as part of the County's annual strategic planning and budgeting processes and are revised as necessary to ensure that rates generate revenues equitably from new and existing customers, based on the allocation of capital and operating costs, so that growth pays for growth.

System operations and upgrades are funded primarily through sewer service charges to existing customers based on water consumption, in 1,000 gallons, as measured by a water service meter. System expansion and increased treatment capacity is funded primarily through availability fees, one-time charges collected from new sewer customers prior to connection to the System.

The System owns and operates one treatment facility rated at 67.0 million gallons of wastewater per day (MGD), has a 22.6 MGD capacity entitlement in a joint venture facility, and has acquired capacity entitlements totaling 67.5 MGD at five facilities owned by neighboring jurisdictions. The System's share of renovation, upgrade, and expansion costs at non-System-owned facilities is reported as purchased capacity and amortized over ninety-nine years.

A graphic comparison of total revenues, including capital contributions, to total expenses for fiscal years 2018 and 2017 is shown below:



CAPITAL ASSETS AND LONG-TERM DEBT

Capital Assets

As of June 30, 2018, the System's gross investment in capital assets amounted to $2,665.7 million, or $1,569.5 million after deducting accumulated depreciation and amortization, as summarized in the table below:

Capital Assets As of June 30 ($ in millions)				
	2018	$ Change	% Change	2017
Land	$ 17.4	(0.1)	(0.6)	$ 17.5
Easement	0.6	0.1	20.0	0.5
Construction in progress	122.8	29.1	31.1	93.7
Buildings and improvements	1,439.7	58.9	4.3	1,380.8
Equipment	14.8	0.1	0.7	14.7
Purchased capacity	1,070.4	13.3	1.3	1,057.1
Gross capital assets	2,665.7	101.4	4.0	2,564.3
Accumulated depreciation and amortization	(1,096.2)	(63.0)	6.1	(1,033.2)
Total capital assets, net	$ 1,569.5	38.4	2.5	$ 1,531.1

The $101.4 million increase in gross capital assets during fiscal year 2018 reflects the following major capital asset additions, which were funded with available resources:

The ongoing improvement costs of the System's wastewater treatment facilities at its Noman M. Cole Pollution Control Plant amounted to $67.3 million.

The System's share of the ongoing upgrade costs of the Alexandria Sanitation Authority and the District of Columbia's wastewater treatment facilities, which provide service to certain County residents, were $0.4 million and $16.6 million, respectively.

Improvements to sewer lines and pumping stations in the System, other than donations from developers, totaled $14.8 million.

Developers contributed sewer lines and manholes valued at $2.3 million.

Additional information relative to the System's capital assets can be found in Note 5 to the financial statements.

Long-term Debt

The following is a summary of the System's gross outstanding long-term debt as of June 30, 2018 and 2017:

Gross Outstanding Debt As of June 30 ($ in millions)				
	2018	$ Change	% Change	2017
Sewer revenue bonds	$ 345.4	(8.4)	(2.4)	$ 353.8
Subordinated bonds:				
Sewer revenue bonds	20.8	(5.7)	(21.5)	26.5
System's share of UOSA's debt	231.8	(10.8)	(4.5)	242.6
Total outstanding debt	$ 598.0	(24.9)	(4.0)	$ 622.9

The $345.4 million of outstanding sewer revenue bonds and sewer revenue refunding bonds, issued by the System in 2017, 2016, 2014, 2012, and 2009, are currently rated AAA by Fitch and S&P and AAA by Moody's. These credit ratings are higher than those obtained by most sewer authorities and they have enabled the County to sell bonds on behalf of the System at lower interest rates, thereby achieving savings throughout the life of the bonds.

The System did not issue any sewer revenue bonds or sewer revenue refunding bonds in fiscal year 2018.

In June 2002 and June 2001, the System issued twenty-year subordinated sewer revenue bonds in the amounts of $50 million and $40 million at interest rates of 3.8 percent and 4.1 percent, respectively, to the Virginia Water Facilities Revolving Fund, acting by and through the Virginia Resources Authority (VRA), to fund its share of the ongoing expansion costs of the Alexandria Renew Enterprises' waste-water treatment facilities, which provide service to certain County residents. In September 2012, the System executed a rate reduction agreement with VRA, reducing the interest rates on these bonds to 2.4 percent. In May 2016, the System executed another rate reduction agreement with VRA, reducing the interest rates on these bonds to 0.95 percent. As of June 30, 2018, the outstanding balance of these subordinated sewer revenue bonds was $20.8 million.

The Upper Occoquan Sewage Authority (UOSA), a joint venture that operates a regional sewage facility, issued regional sewer system revenue refunding bonds in November 2013, May 2013, November 2004, and February 2007 to advance refund certain of its outstanding bonds. In December 2010 and 2007, UOSA issued regional sewer system revenue bonds to fund certain capital improvements. In fiscal year 2012, UOSA entered into VRA loans 2011A and 2011B to fund costs related to the Energy Service project and Phase 1 of the Nutrient Compliance Improvement project (P1NR), respectively. In fiscal year 2015, UOSA advance refunded a portion of the total Series 2007A and 2007B bonds. Of the outstanding balance, $93,175,291 was advance refunded into the Series 2014 bonds. In fiscal year 2016, UOSA advance refunded the $19,015,689 remaining outstanding balance of the Series 2007B bonds into the Series 2016B bonds. As of June 30, 2018, the System's share of UOSA's outstanding debt is $231.8 million.

The System is required by the covenants of the 2009 General Bond Resolution to generate net revenues at least equal to the debt service on its sewer revenue bonds each year. Net revenues are defined as all revenues, except grants and contributed assets, less operating expenses, except depreciation and amortization. The ratio of net revenues to debt service for the senior sewer revenue bonds was 4.65 and 5.92 for fiscal years 2018 and 2017, respectively. The fiscal year 2018 ratio is less favorable than the fiscal year 2017 ratio. Taking all long-term debt into account, the ratio is 2.34 and 2.38 for fiscal years 2018 and 2017, respectively. The fiscal year 2018 ratio is less favorable than the fiscal year 2017 ratio.

Additional information related to the debt coverage ratios is contained in Table 3.2 of the statistical section of this report. Additional information relative to the System's long-term debt can be found in Note 8 to the financial statements.

Economic Factors and Next Year's Budget and Rates

The following factors, decisions, and conditions are expected to have a significant effect on the financial position and the results of operations for fiscal year 2019 and beyond:

The sewer service charge rate to System users will increase from $6.75 to $7.00 per 1,000 gallons of water consumption and the sewer service base charge will increase from $27.62 to $30.38 for residential customers for fiscal year 2019. Subsequent rate increases for the sewer service charge to $7.34, $7.70, $8.08, and $8.56, along with increases to the sewer service base charge to $33.42, $36.76, $40.44, and $42.87 for fiscal years 2020, 2021, 2022, and 2023, respectively, have also been approved. The base charge for commercial customers is based on the meter size.

Sewer availability fees have not been increased for fiscal year 2019. No sewer availability fee increases have been approved for fiscal years 2020, 2021, 2022, and 2023. Unit sales of sewer availability taps averaged 70 per month during the first quarter of fiscal year 2019, compared to 328 per month during the comparable period of fiscal year 2018.

Interest rates on the County's investments through the first quarter of fiscal year 2019 have been approximately 2.19 percent, an increase from fiscal year 2018 rates.

The System's adopted budget for operating expenses, excluding depreciation and amortization, for fiscal year 2019 is $102.3 million. The System's adopted budget for capital asset acquisitions for fiscal year 2019 is $70.0 million, to be funded with available resources and bond proceeds. This budget includes $26.5 million for the rehabilitation and renovation of the System's sewer lines, $14.7 million for upgrades to the county-owned treatment plant, and $16.1 million, $1.3 million, and $11.4 million for the System's share of the upgrade costs of the Alexandria Renew Enterprises, Arlington, and District of Columbia wastewater treatment facilities, respectively.

Contacting the System's Financial Management

This financial report is designed to provide the System's customers, investors, and creditors with a general overview of the System's finances and to demonstrate the System's accountability for the money it receives. If you have questions about this report or need additional financial information, please contact the County of Fairfax, Virginia, Department of Finance, 12000 Government Center Parkway, Fairfax, Virginia, 22035.

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

Fairfax County
Wastewater Management

Quality of Water = Quality of Life

INTEGRATED SEWER SYSTEM · COUNTY OF FAIRFAX, VIRGINIA
STATEMENT OF NET POSITION
June 30, 2018

		2018
Assets		
Current assets:		
Cash and cash equivalents	$	101,259,206
Due from other governmental entities (Note 2):		
Service charges		24,490,475
Unbilled service charges		25,627,558
Accounts receivable		877,688
Inventories		405,847
Total unrestricted assets		152,660,774
Restricted assets (Note 4):		
Cash and cash equivalents		76,293,792
Temporary investments with fiscal agent (Note 3)		18,178,132
Investments with fiscal agent (Note 3)		22,528,545
Total restricted assets		117,000,469
Total current assets		269,661,243
Long-term assets:		
Capital assets (Note 5):		
Non-depreciable:		
Land		17,407,323
Easement		617,363
Construction in progress		122,760,500
Depreciable/amortizable:		
Building, improvements, and sewer lines		1,439,736,159
Equipment		14,810,738
Purchased capacity		1,070,403,023
Gross capital assets		2,665,735,106
Accumulated depreciation and amortization		(1,096,184,612)
Total capital assets, net		1,569,550,494
Other non-current assets:		
Accounts receivable		1,775,084
Total long-term assets		1,571,325,578
Total assets		1,840,986,821
Deferred Outflows of Resources		
Deferred outflow related to pensions (Note 6)		12,533,891
Deferred outflow related to other postemployment benefits (Note 7)		662,370
Deferred loss on refunding of debt		22,691,621
Total deferred outflows of resources		35,887,882
Total assets and deferred outflows of resources	$	1,876,874,703

continued

		2018
Liabilities		
Current liabilities:		
Accrued salaries and wages	$	1,590,548
Accounts payable and accrued liabilities		830,983
Contracts payable		17,043,668
Accrued interest payable		7,015,429
Compensated absences (Note 8)		1,459,927
Bonds payable (Notes 8 and 9)		29,461,773
Total current liabilities		57,402,328
Long-term liabilities:		
Net pension liability (Note 6)		35,335,899
Net other postemployment benefit liability (Note 7)		1,039,781
Compensated absences (Note 8)		642,266
Bonds payable (Notes 8 and 9)		620,110,331
Total long-term liabilities		657,128,277
Total liabilities		714,530,605
Deferred Inflows of Resources		
Deferred inflow related to pensions (Note 6)		2,003,220
Deferred inflow related to other postemployment benefits (Note 7)		1,297,436
Deferred gain on refunding of debt		3,132,266
Total deferred inflows of resources		6,432,922
Total liabilities and deferred inflows of resources		720,963,527
Net Position		
Net investment in capital assets		1,038,360,082
Restricted for (Note 4):		
Debt service		18,178,132
Unrestricted		99,372,962
Total net position	$	1,155,911,176

See accompanying notes to the financial statements. concluded

INTEGRATED SEWER SYSTEM ▪ COUNTY OF FAIRFAX, VIRGINIA
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET PO ITION
For the Fiscal Year Ended June 30, 2018

	2018
Operating Revenue	
Sales of service	$ 199,758,856
Total operating revenue	199,758,856
Operating Expenses	
Personnel services	32,841,348
Materials and supplies	17,421,987
Contractual services	50,481,605
Depreciation and amortization	63,654,892
Professional fees	251,504
Total operating expenses	164,651,336
Operating income	35,107,520
Nonoperating Revenue (Expenses)	
Availability fees	25,974,491
Interest income	2,525,508
Interest expense	(23,635,250)
Gain on disposal of fixed assets	54,378
Total nonoperating revenues (expenses)	4,919,127
Income before contributions and transfers	40,026,647
Capital Contributions	
Grants	5,315,145
From developers	2,299,780
Total capital contributions	7,614,925
Change in net position	47,641,572
Total net position at beginning of year as restated (Note 11)	1,108,269,604
Total net position at end of year	$ 1,155,911,176

See accompanying notes to financial statements.

Integrated Sewer System · County of Fairfax, Virginia
Statement of Cash Flows
For the Fiscal Year Ended June 30, 2018

	2018
Cash Flows from Operating Activities	
Receipts from customers and users	$ 198,126,387
Payments to employees	(31,591,666)
Payments to suppliers and contractors	(65,088,928)
Net cash provided by operating activities	101,445,793
Cash Flows from Capital and Related Financing Activities	
Capital grants received	5,315,145
Increase in contracts payable	5,727,158
Availability fees received	25,974,491
Principal payments on revenue bonds	(21,191,473)
Interest payments on revenue bonds	(22,152,456)
Purchase of capital assets other than purchased capacity	(86,460,526)
Acquisition of purchased capacity	(17,039,367)
Proceeds from the sale of capital assets	54,378
Net cash used by capital and related financing activities	(109,772,650)
Cash Flows from Investing Activities	
Sale of restricted investments	21,798,234
Purchase of restricted investments	(25,790,546)
Interest received	2,108,592
Net cash used by investing activities	(1,883,720)
Net Decrease in Cash and Cash Equivalents	(10,210,577)
Cash and cash equivalents at beginning of year, unrestricted and restricted	187,763,575
Cash and cash equivalents at end of year, unrestricted and restricted	$ 177,552,998

Reconciliation of operating income to net cash provided by operating activities

Operating income	$ 35,107,520
Adjustments to reconcile operating income to net cash provided by operating activities:	
Depreciation and amortization expense	63,654,892
Changes in assets and liabilities:	
Increase in due from other governmental entities	(1,632,469)
Decrease in inventories and other assets	4,449,559
Decrease in accounts payable and accrued liabilities, net of interest	(1,445,136)
Increase in pension and OPEB related deferred outflows and deferred inflows	1,311,427
Total adjustments	66,338,273
Net cash provided by operating activities	$ 101,445,793

Noncash investing, capital, and financing activities

Capital contributions - sewer lines, manholes, etc.	$ 2,299,780
Amortization of bond premium	2,398,520
Increase in fair value of investments not classified as cash and cash equivalents	86,932
Removal of purchased capacity through credit of UOSA debt	3,699,307
UOSA adjustment to bond payments	57,509

See accompanying notes to the financial statements.

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

Integrated Sewer System · County of Fairfax, Virginia
Notes to the Financial Statement
June 30, 2018

(1) Summary of Significant Accounting Policies

(a) Basis of Presentation

The County of Fairfax, Virginia Integrated Sewer System (System) is an enterprise fund of the County of Fairfax, Virginia (County), and provides sewer services to approximately 1.0 million residents through a County-wide sewer system of over 3,200 miles of sewer lines. The sewer service area, approximately 234 square miles, is defined and controlled through the County of Fairfax Board of Supervisors (Board). The System is governed by the Board and managed and operated separately as the Wastewater Management Program, one of five major activities of the County's Department of Public Works and Environmental Services.

As a County business-type activity, System financial information is separately accounted for in an enterprise fund and is included in the County's Comprehensive Annual Financial Report (CAFR).

These financial statements are only of the operations of the System and are not intended to present the financial position, changes in financial position, or, where applicable, cash flows of the County.

(b) Basis of Accounting

The System is required to recover the costs of providing services, including capital costs, through user charges. Accordingly, the System uses enterprise fund accounting, an economic resources measurement focus, and the accrual basis of accounting. Consequently, revenues are recognized when earned and expenses are recorded as incurred. The System defines operating revenues and expenses as those directly related to providing sewer services. Operating revenues consist of charges to System users. Operating expenses include personnel, materials and supplies, services purchased from other local jurisdictions, and depreciation and amortization of capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses. These include sewer availability fees, bond issue costs, gain (loss) on disposal of capital assets, investment earnings, and interest on outstanding debt.

(c) Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

(d) Tax Status

The System, as part of a local government, is not subject to federal, state, or local income taxes and, accordingly, no provision for income taxes is made.

(e) Sewer Service Charges

The major sources of revenue for the System are sales to existing customers for continuing sewer service. Customers are charged for sewer service based on metered water usage in addition to a base charge, which is determined by meter size. Sewer service charges are designed to recover the costs of operation and maintenance of the System as well as debt service and capital project costs attributable to supporting or improving wastewater treatment services to the System's customers. Sewer service charges are recorded as operating revenue.

(f) Unbilled Service Charges

An estimated amount has been recorded for services rendered but not yet billed as of the close of the fiscal year. This estimated receivable is calculated by prorating water consumption and billings for certain prior months.

(g) Availability Charges

New customers connecting to the System are required to pay an availability fee before obtaining a building permit in the County. Availability fees are used to recover the construction and financing costs associated with expanding System capacity. Availability fees are reported as nonoperating revenue.

In fiscal year 2015, a payment plan for an availability charge was established with a customer. This payment arrangement necessitated presenting the accounts receivables due beyond one year, as a long-term receivable.

(h) Cash and Investments on Deposit with the County of Fairfax, Virginia

The System maintains the majority of its available cash in a cash and investment pool administered by the County. Such amounts are considered to be cash equivalents for purposes of the Statement of Cash Flows. To optimize investment returns, the System's funds are invested together with all other County pooled funds, all of which are fully insured or collateralized. The County allocates, on a monthly basis, any investment earnings based on the System's average balance in pooled cash and investments less an administrative charge.

(i) Flow Assumption for Restricted Assets

Restricted assets are liquid assets which have third-party limitations on their use. When both restricted and unrestricted assets are available for use, it is the System's policy to use restricted resources first and then unrestricted assets when needed. See Note 4 for additional information regarding restricted assets.

(j) Investments

Pooled investments and investments held by fiscal agent consist primarily of U.S. government securities that mature in less than one year from the date of purchase and discount government-sponsored enterprise (GSE) securities, which are stated at amortized cost unless otherwise noted.

(k) Inventories

Inventories are carried at cost using an average unit cost method. The System's inventories consist of operating supplies and certain system replacement parts.

(l) Capital Assets

Capital assets that individually cost $5,000 or more with a useful life of more than one year are capitalized and recorded at cost. Contributed capital assets are recorded at their estimated acquisition value on the date of donation. Capital assets are depreciated or amortized over their estimated useful lives using the straight-line method. The estimated useful lives are as follows:

Sewer lines	50 years
Buildings	20-50 years
Purchased capacity	99 years
Improvements	15-25 years
Equipment	5-20 years

For constructed assets, all costs necessary to bring such assets to the condition and location necessary for their intended use are initially treated as construction in progress and, subsequently, as buildings, improvements, or purchased capacity once the assets are substantially complete. Depreciation and amortization on constructed assets begin when the assets are substantially ready for their intended use.

(m) Retirement and Other Postemployment Benefit Plans

Employees of the System participate in the Fairfax County Employees' Retirement System (Retirement plan) and the Fairfax County Other Postemployment Benefit (OPEB) plan. The net pension liability, net OPEB liability, and associated deferred outflows of resources and deferred inflows of resources are reported with a one year lag when compared with the fiduciary net positions as reported by the retirement plan and OPEB plan. Employer contributions to the retirement plan and OPEB plan during the current fiscal year are reflected as deferred outflows of resources which will impact the net pension liability and net OPEB liability of the subsequent year. Benefits and refunds are recognized when due and payable in accordance with the terms of the plans. Detailed information about the retirement plan is found in Note 6 and detailed information about the OPEB plan is found in Note 7.

(n) Compensated Absences

Employees earn vacation pay based on a prescribed formula, which allows employees with less than 10 years of service to accumulate a maximum of 240 hours and employees with 10 years or more of service to accumulate a maximum of 320 hours of vacation benefits as of the end of each calendar year. In addition, employees may accrue compensatory leave for hours worked in excess of their scheduled hours. Compensatory leave in excess of 240 hours at the end of the calendar year is forfeited. The current pay rate and certain employer-related fringe benefits are used to calculate the year end accruals. At June 30, 2018, the System accrued $2,102,193 for such compensated absences.

(o) Intergovernmental Agreements

The County has entered into several intergovernmental agreements for the purpose of sharing sewage flow and treatment facility costs. The payments to other governmental units made to reimburse operating costs are reported as expenses in the year incurred. The interest payments for debt service are reported as nonoperating expenses. The payments made for construction costs for facility capacity expansions are reported as purchased capacity (Notes 5 and 9). Through these capital payments, the System has exclusive entitlements to treatment capacities at other governmental sewage treatment facilities.

(2) Due From Other Governmental Entities

Amounts due from other governmental entities consist of customer service charges, which are billed and collected by Fairfax Water and other local water authorities, and sales of sewer services to other jurisdictions which utilize the System's sewage treatment and collection facilities.

The Board appoints the members of the board of Fairfax Water; however, the County's accountability does not extend beyond making the appointments. During fiscal year 2018, Fairfax Water collected approximately $188.0 million on behalf of the System. As of June 30, 2018, the System had receivables of approximately $42.4 million due from Fairfax Water and $7.7 million due from other governmental entities.

(3) Deposits and Investment

The System's available cash is invested in the County's cash and investment pool. The County maintains an investment policy, the overall objectives of which are the preservation of capital and the protection of investment principal; maintenance of sufficient liquidity to meet operating requirements; conformance with federal, state, and other legal requirements; diversification to avoid incurring unreasonable risks regarding specific security types or individual financial institutions; and attainment of a market rate of return. Oversight of investment activity is the responsibility of the Investment Committee, which is comprised of the chief financial officer and certain key management and investment staff.

The Code of Virginia (Code) authorizes the County and the System to purchase the following types of investments:

- Commercial paper
- U.S. Treasury and agency securities
- U.S. Treasury strips
- Certificates of deposits and bank notes
- Insured deposits
- Demand deposit accounts
- Money market funds
- Bankers acceptances
- Repurchase agreements
- Medium term corporate notes
- Local government investment pool (LGIP)
- Asset-backed securities
- Hedged debt obligations of sovereign governments
- Securities lending programs
- Obligations of the Asian Development Bank
- Obligations of the African Development Bank
- Obligations of the International Bank for Reconstruction and Development
- Obligations of the Commonwealth of Virginia and its instrumentalities
- Obligations of counties, cities, towns, and other public bodies located within the Commonwealth of Virginia
- Obligations of state and local government units located within other states
- Savings accounts or time deposits in any bank or savings institution within the Commonwealth that complies with the Code
- Qualified investment pools
- Supranationals

However, the County's investment policy precludes the investment of pooled funds in derivative securities, reverse repurchase agreements, security lending programs, asset-backed securities, hedged debt, obligations of sovereign governments, obligations of the Commonwealth of Virginia and its instrumentalities, obligations of counties, cities, towns, and other public bodies located within the Commonwealth of Virginia, and obligations of state and local government units located within other states.

(a) Interest Rate Risk

The System's investment in the pool is covered by the County's policy to minimize the risk that the market value of securities in its portfolio will fall due to changes in market interest rates. To achieve this minimization of risk, the County structures the pooled investment portfolio so that sufficient securities mature to meet cash requirements for ongoing operations, thereby avoiding the need to sell securities on the open market prior to maturity. Pooled investments that are purchased to meet liquidity needs shall have a target weighted average maturity of 90 days. All other pooled funds are invested primarily in shorter-term securities.

(b) Credit Risk

It is the County's policy to minimize the risk of loss due to the failure of an issuer or other counter party to an investment to fulfill its obligations. The County pre-qualifies financial institutions, broker-dealers, intermediaries, and advisers with which the County does business. Based on the County's investment policy, the pooled investments are limited to relatively low-risk types of securities and are diversified so that potential losses on individual securities will be minimized. Also, new investments shall not be made in securities that are listed on Moody's Watchlist or S&P's Credit Watch with a short term negative rating. Moody's, S&P, and Fitch are nationally recognized statistical rating organizations (NRSROs) serving investors, regulators, and issuers. The policy specifies the following acceptable credit ratings for specific types of investments in the pooled portfolio:

- U.S. government agency and GSE instruments should have a rating of at least P-1 by Moody's and A-1 by S&P. In those instances when an instrument does not have a rating, a thorough credit and financial analysis will be conducted by County investment staff.

- Prime quality commercial paper must be rated by at least two of the following: Moody's, with a minimum rating of Prime 1; S&P, with a minimum rating of A-1; Fitch Investor's Services, Inc. (Fitch), with a minimum rating of F-1; or by Duff and Phelps, Inc., with a minimum rating of D-1.

- Mutual funds must have a rating of AAA or better by S&P, Moody's, or another nationally recognized rating agency.

- Negotiable certificates of deposit must have a rating of at least A-1 by S&P and P-1 by Moody's if less than one year and a rating of AA by S&P if more than one year.

- Banker's acceptances must be rated by at least two of the following: Moody's, with a rating of P-1; S&P, with a rating of A-1; Fitch, with a rating of F-1; Duff and Phelps, Inc., D-1.

- LGIP bond funds must have a rating of AAA by S&P and the Virginia Investment Pool Stable NAV Liquidity Pool must have a rating of AAAm by S&P.

- Corporate notes must have a rating of at least Aa by Moody's and a rating of at least AA by S&P.

- Supranationals must have a rating of AAA or better by S&P or Moody's.

The portfolio weighted average maturity for the County's entire cash and investment pool was 139 days as of June 30, 2018. The County's portfolio, as of June 30, 2018, consisted of investments with credit quality ratings as follows:

AA	A-1	AAA-m	Unrated	Total
15.2%	57.3%	4.3%	23.2%	100.0%

(c) Concentration of Credit Risk

The County's investment policy sets the following limits for the types of securities held in its pooled investment portfolio:

U.S. Treasury securities and agencies	100%	maximum
Negotiable certificates of deposit	40%	maximum
Banker's acceptances	35%	maximum
Commercial paper	35%	maximum
Repurchase agreements	30%	maximum
Mutual funds	30%	maximum
Virginia Investment Pool - LGIP daily liquidity	30%	maximum
Corporate notes	25%	maximum
Non-negotiable certificates of deposit	25%	maximum
Virginia Investment Pool - LGIP bond fund	25%	maximum
Insured certificates of deposit	15%	maximum
Bank demand deposit	10%	maximum
Supranationals	10%	maximum

In addition, not more than 5 percent of the total pooled funds available for investment at the time of purchase may be invested in any one issuing or guaranteeing corporation for commercial paper, banker's acceptances, corporate notes, and bank notes.

(d) Custodial Credit Risk

For deposits, custodial credit risk is the risk that in the event of a failure of a depository financial institution, the reporting entity may not recover its deposits. In accordance with the Virginia Security for Public Deposits Act (Act), all of the County's deposits are covered by federal depository insurance or collateralized in accordance with the Act, which provides for the pooling of collateral pledged by financial institutions with the Treasurer of Virginia to secure public deposits as a class. No specific collateral can be identified as security for one public depositor and public depositors are prohibited from holding collateral in their name as security for deposits. If any member financial institution fails, the entire collateral pool becomes available to satisfy the claims of governmental entities. If the value of the pool's collateral is inadequate to cover a loss, additional amounts are assessed on a pro rata basis to the members of the pool. The State Treasury Board is responsible for monitoring compliance with the collateralization and reporting requirements of the Act and for notifying local governments of compliance by participating financial institutions. A multiple financial institution collateral pool that provides for additional assessments is similar to depository insurance. Therefore, funds deposited in accordance with the requirements of the Act are considered to be fully insured.

For investments, custodial credit risk is the risk that the County will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party in the event of the failure of a counter party. Per policy, all of the pooled investments purchased by the County are insured, collateralized, registered, or are securities held by their agent in the County's name.

Additional information, including information by investment type related to the interest rate risk and the credit risk pertaining to the entire cash and investment pool, can be found in the County's CAFR for the fiscal year ended June 30, 2018.

(e) Fair Value Measurement

The reporting entity's pooled investments and investments held by fiscal agent are reported at fair value. Money market funds and investments that have a remaining maturity at the time of purchase of one year or less are carried at amortized cost, which is an approximation of fair value. The fair value of all other investments is determined annually based on current market prices. The reporting entity categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the source and type of information used to determine the fair value of the asset. Level 1 information is unadjusted quoted prices for identical instruments in accessible active markets. Level 2 information is quoted prices for similar assets in active markets, quoted prices for identical or similar assets in inactive markets, or quoted prices that are observable, either directly or indirectly from a source other than an active market. Level 3 includes unobservable information to arrive at a valuation. As of June 30, 2018, the System held $18,879,978 of investments in U.S. GSE securities that are carried at fair value using Level 1 information. As of June 30, 2018, the System held total investments as follows:

	2018
U.S. Government-sponsored enterprise securities (measured at fair market value)	$ 18,879,978
Money market funds (measured at amortized cost)	21,826,699
Total investments	$ 40,706,677

(4) RESTRICTED ASSETS AND RESTRICTED NET POSITION

As of June 30, 2018, the System had restricted cash and investments of $117,000,469 for certain purposes in order to manage its funds in accordance with the 1985 General Bond Resolution (the Resolution), as modified through July 2009. The Resolution requires the System to set aside or restrict funds for certain purposes including sewer construction, extensions and improvements, establishing a long-term debt service reserve, and funding current debt service requirements. The System's restricted assets and restricted net position as of June 30, 2018 are as follows:

	2018
Assets restricted for:	
Capital projects	$ 70,318,900
Long-term debt service requirements:	
Sewer revenue bonds:	
Series 2009, 2012, 2014, 2016A, and 2017	22,528,545
Subordinated sewer revenue bonds:	
VRA 2001	2,698,281
VRA 2002	3,276,611
Total long-term debt service requirements	28,503,437
Current debt service requirements	18,178,132
Total restricted assets	117,000,469
Less related debt:	
Long-term debt service requirements	(28,503,437)
Long-term debt related to unspent bond proceeds	(70,318,900)
Total restricted net position	$ 18,178,132

(5) CAPITAL ASSETS

Changes in capital assets for the year ended June 30, 2018 are as follows:

	Balances June 30, 2017	Increases	Decreases	Balances June 30, 2018
Capital assets:				
Non-depreciable:				
Land	$ 17,455,028	$ -	$ (47,705)	$ 17,407,323
Easement	501,687	115,676	-	617,363
Construction in progress	93,677,358	103,462,352	(74,379,210)	122,760,500
Depreciable and amortizable:				
Buildings	88,417,729	-	37,975	88,455,704
Improvements and sewer lines	1,292,421,688	58,858,767	-	1,351,280,455
Equipment	14,737,297	750,426	(676,985)	14,810,738
Purchased capacity	1,057,062,963	17,039,367	(3,699,307)	1,070,403,023
Total capital assets	2,564,273,750	180,226,588	(78,765,232)	2,665,735,106
Accumulated depreciation and amortization for:				
Buildings	(47,722,085)	(2,123,897)	(37,975)	(49,883,957)
Improvements and sewer lines	(600,663,381)	(29,949,556)	-	(630,612,937)
Equipment	(10,164,211)	(1,201,002)	676,985	(10,688,228)
Purchased capacity	(374,619,053)	(30,380,437)	-	(404,999,490)
Total accumulated depreciation and amortization	(1,033,168,730)	(63,654,892)	639,010	(1,096,184,612)
Total capital assets, net	$ 1,531,105,020	$ 116,571,696	$ (78,126,222)	$ 1,569,550,494

Changes in purchased capacity, net of accumulated amortization, for the year ended June 30, 2018, in relation to each jurisdiction, are as follows:

	Balances June 30, 2017	Additions (net of disposals)	Amortization	Balances June 30, 2018
Purchased capacity, net:				
Blue Plains	$ 204,367,352	$ 16,586,506	$ (6,844,844)	$ 214,109,014
UOSA	182,767,987	(3,699,307)	(10,909,000)	168,159,680
Alexandria Renew Enterprises	240,725,306	452,861	(10,279,435)	230,898,732
Arlington County	37,962,289	-	(1,641,951)	36,320,338
Prince William County Service Authority	425,600	-	(30,400)	395,200
Loudoun Water	16,195,376	-	(674,807)	15,520,569
Total purchased capacity, net	$ 682,443,910	$ 13,340,060	$ (30,380,437)	$ 665,403,533

(6) RETIREMENT PLAN

(a) Plan Description

Employees of the System are provided with pensions through the Fairfax County Employees' Retirement System (ERS), a single-employer defined benefit pension plan, presented as a cost-sharing plan in the System's financial statements, which covers full-time and certain part-time employees of Fairfax County and its component units who are not covered by other plans of the County or the Virginia Retirement System.

(b) Benefits Provided

Benefit provisions are established and may be amended by County ordinances. All benefits vest at five years of creditable service. Members who were hired before January 1, 2013 may elect to join Plan A or Plan B, and members who were hired on or after January 1, 2013 may elect to join Plan C or Plan D. To be eligible for normal retirement, an individual must meet the following criteria: (a) attain the age of 65 with five years of creditable service, (b) for Plans A and B, attain the age of 50 with age plus years of creditable service being greater than or equal to 80, or (c) for Plans C and D, attain the age of 55 with age plus years of service being greater than or equal to 85. The normal retirement benefit is calculated using average final compensation (i.e. the highest 78 consecutive two week pay periods or the highest 36 consecutive monthly pay periods) and years (or partial years) of creditable service at date of termination. In addition, if normal retirement occurs before Social Security benefits are scheduled to begin, an additional monthly benefit is paid to retirees. The plan provides that unused sick leave credit may be used in the calculation of average final compensation by projecting the final salary during the unused sick leave period. Those who commenced employment on or after January 1, 2013, may not use more than 2,080 hours of accrued sick leave toward service credit for retirement or DROP entry. The benefit for early retirement is actuarially reduced and payable at early termination.

Effective July 1, 2005, a Deferred Retirement Option Program (DROP) was established for eligible members of the ERS. Members who are eligible for normal service retirement are eligible to participate in this program. DROP provides the ability for an employee to retire for purposes of the pension plan, while continuing to work and receive a salary for a period of three years. During the DROP period, the pension plan accumulates the accrued monthly benefit into an account balance identified as belonging to the member. The account balance is credited with interest in the amount of 5.0% per annum, compounded monthly. The monthly benefit is calculated using service and final compensation as of the date of entry in DROP, with increases equal to the annual cost-of-living adjustment provided for retirees.

(c) Funding Policy

All contribution requirements for ERS are established and may be amended by County ordinances, including member contribution rates. Plan A and Plan C require member contributions of 4.00 percent of compensation up to the Social Security wage base and 5.33 percent of compensation in excess of the wage base. Plan B and Plan D require member contributions of 5.33 percent of compensation.

The County is required to contribute at an actuarially determined rate. The rate for the year ended June 30, 2018, was 25.29 percent of annual covered payroll. Since the ERS's adjusted funded ratio (the ratio of the sum of actuarial value of assets and commitments already made to fund changes to the actuarial accrued liability) fell below 90 percent, the contribution rate includes a margin to amortize this shortfall back to the 90 percent level. For fiscal year 2018, the amortization target was increased to 98 percent. The employer contribution made during the measurement period of the liability, for the 2017 determined contribution, was $3,653,175. This is prior year's subsequent period contribution. The 2018 employer contribution, a deferred outflow of resources as of June 30, 2018, was $4,044,590. This is current year's subsequent period contribution.

(d) Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2018, the System reported a liability of $35,335,899 for its proportionate share of the net pension liability. The ERS calculated total pension liability was based on participant data collected as of December 31, 2016 and an actuarial valuation as of June 30, 2017, using the entry age actuarial cost method, with a measurement date of June 30, 2017. At June 30, 2017, the System's proportion was 2.18 percent, an increase of 0.05 percent from its proportion measured as of June 30, 2016.

For the year ended June 30, 2018, the System recognized pension expense of $5,189,278. As of June 30, 2018, the System reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 1,309,165	$ (1,592,910)
Changes of assumptions	998,180	-
Net difference between projected and actual earning on pension plan investments	5,167,548	-
Change in proportion applicable to the System	1,014,408	(410,310)
System contributions subsequent to the measurement date	4,044,590	-
Total	$ 12,533,891	$ (2,003,220)

Deferred outflows of resources in the amount of $4,044,590 related to pensions resulting from System contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in future pension expense as follows:

Year ended June 30: Measurement Date June 30 of Prior Year	
2019	$ 1,464,533
2020	2,770,456
2021	1,739,869
2022	511,223
	$ 6,486,081

(e) Actuarial Assumptions

The reported total pension liability (TPL) calculation was based on participant data collected as of December 31, 2016 and an actuarial valuation as of June 30, 2017, using the entry age actuarial cost method with a measurement date of June 30, 2017. Significant actuarial assumptions used in the valuation include the following, found on the next page:

Actuarial Assumptions

Inflation	2.75%
Salary increases, including inflation	2.75%
Investment rate of return, net of plan investment expenses	7.25%
Projected period of unfunded benefit payments	None
Mortality	Health and Disabled Annuity RP-2014 Combined Mortality projected using RPEC-2015

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period July 1, 2010 to June 30, 2015.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of arithmetic real rates of return for each major asset class included in the ERS's target asset allocation as of June 30, 2017, are summarized below:

Long-Term Expected Real Rate of Return/Target Allocation

Asset Class	Long-Term Expected Real Rate of Return	Target Allocation*
U.S. equity	5.6%	16.0%
U.S. small cap equity	7.8%	4.0%
International equity - developed market	5.6%	7.0%
International equity - emerging market	10.1%	3.0%
Private equities	14.4%	2.0%
Core bonds	2.1%	25.0%
High yield	4.6%	10.0%
Global bonds	0.9%	5.0%
Emerging markets debt	4.8%	2.0%
Real estate	6.8%	8.0%
Absolute return	11.3%	20.0%
Risk parity	6.5%	15.0%
Commodities	5.9%	5.0%
Cash	1.0%	3.0%

*Target totals may exceed 100% due to futures and other derivatives

(f) Discount Rate

The discount rate used to measure the total pension liability was 7.25 percent. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that County contributions will be made according to the County's stated policy. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. A schedule of funding progress can be found in the required supplementary information section of the report.

(g) Sensitivity of the System's Proportionate Share of the Net Pension Liability to Changes in the Discount Rate

The following presents the System's proportionate share of the net pension liability, calculated using the discount rate of 7.25 percent, as well as what the System's share of the net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.25 percent) or 1 percentage point higher (8.25 percent) than the current rate:

Sensitivity of Net Pension Liability to Changes in Discount Rate

	1% Decrease 6.25%	Current Discount Rate 7.25%	1% Increase 8.25%
Total pension liability	$ 131,331,838	$ 117,202,078	$ 105,367,583
Plan fiduciary net position	(81,866,179)	(81,866,179)	(81,866,179)
Net pension liability	$ 49,465,659	$ 35,335,899	$ 23,501,404
Plan fiduciary net position as a percentage of the total pension liability	62.3%	69.9%	77.7%

(h) Pension Plan Fiduciary Net Position

The retirement system is considered a part of the County's reporting entity and the system's financial statements are included in the County's basic financial statements as a trust fund.

Information concerning ERS as a whole, including the pension plan's fiduciary net position, is available in the County CAFR for the fiscal year ended June 30, 2018. Additionally, the ERS issues a publicly available annual financial report that includes financial statements and required supplementary information. That report may be obtained by writing to the Employees' Retirement System, 12015 Lee Jackson Memorial Highway, Suite 350, Fairfax, Virginia 22033, or by calling (703) 279-8200.

7) OTHER POSTEMPLOYMENT BENEFITS

The Fairfax County Other Postemployment Benefit (OPEB) Plan (the Plan) is a single-employer defined benefit plan administered by the County, presented as a cost-sharing plan in the System's financial statements. The Plan provides eligible retirees and their spouses the opportunity to continue participation in medical and dental, vision, and life insurance benefits. The plan benefits correspond with the benefits available to active County employees. The benefit provisions of the Plan are established, and may be amended, by the Board. Fiduciary oversight of OPEB and deferred compensation is provided by the members of the Local Finance Board. The members of the Local Finance Board are the CFO/Director of Management and Budget, the Director of Finance, the Director of Human Resources, and the Executive Director of the Retirement Agency. The Plan does not issue a stand-alone financial report. Financial information about the Plan and its fiduciary net position is available in the County's Comprehensive Annual Financial Report, available online on the Fairfax County Department of Finance, Financial Reporting, webpage.

In order to participate in the Plan, an employee must meet retirement criteria for the ERS. The retiree must have the applicable benefit(s) in place as an active employee, and must maintain continuous participation in the benefit plan into retirement. Upon retirement, the County no longer contributes to the benefit premium payments of the participant and the participant becomes responsible for 100 percent of the applicable premiums, less any applicable subsidies.

Beginning in fiscal year 2006, the amount of monthly medical subsidy provided by the County is determined based on the participant's years of service, and ranges from $30 per month to $220 per month. Employees who retired prior to July 1, 2003 are eligible for the greater of the amount based on the current subsidy structure or the amount calculated based on the subsidy structure in place prior to July 2003. In addition, the Board has established a program to subsidize the continuation of term life insurance at reduced coverage amounts for retirees. Retirees generally pay for 50 percent of their coverage amount at age-banded premium rates, with the County incurring the balance of the cost. In order to receive these subsidies, retirees must be 55 years or older and have a minimum of five years of service credit. If participation in any of the benefit areas is discontinued, eligibility is lost and a retiree may not re-enroll into the Plan's benefits. Consequently, all inactive employees are considered to be receiving benefits of the Plan.

Contributions to the Plan are made by appropriation from the Board, based on an actuarially determined amount. The employer contribution made during the measurement period of the liability was $680,341. The System's contribution to the Plan for fiscal year 2018 was $580,001. Plan members are not required to contribute to the OPEB trust fund.

(a) Actuarial Assumptions

The total OPEB liability was determined by an actuarial valuation as of June 30, 2017, using the following actuarial assumptions:

Actuarial cost method	Entry age normal
Asset valuation method	Market value of assets
Salary increases	3.00%
Investment rate of return	7.00%, net of OPEB plan investment expense, including inflation
Retirement age	Varies by age and OPEB plan
Mortality	RP-2014 Mortality Table fully generational projected using scale MP-2015. Disabled mortality is assumed to be MP-2014.
Healthcare cost trend rate	7.20% - 9.00%, decreasing to 4.50%

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period of fiscal years 2014 to 2016.

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class and the Plan's target allocations as of June 30, 2017, are as follows:

Long-Term Real Expected Rate of Return/Target Allocation

Asset Class	Long-Term Expected Real Rate of Return	Target Allocation
Domestic equity (large cap)	6.50%	26.00%
Domestic equity (small cap)	7.00%	10.00%
International equity	7.30%	13.00%
Emerging markets equity	7.80%	5.00%
Core U.S. fixed income	3.50%	7.00%
Corporate fixed income	4.20%	14.00%
Hedge funds	4.20%	10.00%
Real estate	5.50%	7.00%
Private equity	9.00%	5.00%
Commodities	5.30%	3.00%

There are no concentrations in any one organization that represents 5 percent or more of the fiduciary net position in the plan. The Plan's funds are invested in domestic equity, international equity, and fixed income funds. The County is not involved in the administration of these funds. Further information about the Virginia Pooled OPEB Trust Fund, sponsored by VML/VACo Finance, including financial statements, can be obtained by writing to VML/VACo Finance Program, 919 East Main Street, Suite 1100, Richmond, Virginia 23219.

(b) Discount Rate

The discount rate used to measure the total OPEB liability was 7.00 percent. The projection of cash flows used to determine the discount rate assumed that County contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future OPEB payments for current inactive and active employees and for current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

(c) Net OPEB Liability

At June 30, 2018, the System reported a liability of $1,039,781 for its proportionate share of the net OPEB liability. The actuary-calculated total OPEB liability was based on participant data collected as of July 1, 2016 and an actuarial valuation as of June 30, 2017, using the entry age actuarial cost method, with a measurement date of June 30, 2017. At June 30, 2017, the System's proportion was 2.43 percent.

The net OPEB liability was measured as of June 30, 2017, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of that date. The System's net OPEB liability is determined by the System's proportionate share of the OPEB plan participation. The System's share of the net OPEB liability at June 30, 2018 is presented below:

Total OPEB liability	$	7,834,512
Plan fiduciary net position (market value of assets)		(6,794,731)
Net OPEB liability	$	1,039,781
Plan fiduciary net position as a percentage of the OPEB liability		86.73%

(d) Sensitivity of the System's Proportionate Share of the Net OPEB Liability to Changes in the Discount Rate and Healthcare Trend Rate

The following presents the System's share of the net OPEB liability using the discount rate of 7.00 percent, as well as what the System's share of the net OPEB liability would be if the discount rate was one percentage point higher (8.00 percent) or one percentage point lower (6.00 percent) than the current rate:

Sensitivity of Net OPEB Liability to Changes in Discount Rate

	1% Decrease 6.00%	Current Discount Rate 7.00%	1% Increase 8.00%
Total OPEB liability	$ 9,096,974	$ 7,834,512	$ 6,840,376
Plan fiduciary net position	(6,794,731)	(6,794,731)	(6,794,731)
Net OPEB liability	$ 2,302,243	$ 1,039,781	$ 45,645

The following table on the next page presents the System's share of the net OPEB (asset) liability, calculated using the current healthcare trend rates (7.20 percent to 9.00 percent, decreasing to 4.50 percent), as well as what the System's share of the net OPEB (asset) liability would be with healthcare trend rates at one percentage point lower (6.20 percent to 8.00 percent, decreasing to 3.50 percent) or one percentage point higher (8.20 percent to 10.00 percent, decreasing to 5.50 percent) than the current rates:

Sensitivity of Net OPEB Liability to Changes in Healthcare Trend Rate

	1% Decrease (Varied decreasing to 3.50%)	Current Discount Rate (Varied decreasing to 4.50%)	1% Increase (Varied decreasing to 5.50%)
Total OPEB liability	$ 6,773,051	$ 7,834,512	$ 9,329,765
Plan fiduciary net position	(6,794,731)	(6,794,731)	(6,794,731)
Net OPEB (asset) liability	$ (21,680)	$ 1,039,781	$ 2,535,034

(e) OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended June 30, 2018, the System recognized OPEB expense of $746,741. As of June 30, 2018, the System reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ 82,369	$ -
Changes of assumptions	-	(551,013)
Net difference between projected and actual earning on OPEB plan investments	-	746,423)
System contributions subsequent to the measurement date	580,001	-
Total	$ 662,370	$ (1,297,436)

Deferred outflow of resources in the amount of $580,001, reported above as System contributions subsequent to the measurement date, will be recognized as a reduction of the net OPEB liability in the fiscal year ending June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

Year ended June 30: Measurement Date June 30 of Prior Year	
2019	$ (230,968)
2020	(230,968)
2021	(230,968)
2022	(230,968)
2023	(111,653)
Thereafter	(179,542)
	$ (1,215,067)

(8) Long-term Liabilities

The following is a summary of the changes in the System's long-term liabilities for the fiscal year ended June 30, 2018:

	Balances June 30, 2017	Increases	Decreases	Balances June 30, 2018	Current Portions
Compensated absences	$ 2,189,183	$ 1,375,366	$ (1,462,356)	$ 2,102,193	$ 1,459,927
Sewer revenue bonds - Series 2009	10,295,000	-	(3,260,000)	7,035,000	3,430,000
Sewer revenue bonds - Series 2012	37,945,000	-	(1,680,000)	36,265,000	1,770,000
Sewer revenue refunding bonds - Series 2014	55,305,000	-	(3,425,000)	51,880,000	3,610,000
Sewer revenue refunding bonds - 2016A Series	164,450,000	-	-	164,450,000	-
Sewer revenue bonds - Series 2017	85,785,000	-	-	85,785,000	1,335,000
Premium on sewer revenue refunding bonds (net)	53,920,107	-	(2,398,520)	51,521,587	2,398,520
Subordinated revenue bonds - VRA2001	10,566,026	-	(2,604,074)	7,961,952	2,628,871
Subordinated revenue bonds - VRA2002	15,963,056	-	(3,132,383)	12,830,673	3,162,212
Subordinated UOSA revenue bonds	242,574,706	-	(10,731,814)	231,842,892	11,127,170
	$ 678,993,078	$ 1,375,366	$ (28,694,147)	$ 651,674,297	$ 30,921,700

(a) Sewer Revenue Bonds

The System issues bonds under the 1985 General Bond Resolution (Resolution) adopted by the County Board of Supervisors. The Resolution includes a rate covenant under which the System agrees to charge reasonable rates for the use of services rendered by the System. Furthermore, the System will adjust the rates from time to time in order to generate net revenues sufficient to provide an amount equal to 100 percent of its annual principal and interest requirements, as well as the System's annual commitments to fund its proportionate share of other jurisdictions' debt service requirements. Pursuant to the Resolution, the System is required to maintain a reserve equal to the lesser of (i) the maximum principal and interest requirements of the outstanding bonds for any bond year or (ii) 125 percent of the average annual principal and interest for any bond year. In the opinion of the System's management, the System is in compliance with all Resolution covenants. Payment of the principal and interest on all Sewer revenue bonds is secured by a pledge of gross revenues derived from the System after provisions for payment of the operating expenses of the System. The bonds do not constitute general obligations of the County and authorization to issue any additional debt rests with the Board. In addition, the System is required to adhere to and is in compliance with the rebate and reporting requirements of the federal regulations pertaining to arbitrage.

On October 14, 2004, the System issued $94,005,000 of sewer revenue refunding bonds (Series 2004), with an average interest rate of 4.61 percent, to advance refund $91,430,000 of the outstanding Series 1996 bonds with an average interest rate of 5.82 percent. The net proceeds were used to redeem the Series 1996 bonds on July 15, 2006.

On June 17, 2009, the System issued $152,255,000 of sewer revenue bonds (Series 2009), with an average interest rate of 4.72 percent, to fund upgrade costs allocable to the System at certain treatment facilities that are owned by, or that provide service to, the County.

On August 8, 2012, the System issued $90,710,000 of sewer revenue bonds (Series 2012), with an average interest rate of 4.53 percent, to fund upgrade costs allocable to the System at certain treatment facilities that are owned by or that provide service to the County, the purchase of additional capacity at certain wastewater treatment facilities for the benefit of the County, and the costs of certain additions, extensions, and improvements to the County's sewage collection, treatment, and disposal systems.

On April 16, 2014, the System issued $61,755,000 of sewer revenue refunding bonds (Series 2014), with an average interest rate of 4.14 percent, to refund $69,745,000 of the outstanding Series 2004 bonds with an average interest rate of 4.61 percent. The net proceeds were used to redeem the Series 2004 bonds on July 15, 2014. This refunding resulted in a deferred net loss of $4,045,945, which is being amortized over 15 years, but an aggregate decrease in the overall debt service of $15,461,166.

On May 12, 2016, the System issued $164,450,000 of sewer revenue refunding bonds (Series 2016A), with a weighted average rate of 3.92 percent, to advance refund $123,065,000 of the outstanding Series 2009 bonds with an average interest rate of 4.80 percent and $46,720,000 of the outstanding Series 2012 bond with an average interest rate of 4.67 percent. This refunding resulted in a deferred net loss of $12,406,377, which is being amortized over 24 years, and a remaining outstanding balance of $13,400,000 unrefunded Series 2009 bonds and $39,545,000 unrefunded Series 2012 bonds. This refunding resulted in an aggregate decrease in the overall debt service of $35,116,418.

On June 28, 2017, the System issued $85,785,000 of sewer revenue bonds (Series 2017), with an average interest rate of 4.77 percent, to fund certain additions, extensions, and improvements to the County's sewage collection, treatment, and disposal systems, capital improvement costs allocable to the County at certain wastewater treatment facilities that provide service to the County, the purchase of any necessary additional capacity at certain wastewater treatment facilities for the benefit of the County, the costs of issuing the Series 2017 bonds, and the necessary deposit to the reserve subfund.

The outstanding bonds as of June 30, 2018, consist of $7,035,000 of Series 2009 revenue bonds, $36,265,000 of Series 2012 revenue bonds, $51,880,000 of Series 2014 revenue refunding bonds, $164,450,000 of Series 2016A revenue refunding bonds, and $85,785,000 of Series 2017 revenue bonds that bear interest at varying rates and mature in varying amounts. The bond principal and interest payment schedule details are as follows on the next page:

Fiscal	Series 2009			Series 2012			Series 2014			Series 2016A			Series 2017		
Year	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total
2019	$ 3,430,000	$ 266,000	$ 3,696,000	$ 1,770,000	$ 1,625,875	$ 3,395,875	$ 3,610,000	$ 2,121,750	$ 5,731,750	$ -	$ 6,697,181	$ 6,697,181	$ 1,335,000	$ 4,170,325	$ 5,505,325
2020	3,605,000	90,125	3,695,125	1,860,000	1,535,125	3,395,125	3,830,000	1,935,750	5,765,750	-	6,697,181	6,697,181	1,380,000	4,129,600	5,509,600
2021	-	-	-	1,955,000	1,439,750	3,394,750	4,035,000	1,739,125	5,774,125	3,815,000	6,639,956	10,454,956	1,430,000	4,080,300	5,510,300
2022	-	-	-	2,055,000	1,339,500	3,394,500	4,255,000	1,531,875	5,786,875	3,950,000	6,503,731	10,453,731	1,485,000	4,022,000	5,507,000
2023	-	-	-	-	1,288,125	1,288,125	4,485,000	1,313,375	5,798,375	6,290,000	6,267,481	12,557,481	1,545,000	3,961,400	5,506,400
2024	-	-	-	-	1,288,125	1,288,125	4,735,000	1,082,875	5,817,875	6,615,000	5,944,856	12,559,856	1,620,000	3,890,000	5,510,000
2025	-	-	-	-	1,288,125	1,288,125	4,995,000	839,625	5,834,625	6,950,000	5,605,731	12,555,731	1,700,000	3,807,000	5,507,000
2026	-	-	-	-	1,288,125	1,288,125	5,205,000	636,675	5,841,675	7,310,000	5,249,231	12,559,231	1,790,000	3,719,750	5,509,750
2027	-	-	-	-	1,288,125	1,288,125	5,390,000	477,750	5,867,750	7,685,000	4,874,356	12,559,356	1,880,000	3,628,000	5,508,000
2028	-	-	-	-	1,288,125	1,288,125	5,570,000	299,425	5,869,425	8,035,000	4,521,856	12,556,856	1,975,000	3,531,625	5,506,625
2029	-	-	-	-	1,288,125	1,288,125	5,770,000	100,975	5,870,975	8,325,000	4,236,606	12,561,606	2,080,000	3,430,250	5,510,250
2030	-	-	-	-	1,288,125	1,288,125	-	-	-	8,660,000	3,895,231	12,555,231	2,185,000	3,323,625	5,508,625
2031	-	-	-	-	1,288,125	1,288,125	-	-	-	9,105,000	3,451,106	12,556,106	2,295,000	3,211,625	5,506,625
2032	-	-	-	-	1,288,125	1,288,125	-	-	-	9,570,000	2,984,231	12,554,231	2,415,000	3,093,875	5,508,875
2033	-	-	-	-	1,288,125	1,288,125	-	-	-	10,015,000	2,544,681	12,559,681	2,540,000	2,970,000	5,510,000
2034	-	-	-	-	1,288,125	1,288,125	-	-	-	10,380,000	2,175,706	12,555,706	2,670,000	2,839,750	5,509,750
2035	-	-	-	-	1,288,125	1,288,125	-	-	-	10,735,000	1,825,878	12,560,878	2,805,000	2,702,875	5,507,875
2036	-	-	-	-	1,288,125	1,288,125	-	-	-	11,100,000	1,457,413	12,557,413	2,950,000	2,559,000	5,509,000
2037	-	-	-	4,150,000	1,194,750	5,344,750	-	-	-	7,360,000	1,141,300	8,501,300	3,100,000	2,407,750	5,507,750
2038	-	-	-	4,340,000	1,003,725	5,343,725	-	-	-	7,645,000	859,600	8,504,600	3,260,000	2,248,750	5,508,750
2039	-	-	-	4,540,000	803,925	5,343,925	-	-	-	7,955,000	547,600	8,502,600	3,425,000	2,081,625	5,506,625
2040	-	-	-	-	701,775	701,775	-	-	-	12,950,000	194,250	13,144,250	3,600,000	1,906,000	5,506,000
2041	-	-	-	4,965,000	590,063	5,555,063	-	-	-	-	-	-	3,785,000	1,721,375	5,506,375
2042	-	-	-	5,195,000	361,463	5,556,463	-	-	-	-	-	-	3,980,000	1,527,250	5,507,250
2043	-	-	-	5,435,000	122,288	5,557,288	-	-	-	-	-	-	4,185,000	1,323,125	5,508,125
2044	-	-	-	-	-	-	-	-	-	-	-	-	4,400,000	1,108,500	5,508,500
2045	-	-	-	-	-	-	-	-	-	-	-	-	4,625,000	882,875	5,507,875
2046	-	-	-	-	-	-	-	-	-	-	-	-	4,860,000	645,750	5,505,750
2047	-	-	-	-	-	-	-	-	-	-	-	-	5,110,000	396,500	5,506,500
2048	-	-	-	-	-	-	-	-	-	-	-	-	5,375,000	134,375	5,509,375
Total	$ 7,035,000	$ 356,125	$ 7,391,125	$ 36,265,000	$ 28,751,989	$ 65,016,989	$ 51,880,000	$ 12,079,200	$ 63,959,200	$ 164,450,000	$ 84,315,162	$ 248,765,162	$ 85,785,000	$ 79,454,875	$ 165,239,875

(b) Subordinated Sewer Revenue Bonds

In June 2001 and June 2002, the System issued 20-year subordinated sewer revenue bonds in the amounts of $40,000,000 (Series VRA 2001) and $50,000,000 (Series VRA 2002), respectively, to the Virginia Water Facilities Revolving Fund, acting by and through the Virginia Resources Authority (VRA). The proceeds have been used to fund a portion of the System's share of the expansion and upgrade costs of the Alexandria Renew Enterprises' wastewater treatment facilities, which provide service to certain County residents. In September 2012, the System executed a rate reduction agreement with VRA, reducing the interest rates on these VRA 2001 and VRA 2002 bonds from 4.10 percent and 3.75 percent per annum, respectively, to 2.35 percent per annum. This reduced the required semi-annual debt service payments from $1,499,642 and $1,818,894, respectively, to $1,395,539 and $1,706,099, respectively. This rate reduction agreement resulted in an aggregate decrease in the VRA 2001 and VRA 2002 bond debt service of $1,769,745 and $2,143,099, respectively.

In May 2016, the System executed a rate reduction agreement with VRA, reducing the interest rate of the VRA 2001 and VRA 2002 bonds from 2.35 percent per annum to 0.95 percent per annum. This reduced the semi-annual debt service payments from $1,395,539 and $1,706,099, respectively, to $1,349,141 and $1,638,306, respectively. This rate reduction resulted in an aggregate decrease in the VRA 2001 and VRA 2002 bond debt service of $463,990 and $813,525, respectively. These bonds are subordinate to all outstanding prior bond issues of the System and payments for operation and maintenance expenses.

As of June 30, 2018, the principal and interest payment schedules for the VRA 2001 and VRA 2002 subordinated revenue bonds are as follows:

Fiscal	2001 Subordinated Revenue Bonds			2002 Subordinated Revenue Bonds		
Year	Principal	Interest	Total	Principal	Interest	Total
2019	$ 2,628,871	$ 69,410	$ 2,698,281	$ 3,162,212	$ 114,399	$ 3,276,611
2020	2,653,905	44,376	2,698,281	3,192,325	84,287	3,276,612
2021	2,679,176	19,104	2,698,280	3,222,724	53,887	3,276,611
2022	-	-	-	3,253,412	23,199	3,276,611
Total	$ 7,961,952	$ 132,890	$ 8,094,842	$ 12,830,673	$ 275,772	$ 13,106,445

(c) Upper Occoquan Sewage Authority (UOSA) Debt

In December 1995, UOSA, a joint venture, issued $288,600,000 of regional sewer system revenue bonds to finance the cost of expanding the capacity of its wastewater treatment facilities from 32 million gallons per day (MGD) to 54 MGD and $42,260,000 of regional sewer system revenue refunding bonds to refund certain outstanding bonds that had been issued to finance a prior expansion.

In December 2003, UOSA issued $58,150,000 of regional sewer system revenue refunding bonds (UOSA 2003), of which the System's share is $36,848,116, to advance refund the outstanding UOSA 1993 bonds. This refunding resulted in a deferred net gain of $1,514,494, which is being amortized over the life of the UOSA 2003 bonds.

In November 2004, UOSA issued $49,395,000 of regional sewer system revenue refunding bonds (UOSA 2004), of which the System's share is $31,866,527, to advance refund a portion of the outstanding UOSA 1995 bonds. This refunding resulted in a deferred net gain of $619,329, which is being amortized over the life of the UOSA 2004 bonds.

In July 2005, UOSA issued $82,465,000 of regional sewer system revenue refunding bonds (UOSA 2005), of which the System's share is $53,201,198, to advance refund another portion of the outstanding UOSA 1995 bonds. This refunding resulted in a deferred net gain of $1,909,604, which is being amortized over the life of the UOSA 2005 bonds.

In February 2007, UOSA issued $90,315,000 of regional sewer system revenue refunding bonds (UOSA 2007A), of which the System's share is $58,265,521, to advance refund another portion of the outstanding UOSA 1995 bonds. This refunding resulted in a deferred net loss of $83,868, which is being amortized over the life of the UOSA 2007A bonds.

In December 2007, UOSA issued $119,715,000 of regional sewer system revenue bonds (UOSA 2007B), of which the System's share is $53,925,458, to fund the expansion of its wastewater treatment and conveyance facilities.

In December 2010, UOSA issued $85,180,000 of regional sewer system revenue bonds (UOSA 2010), of which the System's share is $34,113,615, to fund certain capital improvements.

In July 2011, UOSA entered into VRA loan Series 2011A to fund costs related to the Energy Service (ESCO) project. In December 2011, UOSA entered into VRA loan Series 2011B to fund Phase 1 of the Nutrient Compliance Improvement Project (P1NR).

In May 2013, UOSA issued $101,615,000 of regional sewer system revenue refunding bonds (UOSA 2013A), of which the System's share is $65,555,566, to advance refund the outstanding UOSA 2005 bonds. This refunding resulted in a deferred net loss of $12,354,368, which is being amortized over the life of the UOSA 2013A bonds, but an aggregate decrease in the overall debt service of approximately $4.9 million.

In November 2013, UOSA issued $37,735,000 of regional sewer system revenue refunding bonds (UOSA 2013B), of which the System's share is $23,911,671, to advance refund the outstanding UOSA 2003 bonds. This refunding resulted in a deferred net loss of $2,520,436, which is being amortized over the life of the UOSA 2013B bonds, but an aggregate decrease in the overall debt service of approximately $2.1 million.

In fiscal year 2015, UOSA issued regional sewer system revenue refunding bonds (UOSA 2014) to advance refund the outstanding UOSA 2007A bonds and a portion of the outstanding UOSA 2007B bonds. Of the $112,190,980 UOSA 2007 bonds outstanding balance, $93,175,291 was refunded into the UOSA 2014 bonds. This resulted in a deferred net gain of $2,029,199, which is being amortized over 24 years, and an aggregate decrease in the overall debt service of $6,359,186.

In fiscal year 2016, UOSA issued regional sewer system revenue refunding bonds (UOSA 2016B) to advance refund the $19,015,689 remaining outstanding UOSA 2007B bonds. This refunding resulted in a deferred net gain of $533,782, which is being amortized over 22 years, and an aggregate decrease in the overall debt service of $4,676,694.

The System's share of UOSA's total outstanding debt as of June 30, 2018 is $231,842,892 and it is subordinate to the sewer revenue bonds issued by the System. UOSA did not issue any sewer revenue or refunding bonds is fiscal year 2018. The System's share of outstanding UOSA regional sewer system revenue and refunding bonds as of June 30, 2018 is as follows:

UOSA

Fiscal Year	Principal	Interest	Total
2019	$ 11,127,170	$ 8,550,799	$ 19,677,969
2020	11,547,063	8,132,123	19,679,186
2021	11,642,341	7,690,937	19,333,278
2022	14,800,382	7,449,177	22,249,559
2023	12,698,834	7,117,592	19,816,426
2024	13,017,104	6,799,723	19,816,827
2025	13,368,383	6,449,608	19,817,991
2026	20,894,646	6,077,087	26,971,733
2027	15,229,928	5,191,993	20,421,921
2028	15,961,871	4,456,495	20,418,366
2029	16,736,474	3,684,437	20,420,911
2030	5,089,079	2,873,707	7,962,786
2031	5,286,945	2,681,152	7,968,097
2032	5,482,906	2,479,794	7,962,700
2033	5,616,039	2,270,887	7,886,926
2034	5,575,591	2,057,284	7,632,875
2035	5,710,040	1,842,795	7,552,835
2036	5,931,247	1,618,186	7,549,433
2037	6,165,630	1,384,868	7,550,498
2038	6,410,912	1,139,798	7,550,710
2039	6,686,953	932,947	7,619,900
2040	6,951,962	667,146	7,619,108
2041	6,076,026	390,810	6,466,836
2042	1,881,299	149,580	2,030,879
2043	1,954,067	76,209	2,030,276
Total	$ 231,842,892	$ 92,165,134	$ 324,008,026

(9) Commitments and Contingencies

(a) Cost Sharing Agreement with Alexandria Renew Enterprises (AlexRenew)

The System is obligated under an agreement with AlexRenew to share in the construction and operating costs and debt service requirements for AlexRenew's sewage treatment facility. Currently, the System has a capacity entitlement of 32.4 MGD, which is 60 percent of the facility's total capacity of 54 MGD. Although the System is allowed one nonvoting representative at the meetings of AlexRenew, the System has no significant influence in the management of the treatment facility. In addition, the System has no direct ongoing equity interest in the assets or liabilities of AlexRenew. Accordingly, the System does not account for this commitment as a joint venture.

A new construction program to build enhanced nutrient removal facilities has been initiated. The System paid AlexRenew $452,861 for purchased capacity in fiscal year 2018 to fund its share of the construction and land acquisition costs. The System estimates its share of the remaining construction costs to be $129,427,000, of which $13,805,000 is expected to be incurred in fiscal year 2019 and the balance over fiscal years 2020 to 2027. In addition, the System made total payments of $13,575,257 to AlexRenew during fiscal year 2018 for its share of AlexRenew's operating costs.

(b) Cost Sharing Agreement with the District of Columbia (District)

The System is obligated under the 2012 Blue Plains Intermunicipal Agreement (2012 IMA), which replaced the 1985 IMA, between the County, the District, the District of Columbia Water and Sewer Authority (DC Water), Montgomery County in Maryland, Prince George's County in Maryland, and the Washington Suburban Sanitary Commission, to share the construction and operating costs of the Blue Plains Wastewater Treatment Plant, which is operated by DC Water. Currently, the System has a capacity entitlement of 31 MGD, which is approximately 8.4 percent of the Plant's total capacity of 370 MGD. DC Water has a Board of Directors comprised of six members from the District, two each from Montgomery and Prince George's Counties, and one from the County. The System has no significant control over plant operations and construction and no ownership interest in the assets of DC Water. Accordingly, the System does not account for this commitment as a joint venture.

The Blue Plains Plant is currently undergoing a major renovation of its nitrogen removal facilities and the construction of new wet weather flow facilities. The System paid DC Water $16,586,506 for purchased capacity in fiscal year 2018 to fund its share of construction costs. The System estimates its share of the remaining construction costs to be $77,687,000, of which $10,422,000 is expected to be incurred in fiscal year 2019 and the balance over fiscal years 2020 to 2027. In addition, the System made total payments of $14,271,793 to DC Water during fiscal year 2018 for its share of the Blue Plains Plant's operating costs.

(c) Joint Venture – Upper Occoquan Sewage Authority (UOSA)

UOSA is a joint venture created under the provisions of the Virginia Water and Waste Authorities Act on March 3, 1971 by a concurrent resolution of the governing bodies of the County, Prince William County, the City of Manassas, and the City of Manassas Park to finance, construct, and operate a regional sewage treatment facility. Currently, the System has a capacity entitlement of 22.6 MGD, which is 42 percent of the facility's total capacity of 54 MGD. The governing body of UOSA is an eight member board of directors consisting of two members from each participating jurisdiction, appointed to four year terms. The UOSA Board of Directors adopts an annual operating budget based on projected sewage flows.

The County has no explicit and measurable interest in UOSA but does have an ongoing financial responsibility for its share of UOSA's construction costs, operating costs, and annual debt service. There are no ongoing construction costs for UOSA and the System did not purchase capacity from UOSA in fiscal year 2018. In addition, the System made total payments to UOSA of $12,977,850 in fiscal year 2018 to pay its share of UOSA's operating costs.

Summarized UOSA financial information as of and for the year ended June 30, 2017, the most recent available audited financial information, is shown below:

	2017
Total assets	$ 588,237,582
Deferred outflows of resources	22,793,659
Total liabilities	(546,966,364)
Deferred inflows of resources	(230,926)
Net position	$ 63,833,951
Operating revenues	$ 28,328,572
Operating expenses	(59,709,789)
Nonoperating revenues and expenses, net	836,283
Capital contributions	17,229,657
Decrease in net position	$ (13,315,277)

The complete financial statements for UOSA can be obtained by writing to UOSA at 14631 Compton Road, Centerville, Virginia 20121 or by accessing UOSA's website.

(d) Cost Sharing Agreement with Arlington County, Virginia (Arlington)

The System is obligated under the 1989 Sewage Conveyance Treatment and Disposal Agreement with Arlington to share the construction and operating costs of the sewage treatment facility owned and operated by Arlington. Currently, the System has a capacity entitlement of 3 MGD, which is 7.5 percent of the facility's total capacity of 40 MGD. The System has no direct ongoing equity interest in the facility's assets and liabilities. Furthermore, the System has no significant influence in the management of Arlington's treatment facility. Accordingly, the System does not account for this commitment as a joint venture.

The Arlington facility has recently completed a major upgrade to meet new water quality standards. The System did not purchase capacity from Arlington in fiscal year 2018. The System estimates its share of the remaining construction costs to be $19,412,000, of which $969,000 is expected to be incurred in fiscal year 2019 and the balance over fiscal years 2020 to 2027. In addition, the System made total payments of $2,453,677 to Arlington during fiscal year 2018 for its share of Arlington's operating costs.

(e) Cost Sharing Agreement with Loudoun County, Virginia, Sanitation Authority (Loudoun Water)

The System is obligated under the Broad Run Water Reclamation Facility Capacity Agreement with Loudoun Water to share the construction and operating costs and debt service requirements of the sewage treatment facility owned and operated by Loudoun Water. Currently, the System has a capacity entitlement of 1.0 MGD, which is 9.0 percent of the facility's total capacity of 11 MGD. The System has no direct ongoing interest in the facility's assets and liabilities. Furthermore, the System has no significant influence in the management of Loudoun Water's treatment facility. Accordingly, the System does not account for this commitment as a joint venture.

The System will incur operating costs once it starts to deliver flows to Loudoun Water's facilities, which has not happened to date and is not expected to start in fiscal year 2019. The Broad Run Plant is a new facility; therefore, no construction or debt service requirements are expected in the near future.

(f) Other Commitments

As of June 30, 2018, the System had contractual commitments, excluding the above noted AlexRenew, District, UOSA, Arlington, and Loudoun Water contractual commitments, of approximately $62,255,000 for the construction of various sewer projects.

(g) Other Contingencies

The System is contingently liable with respect to lawsuits and other claims which arise in the ordinary course of its operations. It is the opinion of the management of the System and the County, as well as the County Attorney, that any losses which may ultimately be incurred as a result of those lawsuits and claims will not be material to the System's financial statements.

(10) RISK MANAGEMENT

The System is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees and citizens; and natural disasters. For all of these risks, the System participates in the County's insurance program, which includes self-insurance and the purchase of certain commercial insurance policies. The System is charged by the County for costs associated with workers' compensation, vehicle and general liability risks, and the costs associated with other risks borne by the County. There were no claims settlements in excess of insurance coverage in any of the past three fiscal years. Information regarding the County's insurance program is available in the County's CAFR for the fiscal year ended June 30, 2018.

(11) IMPLEMENTATION OF NE ACCOUNTING PRONOUNCEMENTS

In fiscal year 2018, the System implemented the following standards:

GASB Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period*

Prior to the implementation of this statement, applicable interest costs of the System were capitalized for assets under construction. The interest became part of the cost of the associated asset and would then be depreciated over the useful life of the asset. Beginning with fiscal year 2018, the interest costs are now reported as an expense for the period in which the expense is incurred. To illustrate the impact of this change, the amount of interest that was capitalized during fiscal year 2017 was $2,420,820, which would have been included in the interest expense amount if GASBS 89 were in effect for that reporting period.

This Statement requires prospective application. Therefore, no prior period adjustments have been applied and the interest capitalized prior to this statement continues to be included in the historical cost of the assets.

GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

Statement No. 75 represents a significant change to the reporting requirements for OPEB plans by establishing a net OPEB liability, an actuarially calculated amount representing the OPEB benefits accrued by current employees and retirees of the System. The previous requirements were based on a funding perspective.

Certain estimates and assumptions are involved with the calculation of the net OPEB liability and actual results may differ. The impact of differences between estimated and actual results are presented as deferred inflows of resources or deferred outflows of resources. These deferred inflows and outflows will be applied in the calculation of the OPEB expense, and will impact the net OPEB liability over time, reducing the volatility created by items such as investment performance.

As a result of this change in the accounting standards, the fiscal year 2017 balances presented in this report differ from the balances presented in the fiscal year 2017 CAFR. The below July 1, 2017 Statement of Net Position balances have been restated as follows:

2017 Total Net Position	Include Net OPEB Liability	Deferred Outflow-Contributions Made After the Measurement Date	2017 Total Net Position, Restated
$ 1,109,777,711	(2,188,448)	680,341	1,108,269,604

In fiscal year 2018, the System implemented the following standards, which had no material impact on the System's financial statements:

GASB Statement No. 81, *Irrevocable Split-Interest Agreements,*

GASB Statement No. 85, *Omnibus 2017,*

GASB Statement No. 86, *Certain Debt Extinguishment Issues.*

Fairfax County
Wastewater Management

Quality of Water = Quality of Life

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

REQUIRED SUPPLEMENTAL INFORMATION SECTION

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

INTEGRATED SEWER SYSTEM · COUNTY OF FAIRFAX, VIRGINIA
REQUIRED SUPPLEMENTARY INFORMATION *(unaudited)*

1.0 SUPPLEMENTAL PENSION INFORMATION

Tables indicating the System's proportionate share of the net pension liability and a schedule of the System's contributions to the pension plan.

TABLE 1.1

Schedule of the Proportionate Share of the Net Pension Liability
ERS Pension Plan
Last Ten Fiscal Years*

	2018	2017	2016	2015
System's proportion of the net pension liability (asset)	2.1835%	2.1338%	2.0718%	2.1040%
System's proportion share of the net pension liability (asset)	$ 35,335,899	$ 32,568,322	$ 26,649,164	$ 21,919,467
System's covered payroll	15,952,731	15,115,867	14,239,466	14,130,410
System's proportionate share of the net pension liability (asset) as a percentage of its covered payroll	221.50%	215.46%	187.15%	155.12%
Plan fiduciary net position as a percentage of the total pension liability	69.90%	70.20%	74.20%	78.30%

The amounts presented for each fiscal year were determined as of 6/30, year shown is fiscal year of presentation.

*This schedule is intended to show information for 10 years. 2015 is the first year implemented, additional years will be displayed as they become available.

Unaudited - see accompanying report of independent auditor

TABLE 1.2

Schedule of Pension Contributions
ERS Pension Plan
Last Ten Fiscal Years*

	Actuarial Determined Contribution	Contributions in Relations to the Actuarial Determined Contribution	Contribution Deficiency (Excess)	System's Covered Payroll	Contributions as a Percentage of Covered Payroll
2018	$ 4,044,590	$ 4,044,590	$ -	$ 15,992,847	25.29 %
2017	3,653,175	3,653,175	-	15,952,731	22.90
2016	3,323,979	3,323,979	-	15,115,867	21.99
2015	2,869,250	2,869,250	-	14,239,466	20.15
2014	2,727,132	2,727,132	-	14,130,410	19.30

*This schedule is intended to show information for 10 years. 2015 is the first year implemented, additional years will be displayed as they become available.

Unaudited - see accompanying report of independent auditor

2.0 SUPPLEMENTAL OPEB INFORMATION

Tables indicating the System's proportionate share of the total OPEB liability, the net OPEB liability, and a schedule of the System's contributions to the OPEB plan.

TABLE 2.1

Schedule of the Proportionate Share of the Net OPEB Liability
OPEB Plan
Last Ten Fiscal Years*

	2018	
System's proportion of the net OPEB liability	2.4305	%
System's proportionate share of the net OPEB liability	1,039,781	
System's covered employee payroll	22,072,644	
System's proportionate share of the net OPEB liability as a percentage of covered employee payroll	4.71	%
Plan fiduciary net position as a percentage of the total OPEB liability	86.73	%

The amounts presented for each fiscal year were determined as of 6/30, year shown is fiscal year of presentation.

*This schedule is intended to show information for 10 years. FY2018 is the first year implemented, additional years will be displayed as they become available.

Unaudited - see accompanying report of independent auditor

TABLE 2.2

Schedule of OPEB Contributions
OPEB Plan
Last Ten Fiscal Years*
Dollar amounts in thousands)

	2018	2017
Actuarially determined contribution	$ 516	$ 493
Contributions made in relation to the actuarially determined contribution	580	680
Contribution deficiency (excess)	(64)	(187)
Covered employee payroll	21,706	22,073
Contributions as a percentage of covered employee payroll	2.67 %	3.08 %

*This schedule is intended to show information for 10 years. FY2018 is the first year implemented. Additional years will be displayed as they become available.

Unaudited - see accompan ing report of independent auditor

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

STATISTICAL SECTION

FAIRFAX COUNTY
WASTEWATER MANAGEMENT

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Integrated Sewer System · County of Fairfax, Virginia
Statistical Section *(unaudited)*

1.0 Financial Trends

Financial trend information is intended to assist users in understanding how the system's financial position has changed over time. There are four tables presented in this section.

Table 1.1 - Net Position by Component (a) - Last Ten Fiscal Years

	Fiscal Year				
		Restated (a)			Restated (a)
	2018	2017	2016	2015	2014
Net investment in capital assets	$ 1,038,360,082	$ 1,003,960,254	$ 940,641,576	$ 892,414,328	$ 843,276,715
Restricted	18,178,132	14,185,711	73,853,503	66,038,662	43,116,468
Unrestricted	99,372,962	90,123,639	38,417,623	66,651,531	100,358,086
Total net position	$ 1,155,911,176	$ 1,108,269,604	$ 1,052,912,702	$ 1,025,104,521	$ 986,751,269

	Fiscal Year				
		Restated (a)			
	2013	2012	2011	2010	2009
Net investment in capital assets	$ 778,825,722	$ 769,135,097	$ 722,703,848	$ 748,697,093	$ 757,858,955
Restricted	44,113,954	51,055,374	93,427,366	44,371,666	35,945,622
Unrestricted	147,119,567	116,578,189	81,180,178	76,855,173	84,277,881
Total net position	$ 970,059,243	$ 936,768,660	$ 897,311,392	$ 869,923,932	$ 878,082,458

Source: Fairfax County Wastewater Management Program

Notes:

(a) Certain amounts for fiscal years 2012, 2014, and 2017 have been reclassified and/or adjusted for comparability and/or to retroactively reflect accounting changes made during this period. Fiscal year 2012 was related to GASB 65, fiscal year 2014 was related to GASB 68, and fiscal year 2017 was related to GASB 75.

Unaudited - see accompanying report of independent auditor.

TABLE 1.2 - CHANGES IN NET POSITION (a) - LAST TEN FISCAL YEARS

	Fiscal Year				
	2018	2017	2016	2015	2014
Operating revenues:					
Sales of service	$ 199,758,856	$ 195,753,184	$ 190,433,799	$ 187,538,854	$ 188,168,475
Operating expenses:					
Personnel services	32,841,348	33,131,199	29,532,231	26,416,320	27,576,508
Materials and supplies	17,421,987	15,588,636	15,409,135	14,063,157	15,635,981
Contractual services	50,481,605	46,232,788	46,873,730	51,342,024	47,658,923
Depreciation and amortization	63,654,892	63,441,165	61,090,693	58,046,612	55,558,575
Professional fees and other	251,504	721,903	637,717	490,055	240,007
Total operating expenses	164,651,336	159,115,691	153,543,506	150,358,168	146,669,994
Operating income (loss)	35,107,520	36,637,493	36,890,293	37,180,686	41,498,481
Nonoperating revenues (expenses):					
Availability fees	25,974,491	25,206,124	14,681,449	21,689,013	24,007,197
Investment earnings	2,525,508	1,022,586	1,171,307	780,354	484,332
Interest expense	(23,635,250)	(19,502,116)	(20,601,532)	(23,677,340)	(26,960,382)
Amortization of bond issuance costs	-	(673,776)	(605,018)	-	(343,229)
Amortization of deferred amounts on refundings	-	-	-	(945,079)	(994,404)
Gain (loss) on disposal of capital assets	54,378	152,917	(8,326,757)	48,459	122,334
Total nonoperating revenues (expenses)	4,919,127	6,205,735	(13,680,551)	(2,104,593)	(3,684,152)
Loss before contributions and special items	40,026,647	42,843,228	23,209,742	35,076,093	37,814,329
Capital contributions:					
Grants from the Commonwealth	5,315,145	9,394,529	1,958,258	900,914	591,814
Federal stimulus	-	-	-	-	-
From Fairfax County	-	-	-	-	-
From developers	2,299,780	3,119,145	2,640,181	2,376,245	3,482,762
Special items:					
Gain on sale of purchased capacity	-	-	-	-	-
Change in net position	$ 47,641,572	$ 55,356,902	$ 27,808,181	$ 38,353,252	$ 41,888,905

Source: Fairfax County Wastewater Management Program

Notes:

(a) Certain amounts for fiscal year 2012 have been reclassified and/or adjusted for comparability and/or to retroactively reflect accounting changes made during this period.

(b) Certain amounts for fiscal year 2017 have been restated due to the implementation of GASB 75.

Unaudited - see accompanying report of independent auditor.

	Fiscal Year				
	2013	2012	2011	2010	2009
Operating revenues:					
Sales of service	$ 173,553,631	$ 159,957,639	$ 142,929,404	$ 126,681,734	$ 108,723,096
Operating expenses:					
Personnel services	25,607,805	24,735,872	24,162,541	23,131,023	22,907,919
Materials and supplies	13,238,456	13,974,834	11,429,228	11,636,425	13,774,422
Contractual services	47,167,159	46,236,052	48,655,804	47,468,305	47,861,675
Depreciation and amortization	54,358,299	52,429,103	47,130,698	46,680,568	45,575,080
Professional fees and other	427,705	508,080	509,330	876,238	762,872
Total operating expenses	140,799,424	137,883,941	131,887,601	129,792,559	130,881,968
Operating income (loss)	32,754,207	22,073,698	11,041,803	(3,110,825)	(22,158,872)
Nonoperating revenues (expenses):					
Availability fees	20,477,318	28,959,575	11,189,312	10,668,539	11,461,530
Investment earnings	1,409,377	521,755	1,084,587	1,303,897	2,301,005
Interest expense	(28,052,165)	(25,227,137)	(25,300,800)	(25,929,969)	(18,309,964)
Amortization of bond issuance costs	(699,561)	(1,083,241)	(45,476)	(45,476)	(18,729)
Amortization of deferred amounts on refundings	151,242	229,931	229,931	229,931	229,931
Gain (loss) on disposal of capital assets	187,421	8,481	14,748	47,503	46,048
Total nonoperating revenues (expenses)	(6,526,368)	3,409,364	(12,827,698)	(13,725,575)	(4,290,179)
Loss before contributions and special item	26,227,839	25,483,062	(1,785,895)	(16,836,400)	(26,449,051)
Capital contributions:					
Grants from the Commonwealth	1,107,952	10,270,459	3,700,000	4,100,498	-
Federal stimulus	-	-	4,525,425	1,974,575	-
From County	-	-	-	78,301	-
From developers	5,954,792	3,703,747	4,160,045	2,524,500	8,950,919
Special items:					
Cost of Purchased Capacity disposed	-	-	16,787,885	-	-
Change in net position	$ 33,290,583	$ 39,457,268	$ 27,387,460	$ (8,158,526)	$ (17,498,132)

Unaudited - see accompanying report of independent auditor.

TABLE 1.3 - OPERATING REVENUE DETAIL - LAST TEN FISCAL YEARS

	Fiscal Year				
	2018	2017	2016	2015	2014
Sewer service:					
County connections	$ 190,500,757	$ 186,702,496	$ 180,554,128	$ 176,558,827	$ 176,471,310
City of Fairfax	2,257,047	2,304,397	2,301,634	1,667,693	2,158,338
Town of Herndon	1,376,980	1,281,635	1,034,990	3,229,858	3,758,078
Arlington County	614,338	339,303	727,823	705,557	540,121
Fort Belvoir	2,327,058	2,204,729	2,542,802	2,189,831	2,431,455
City of Falls Church	820,972	684,338	1,095,921	1,049,188	1,022,967
Town of Vienna	501,998	479,276	454,525	467,888	455,670
Other (a)	608,854	722,920	824,581	755,256	563,866
Other services	750,582	1,034,090	897,395	914,756	766,670
Total operating revenues	$ 199,758,586	$ 195,753,184	$ 190,433,799	$ 187,538,854	$ 188,168,475

	Fiscal Year				
	2013	2012	2011	2010	2009
Sewer service:					
County connections	$ 163,052,021	$ 148,891,691	$ 134,050,981	$ 117,550,994	$ 100,493,512
City of Fairfax	1,702,234	3,162,214	1,766,899	2,327,558	1,886,339
Town of Herndon	2,992,525	3,193,471	2,796,632	2,508,622	2,221,125
Arlington County	538,464	566,991	632,042	662,576	657,186
Fort Belvoir	2,429,616	1,842,643	1,440,178	1,617,140	1,285,825
City of Falls Church	921,702	1,030,951	1,055,703	887,498	1,242,233
Town of Vienna	650,817	451,532	452,817	589,075	453,261
Other (a)	651,188	348,552	390,641	296,331	293,946
Other services	615,064	469,594	343,511	241,940	189,669
Total operating revenues	$ 173,553,631	$ 159,957,639	$ 142,929,404	$ 126,681,734	$ 108,723,096

Source: Fairfax County Wastewater Management Program

Notes:

(a) Other sewer service revenues include revenues from Fairfax Water and the County's solid waste resource recovery facility.

Unaudited - see accompanying report of independent auditor.

Table 1.4 - Operating Expenses Detail - Last Ten Fiscal Years

	Fiscal Year				
	2018	2017	2016	2015	2014
Wastewater treatment expenses (a):					
Noman M. Cole, Jr.	$ 23,094,407	$ 20,837,175	$ 20,325,332	$ 18,425,015	$ 19,931,898
Alexandria Renew Enterprises	13,575,257	13,350,729	11,590,585	13,380,703	13,133,545
DCWASA Blue Plains	14,271,793	10,644,395	12,800,588	15,016,549	11,815,951
Upper Occoquan Sewage Authority	12,977,850	13,420,485	13,472,493	12,687,555	12,276,384
Arlington County	2,453,677	2,066,590	2,012,313	2,711,644	2,225,036
City of Falls Church Sewer	420,592	-	48,617	664,936	-
Other (b)	616,062	556,511	533,502	1,074,445	496,374
Total wastewater treatment expenses	67,409,638	60,875,885	60,783,430	63,960,847	59,879,188
Other operating expenses:					
Pumping, collection, and inspection	18,119,901	18,347,241	16,671,232	13,512,902	13,280,579
System repairs and renovations	505,937	238,102	194,724	260,030	115,557
Planning, engineering, and monitoring support	8,794,593	8,511,113	8,387,796	8,771,586	10,240,019
Billing and bill collection	6,166,375	6,194,078	6,415,631	5,806,191	7,596,076
Depreciation and amortization	63,654,892	63,441,165	61,090,693	58,046,612	55,558,575
Total operating expenses	$ 164,651,336	$ 157,607,584	$ 153,543,506	$ 150,358,168	$ 146,669,994

	Fiscal Year				
	2013	2012	2011	2010	2009
Wastewater treatment expenses (a):					
Noman M. Cole, Jr.	$ 19,605,159	$ 20,088,669	$ 19,682,549	$ 19,246,868	$ 21,300,335
Alexandria Renew Enterprises	12,786,521	12,836,900	13,221,642	13,840,642	14,170,985
DCWASA Blue Plains	13,214,346	13,257,118	13,492,628	12,279,110	12,516,382
Upper Occoquan Sewage Authority	12,635,433	12,045,467	13,187,574	12,944,970	13,171,944
Arlington County	2,174,228	2,224,503	1,700,523	1,607,662	1,595,998
Other (b)	530,959	497,634	608,470	560,153	672,775
Total wastewater treatment expenses	60,946,646	60,950,291	61,893,386	60,479,405	63,428,419
Other operating expenses:					
Pumping, collection, and inspection	13,759,928	13,445,481	12,573,304	12,909,408	13,034,159
System repairs and renovations	280,341	500,654	348,716	537,236	611,624
Planning, engineering, and monitoring support	5,655,443	5,305,778	3,845,246	3,520,455	3,110,606
Billing and bill collection	5,798,767	5,252,634	6,096,251	5,665,487	5,122,080
Depreciation and amortization	54,358,299	52,429,103	47,130,698	46,680,568	45,575,080
Total operating expenses	$ 140,799,424	$ 137,883,941	$ 131,887,601	$ 129,792,559	$ 130,881,968

Source: Fairfax County Wastewater Management Program

Notes:
(a) Wastewater treatment expenses are direct operating expenses, excluding depreciation and amortization.
(b) Other plants include Harbor View and Prince William County Service Authority.

Unaudited - see accompanying report of independent auditor.

2.0 REVENUE CAPACITY

Revenue capacity information is intended to assist users in understanding and assessing the factors affecting the system's ability to generate its own-source revenues. There are six tables presented in this section.

TABLE 2.1 - SEWER RATE STRUCTURE (a) - LAST TEN FISCAL YEARS

	Availability Charge (b) (Per Unit)			Retail Sewer Service Charge (c) (Per 1,000 gallons)	Retail Residential Sewer Service Base Charge (d) (Per Bill)
Fiscal Year	Single Family Residence	Townhouse/ Apartment	Commercial Fixture		
2018	$ 8,100	$ 6,480	$ 405	$ 6.75	$ 27.62
2017	7,750	6,200	401	6.68	24.68
2016	7,750	6,200	401	6.65	20.15
2015	7,750	6,200	401	6.62	15.86
2014	7,750	6,200	401	6.55	12.79
2013	7,750	6,200	401	6.55	5.50
2012	7,750	6,200	401	6.01	5.00
2011	7,750	6,200	401	5.27	5.00
2010	7,310	5,848	378	4.50	5.00
2009	6,896	5,517	357	4.10	-

Connection Charge (e) - Effective July 1, 2011, the rate was increased to $152.50 per foot. Prior to this date, the rate was $6.00 per foot since December 1970.

Lateral Spur Charge (f) - The rate has been $600 per spur connection since March 1981.

Source: Fairfax County Wastewater Management Program

Notes:

(a) Sewer rates are established by the Board of Supervisors pursuant to Chapter 67.1 of the County Code. Rates and code language are reviewed annually by the County staff as part of the County's annual long-range planning and short-term budgeting process and revised as necessary. These rates are in effect for County customers only. Customers outside the County are billed subject to sale of service agreements.

(b) Availability Charge - This is a one-time charge collected from all new customers prior to connection to the System to cover in part the new customer's proportionate cost of System facilities beyond the collector system. Residential units pay on a per unit basis. Commercial units pay an equivalent residential (single family residence) unit fee for the first 19 plumbing fixture units, then on a per fixture unit basis for any fixture units in excess of the residential equivalent amount.

(c) Retail Sewer Service Charge - Single family residences and townhouses are billed sewer service charges quarterly based on water consumption from the previous winter quarter. Apartment and nonresidential complexes are billed based on consumption used during the billing period. These charges are collected by three water billing agents: Fairfax Water, the City of Falls Church, and the Town of Vienna.

(d) Beginning in FY 2010, a base charge of $5.00 per bill is assessed, in addition to the sewer service charge, to partially recover fixed expenses for billing, wastewater collection, engineering, planning, and administrative expenses.

(e) Connection Charge: frequently called the front footage charge, this is a one-time charge collected from new customers prior to connection to the System as a partial repayment of County installed collector sewers.

(f) Lateral Spur Charge: this is a one-time charge that applies only to those new customers who are connecting to County installed sanitary sewers where the lateral spurs have been installed at County expense.

Unaudited - see accompanying report of independent auditor.

TABLE 2.2 - CUSTOMER BA E BY TREATMENT PLANT - LAST TEN FISCAL YEARS

	Fiscal Year				
Treatment Plant	**2018**	**2017**	**2016**	**2015**	**2014**
Noman M. Cole, Jr.	150,103	149,880	149,667	149,344	149,172
DCWASA Blue Plains	89,182	88,920	88,701	88,325	88,139
Alexandria Renew Enterprises	68,663	68,606	68,455	68,293	68,207
Upper Occoquan Sewage Authority	49,576	49,467	49,428	49,351	49,288
Arlington County	10,716	10,706	10,688	10,675	10,664
Other (a)	373	372	372	369	368
Customer base	368,613	367,951	367,311	366,357	365,838

	Fiscal Year				
Treatment Plant	**2013**	**2012**	**2011**	**2010**	**2009**
Noman M. Cole, Jr.	148,734	147,998	147,478	146,810	144,407
DCWASA Blue Plains	87,841	87,551	87,406	86,575	85,937
Alexandria Renew Enterprises	68,035	67,805	67,229	67,069	66,278
Upper Occoquan Sewage Authority	49,239	49,188	49,109	48,889	48,796
Arlington County	10,650	10,644	10,639	10,623	10,445
Other (a)	367	357	348	345	342
Customer base	364,866	363,543	362,209	360,311	356,205

Source: Fairfax County Wastewater Management Program

Notes:

(a) Other service areas include Harbor View and Prince William County Service Authority. In addition, there are holding tank facilities in the Town of Clifton and Gunston Wiley.

Unaudited - see accompanying report of independent auditor.

TABLE 2.3 - CUSTOMER BASE BY SERVICE CLASS - LAST TEN FI CAL YEAR

	Fiscal Year				
Service Class	**2018**	**2017**	**2016**	**2015**	**2014**
Residential units:					
Single family	165,936	165,552	165,113	164,418	164,021
Multi-family	96,256	96,251	96,247	96,226	96,212
Townhouse	78,159	77,905	77,722	77,549	77,469
Total residential units	340,351	339,708	339,082	338,193	337,702
Nonresidential units (a)	28,262	28,243	28,229	28,164	28,136
Total customer base	368,613	367,951	367,311	366,357	365,838

	Fiscal Year				
Service Class	**2013**	**2012**	**2011**	**2010**	**2009**
Residential units:					
Single family	163,266	162,671	162,264	161,777	161,271
Multi-family	96,207	96,177	95,649	95,476	94,872
Townhouse	77,301	77,019	76,885	76,811	76,698
Total residential units	336,774	335,867	334,798	334,064	332,841
Nonresidential units (a)	28,092	27,676	27,411	26,247	23,364
Total customer base	364,866	363,543	362,209	360,311	356,205

Source: Fairfax County Wastewater Management Program

Notes:

(a) Nonresidential units include long-term care, dorms, and extended-stay rooms.

Unaudited - see accompanying report of independent auditor.

TABLE 2.4 - NUMBER OF SEWER CONNECTIONS SOLD (a) - LAST TEN FISCAL YEARS

	Fiscal Year				
Service Class	**2018**	**2017**	**2016**	**2015**	**2014**
Residential units:					
Single family	135	227	161	189	168
Multi-family	2,575	2,709	1,386	1,608	2,571
Townhouse	424	213	136	195	84
Total residential units	3,134	3,149	1,683	1,992	2,823
Nonresidential units (b)	9	18	12	19	571
Total sewer connections sold	3,143	3,167	1,695	2,011	3,394
Additional commercial fixture units sold	12,315	12,151	9,163	12,898	12,463

	Fiscal Year				
Service Class	**2013**	**2012**	**2011**	**2010**	**2009**
Residential units:					
Single family	242	299	260	290	305
Multi-family	1,580	3,176	630	704	501
Townhouse	218	146	108	96	131
Total residential units	2,040	3,621	998	1,090	937
Nonresidential units (b)	121	559	12	8	20
Total sewer connections sold	2,161	4,180	1,010	1,098	957
Additional commercial fixture units sold	17,856	12,147	11,628	10,132	11,518

Source: Fairfax County Wastewater Management Program

Notes:

(a) The number of sewer connections sold includes only County customers. Availability fees are generated by sewer connections sold. See Table 2.1 for the rate structure.

(b) Nonresidential units include long-term care, dorms and extended-stay rooms.

Unaudited - see accompanying report of independent auditor.

TABLE 2.5 - NUMBER OF NEW SE ER CONNECTIONS - LAST TEN FISCAL YEARS

	Fiscal Year				
Service Class	**2018**	**2017**	**2016**	**2015**	**2014**
Residential units:					
Single family	384	439	695	397	755
Multi-family	5	4	21	14	5
Townhouse	254	183	173	80	168
Total residential units	643	626	889	491	928
Nonresidential units (a)	19	14	65	28	44
Total new sewer connections	662	640	954	519	972

	Fiscal Year				
Service Class	**2013**	**2012**	**2011**	**2010**	**2009**
Residential units:					
Single family	595	407	487	506	590
Multi-family	30	528	173	604	749
Townhouse	282	134	74	113	166
Total residential units	907	1,069	734	1,223	1,505
Nonresidential units (a)	416	265	1,164	2,883	1,222
Total new sewer connections	1,323	1,334	1,898	4,106	2,727

Source: Fairfax County Wastewater Management Program

Notes:

(a) Nonresidential units include long-term care, dorms and extended-stay rooms.

Unaudited - see accompanying report of independent auditor.

TABLE 2.6 - TEN LARGEST CUSTOMERS - CURRENT YEARS AND NINE YEARS AGO

	Fiscal Year 2018			Fiscal Year 2009		
Name	Annual Revenues	Rank	Percentage of Total Operating Revenues	Annual Revenues	Rank	Percentage of Total Operating Revenues
INOVA Fairfax Hospital	$ 559,378	1	0.28 %	$ 357,006	1	0.33 %
Greenspring Village	481,646	2	0.24	310,204	2	0.29
Montebello Condo Unit	251,375	3	0.13	-	-	-
Reston Hospital Center	232,992	4	0.12	124,141	5	0.11
Homart Development Corp.	210,055	5	0.11	147,462	4	0.14
INOVA Health Systems - Fair Oaks Hospital	153,312	6	0.08	84,023	10	0.08
Hyatt Regency Reston	151,655	7	0.08	119,139	6	0.11
Reston Town Center	118,618	8	0.06	103,504	7	0.10
Fairview Park Marriott	109,725	9	0.05	-	-	-
Wedgewood West Association	108,867	10	0.05	-	-	-
Shenandoah's Pride Dairy	-	-	-	185,008	3	0.17
Ritz-Carlton Hotel Co.	-	-	-	96,769	8	0.09
Mobile Oil Corp.	-	-	-	95,323	9	0.09
Totals	$ 2,377,623		1.20 %	$ 1,622,579		1.51 %

Source: Fairfax County Wastewater Management Program and FY2009 CAFR

Unaudited - see accompanying report of independent auditor.

3.0 - DEBT CAPACITY

Debt capacity information is intended to assist users in understanding and assessing the System's debt burden and its ability to issue additional debt. There are three tables in this section.

TABLE 3.1 - RATIOS OF OUTSTANDING DEBT - LAST TEN FISCAL YEARS

	Fiscal Year				
	2018	2017	2016	2015	2014
Senior debt:					
2017 Sewer revenue refunding bonds	$ 103,222,838	$ 103,823,280	$ -	$ -	$ -
2016 Sewer revenue refunding bonds	187,167,398	188,200,007	189,232,620	-	-
2014 Sewer revenue refunding bonds	57,059,406	60,998,066	64,786,726	68,475,386	68,989,046
2012 Sewer revenue bonds	41,883,475	43,788,214	45,612,953	101,522,504	103,487,772
2009 Sewer revenue bonds	7,603,470	10,890,540	14,022,610	146,030,833	149,111,493
2004 Sewer revenue refunding bonds	-	-	-	-	3,413,434
Total senior debt	396,936,587	407,700,107	313,654,909	316,028,723	325,001,745
Subordinate debt:					
Upper Occoquan Sewage Authority bonds	231,842,892	242,574,706	254,524,994	265,680,629	277,293,041
Virginia Resource Authority bonds	20,792,625	26,529,083	32,085,998	37,440,694	42,671,739
Total subordinate debt	252,635,517	269,103,789	286,610,992	303,121,323	319,964,780
Total outstanding debt	$ 649,572,104	$ 676,803,895	$ 600,265,901	$ 619,150,046	$ 644,966,525
Outstanding debt ratios:					
Per capita (a)	$ 568	$ 594	$ 526	$ 544	$ 570
Percent of personal income (a)	0.75%	0.79%	0.70%	0.76%	0.80%
Per connection (b)	$ 1,762	$ 1,839	$ 1,634	$ 1,690	$ 1,763
To operating revenues (c)	$ 3.25	$ 3.46	$ 3.15	$ 3.30	$ 3.43

	Fiscal Year				
	2013	2012	2011	2010	2009
Senior debt:					
2012 Sewer revenue bonds	$ 105,418,040	$ -	$ -	$ -	$ -
2009 Sewer revenue bonds	152,057,153	147,430,000	149,875,000	152,255,000	152,255,000
2004 Sewer revenue refunding bonds	77,950,428	79,280,000	82,215,000	85,050,000	87,790,000
1996 Sewer revenue bonds	-	-	-	-	-
1993 Sewer revenue refunding bonds	-	-	-	-	-
Total senior debt	335,425,621	226,710,000	232,090,000	237,305,000	240,045,000
Subordinate debt:					
Upper Occoquan Sewage Authority bonds	283,269,711	273,056,094	276,062,972	248,240,949	253,660,620
Virginia Resource Authority bonds	47,781,987	52,487,594	56,946,896	61,236,896	65,364,033
Total subordinate debt	331,051,698	325,543,688	333,009,868	309,477,845	319,024,653
Total outstanding debt	$ 666,477,319	$ 552,253,688	$ 565,099,868	$ 546,782,845	$ 559,069,653
Outstanding debt ratios:					
Per capita (a)	$ 596	$ 493	$ 522	$ 509	$ 532
Percent of personal income (a)	0.87%	0.78%	0.73%	0.71%	0.75%
Per connection (b)	$ 1,827	$ 1,519	$ 1,560	$ 1,518	$ 1,570
To operating revenues (c)	$ 3.84	$ 3.45	$ 3.95	$ 4.32	$ 5.14

Source: Fairfax County Wastewater Management Program

Notes:

(a) See Table 4.1 for population and personal income data. Ratios are based on the population and personal income data as of the prior calendar year.

(b) See Tables 2.2 and 2.3 for customer base data.

(c) See Table 1.3 for operating revenue data.

(d) For FY 2006 - 2015, amounts for bonds are reported gross, excluding premiums and/or discounts and deferred amounts on refundings.

Unaudited - see accompanying report of independent auditor.

Table 3.2 - Pledged Revenue Coverage - Last Ten Fiscal Years

Fiscal Year	Gross Revenues (a)	Operating Expenses (b)	Net Revenue Available for Debt Service	Debt Service Requirements (e) Senior Debt (c)	Subordinate Debt (d)	Total	Debt Coverage (f) Senior w/o AF	Total w/AF	Total w/o AF
2018	$ 228,258,855	$ 100,996,444	$ 127,262,411	$ 21,798,234	$ 21,545,695	$ 43,343,929	4.65	2.94	2.34
2017	221,981,894	94,166,419	127,815,475	17,319,472	25,812,397	43,131,869	5.92	2.96	2.38
2016	206,286,555	92,452,813	113,833,742	20,896,350	26,219,955	47,116,305	4.74	2.42	2.10
2015	210,056,680	92,311,556	117,745,124	20,524,756	26,239,074	46,763,830	4.68	2.52	2.04
2014	212,782,338	91,111,419	121,670,919	21,889,744	26,107,036	47,996,780	4.46	2.53	2.03
2013	195,627,747	86,441,125	109,186,622	18,153,551	26,155,106	44,308,657	4.89	2.46	2.00
2012	189,447,450	85,454,838	103,992,612	16,334,719	25,528,010	41,862,729	4.59	2.48	1.79
2011	155,218,051	84,756,903	70,461,148	16,322,531	24,910,740	41,233,271	3.63	1.71	1.44
2010	138,701,673	83,111,991	55,589,682	10,881,182	24,297,131	35,178,313	4.13	1.58	1.28
2009	122,531,678	85,306,888	37,224,790	6,644,456	23,022,158	29,666,614	3.88	1.25	0.87

Source: Fairfax County Wastewater Management Program

Notes:

(a) Gross revenues include all revenues except amortization of deferred gains on bond refundings and gains on disposals of fixed assets.

(b) Operating expenses do not include depreciation and amortization.

(c) Senior debt includes sewer revenue and revenue refunding bonds issued by the System and the System's share of debt of the Alexandria Sanitation Authority.

(d) Subordinate debt is paid after senior debt and operating expenses. It includes debt service on the System's share of debt of UOSA Revenue Bonds and VRA Revenue Bonds.

(e) The same resources are used for all debt service requirements. See Table 3.3 for details of principal and interest amounts.

(f) The minimum senior debt service coverage should be no less than 1.25 times. The Sewer Fund changed the minimum senior debt coverage to 2.0 times in FY 2011. The Sewer Fund surpassed its total debt coverage of 1.25 times, without availability fee (AF) revenue, by FY 2010.

Unaudited - see accompanying report of independent auditor.

TABLE 3.3 - DEBT SERVICE REQUIREMENTS - LAST TEN FISCAL YEARS

	Fiscal Year				
	2018	2017	2016	2015	2014
Senior debt:					
2017 Sewer revenue bonds	$ 2,293,053	$ -	$ -	$ -	$ -
2016 Sewer revenue refunding bonds	6,697,181	4,520,597	-	-	-
2014 Sewer revenue refunding bonds	5,722,625	5,707,375	5,688,250	1,901,681	-
2012 Sewer revenue bonds	3,392,125	3,394,125	5,556,950	5,554,675	5,556,200
2009 Sewer revenue bonds	3,693,250	3,697,375	9,651,150	9,650,025	9,651,900
2004 Sewer revenue refunding bonds	-	-	-	3,418,375	6,681,644
Total senior debt	21,798,234	17,319,472	20,896,350	20,524,756	21,889,744
Subordinate debt:					
Upper Occoquan Sewage Authority bonds	15,570,803	19,837,505	20,016,677	20,035,797	19,903,758
Virginia Resource Authority bonds	5,974,892	5,974,892	6,203,278	6,203,277	6,203,278
Total subordinate debt	21,545,695	25,812,397	26,219,955	26,239,074	26,107,036
Total debt service requirements	$ 43,343,929	$ 43,131,869	$ 47,116,305	$ 46,763,830	$ 47,996,780

	Fiscal Year				
	2013	2012	2011	2010	2009
Senior debt:					
2012 Sewer revenue bonds	$ 1,801,401	$ -	$ -	$ -	$ -
2009 Sewer revenue bonds	9,652,150	9,651,213	9,652,475	4,222,501	-
2004 Sewer revenue refunding bonds	6,700,000	6,683,506	6,670,056	6,658,681	6,644,456
Total senior debt	18,153,551	16,334,719	16,322,531	10,881,182	6,644,456
Subordinate debt:					
Upper Occoquan Sewage Authority bonds	19,734,931	18,890,938	18,303,668	17,660,059	16,385,086
Virginia Resource Authority bonds	6,420,175	6,637,073	6,637,073	6,637,073	6,637,072
Total subordinate debt	26,155,106	25,528,011	24,940,741	24,297,132	23,022,158
Total debt service requirements	$ 44,308,657	$ 41,862,730	$ 41,263,272	$ 35,178,314	$ 29,666,614

Source: Fairfax County Wastewater Management Program

(a) Debt service amounts reported in this table include both principal and interest payments on bonds based on a cash basis.

Unaudited - see accompanying report of independent auditor.

4.0 DEMOGRAPHIC AND ECONOMIC INFORMATION

Demographic and economic information is intended to assist users in understanding the socioeconomic environment within which a government entity operates and to provide information that facilitates comparisons of financial statement information over time and among environments. There are two tables presented in this section.

TABLE 4.1 - DEMOGRAPHIC AND ECONOMIC STATISTICS - LAST TEN CALENDAR YEARS

Calendar Year	County Population: Total (a)	County Population: On County Sewer (b)	Personal Income (c) (000s)	Per Capita Personal Income (c)	Unemployment Rate (d)
2018	1,142,888	945,000	$ 86,834,344	$ 75,978	3.0 %
2017	1,138,652	941,000	85,311,224	74,923	3.2
2016	1,142,234	937,000	85,675,546	75,007	3.1
2015	1,137,538	936,245	81,620,627	71,752	3.5
2014	1,130,924	935,435	80,982,075	71,607	3.7
2013	1,118,602	932,864	77,012,392	68,847	4.3
2012	1,100,692	930,350	71,145,429	64,637	4.2
2011	1,081,726	912,000	72,577,324	67,094	4.9
2010	1,074,227	878,170	74,380,758	71,982	4.8
2009	1,050,315	874,200	74,385,409	70,822	3.4

Notes:

(a) Total population data includes the Cities of Fairfax and Falls Church and is obtained from the U.S. Census Bureau's American Fact Finder.

(b) Population data for those on County Sewer is obtained from the Fairfax County Wastewater Management Program.

(c) Personal income data is obtained from the Bureau of Economic Analysis, U.S. Department of Commerce, and includes the cities of Fairfax and Falls Church. Data for only Fairfax County is not available; however, it is believed that the inclusion of these cities does not significantly affect the County's data. Fairfax County data for 2015 is estimated using percent change in per capita personal income from 2014.

(d) Unemployment rates are obtained from the Virginia Employment Commission's Annual Unemployment Statistics for the calendar year, not seasonally adjusted.

Unaudited - see accompanying report of independent auditor.

TABLE 4.2 - PRINCIPAL EMPLOYERS - CURRENT YEAR AND NINE YEARS AGO

	Fiscal Year 2018 (1)			Fiscal Year 2009 (1)		
Employer	**Number of Employees (2)**	**Rank**	**Pct. of Total County Employment (3)**	**Number of Employees (2)**	**Rank**	**Pct. of Total County Employment (3)**
Fairfax County Public Schools	24,715	1	3.92 %	23,014	1	4.02 %
Federal Government	24,080	2	3.82	15,393	2	2.69
Fairfax County Government	12,552	3	1.99	11,393	3	1.99
Inova Health System	7,000-10,000	4	1.35	7,000-10,000	4	1.49
George Mason University	5,000-9,999	5	1.19	-	-	-
Booz-Allen Hamilton	5,000-9,999	6	1.19	7,000-10,000	5	1.49
Federal Home Loan Mortgage	5,000-9,999	7	1.19	4,000-6,999	9	0.96
Capital One	5,000-9,999	8	1.19	-	-	-
General Dynamics	5,000-9,999	9	1.19	1,000-3,999	10	0.44
Northrop Grumman	2,500-4,999	10	0.60	7,000-10,000	6	1.49
Science Applications International Corporation (4)	-	-	-	4,000-6,999	7	0.96
Lockheed Martin	-	-	-	4,000-6,999	8	0.96
Totals			17.63 %			16.49 %

Source: Fairfax County Economic Development Authority, using Virginia Employment Commission data; Fairfax County Public Schools; Fairfax County Department of Management and Budget

Notes:

(1) Employment information for fiscal year 2018, excluding data from Fairfax County Government and Fairfax County Public Schools, is from the 1st quarter of calendar year 2018 VEC. Employment information for fiscal year 2009 is as presented in the fiscal year 2009 CAFR.

(2) Employment estimates for separate facilities of the same firm have been combined to create company totals. Employment ranges for the private sector are given to ensure confidentiality.

(3) Percentages are based on the midpoint of the employment range. Average total County employment for fiscal year 2018 is estimated at 629,698 based on Business Vital Statistics of the Fairfax Economic Development Authority. Average total County employment for fiscal year 2009 was estimated at 570,000.

(4) Science Applications International Corporation employment is reported prior to the September 2013 split into two independent companies (SAIC and Leidos).

Unaudited - see accompanying report of independent auditor.

5.0 Operating Information

Operating information is intended to provide contextual information about a government entity's operations and resources to assist readers in using financial statement information to understand and assess a government entity's economic condition. There are nine tables presented in this section.

Table 5.1 - Wastewater Management Employees by Division (a) - Last Ten Fiscal Years

	Fiscal Year				
Division	**2018**	**2017**	**2016**	**2015**	**2014**
Planning & Administration	29	32	35	35	35
Laboratory	23	21	19	19	19
Collection	134	134	132	132	132
Treatment	131	132	129	129	129
Total	317	319	315	315	315

	Fiscal Year				
Division	**2013**	**2012**	**2011**	**2010**	**2009**
Planning & Administration	25	25	25	25	25
Laboratory	21	21	21	21	21
Collection	140	140	140	140	140
Treatment	135	135	135	135	135
Total	321	321	321	321	321

Source: Fairfax County Wastewater Management Program

Notes:

(a) Number of employees represents full time equivalents as of June 30.

Unaudited - see accompanying report of independent auditor.

TABLE 5.2 - TREATMENT PLANT CAPACITIES (MGD) - LAST TEN FISCAL YEARS

	Fiscal Year				
Treatment Plant	**2018**	**2017**	**2016**	**2015**	**2014**
Noman M. Cole, Jr.	67.00	67.00	67.00	67.00	67.00
DCWASA Blue Plains	31.00	31.00	31.00	31.00	31.00
Alexandria Renew Enterprises	32.40	32.40	32.40	32.40	32.40
Upper Occoquan Sewage Authority	22.60	22.60	22.60	22.60	22.60
Arlington County	3.00	3.00	3.00	3.00	3.00
Loudoun Water	1.00	1.00	1.00	1.00	1.00
Other (a)	0.18	0.18	0.18	0.18	0.18
Treatment plant capacity	157.18	157.18	157.18	157.18	157.18

	Fiscal Year				
Treatment Plant	**2013**	**2012**	**2011**	**2010**	**2009**
Noman M. Cole, Jr.	67.00	67.00	67.00	67.00	67.00
DCWASA Blue Plains	31.00	31.00	31.00	31.00	31.00
Alexandria Renew Enterprises	32.40	32.40	32.40	32.40	32.40
Upper Occoquan Sewage Authority	22.60	22.60	22.60	24.60	24.60
Arlington County	3.00	3.00	3.00	3.00	3.00
Other (a)	0.18	0.18	0.18	0.18	0.18
Treatment plant capacity	157.18	157.18	157.18	158.18	158.18

Source: Fairfax County Wastewater Management Program

Notes:
(a) Other plants include Harbor View and Prince William County Service Authority.

Unaudited - see accompanying report of independent auditor.

Table 5.3 - Average Wastewater Flows (MGD) by Treatment Plant - Last Ten Fiscal Years

	Fiscal Year				
Treatment Plant	**2018**	**2017**	**2016**	**2015**	**2014**
Noman M. Cole, Jr.	36.95	35.64	37.78	38.36	39.77
DCWASA Blue Plains	26.80	25.36	27.14	28.17	29.98
Alexandria Renew Enterprises	17.31	15.46	16.52	16.39	19.07
Upper Occoquan Sewage Authority	12.47	11.86	12.64	12.76	13.53
Arlington County	2.25	2.18	2.08	2.04	1.96
Loudoun Water	0.00	0.00	0.00	0.00	0.00
Other (a)	0.02	0.02	0.04	0.03	0.03
Total system flow	95.80	90.52	96.20	97.75	104.34

	Fiscal Year				
Treatment Plant	**2013**	**2012**	**2011**	**2010**	**2009**
Noman M. Cole, Jr.	37.56	39.91	38.59	42.04	41.12
DCWASA Blue Plains	28.39	29.31	28.65	29.65	28.05
Alexandria Renew Enterprises	17.66	18.93	18.57	20.81	16.90
Upper Occoquan Sewage Authority	12.50	12.60	12.54	13.14	12.44
Arlington County	1.96	2.00	2.02	2.02	1.98
Loudoun Water	0.00	0.00	0.00	0.00	0.00
Other (a)	0.02	0.04	0.03	0.07	0.07
Total system flow	98.09	102.79	100.40	107.73	100.56

Source: Fairfax County Wastewater Management Program

Notes:
(a) Other plants include Harbor View and Prince William County Service Authority.

Unaudited - see accompanying report of independent auditor.

TABLE 5.4 - AVERAGE WASTEWATER FLOWS (MGD) BY SOURCE - LAST TEN FISCAL YEARS

	Fiscal Year				
Source	**2018**	**2017**	**2016**	**2015**	**2014**
County connections	85.93	80.85	85.82	87.93	92.26
City of Fairfax	2.57	2.95	3.24	2.84	3.20
Town of Herndon	2.88	2.68	2.43	2.46	2.66
Arlington County	1.17	1.09	1.35	1.37	1.39
Fort Belvoir	1.18	1.08	1.29	1.13	2.70
City of Falls Church	1.04	0.86	0.94	0.89	0.98
Town of Vienna	0.75	0.69	0.75	0.77	0.86
Loudoun County	0.11	0.11	0.12	0.12	0.11
Other (a)	0.17	0.21	0.26	0.24	0.18
Total system flow	95.80	90.52	96.20	97.75	104.34

	Fiscal Year				
Source	**2013**	**2012**	**2011**	**2010**	**2009**
County connections	88.72	92.75	90.85	96.79	90.51
City of Fairfax	2.63	3.15	3.00	3.46	3.27
Town of Herndon	2.27	2.46	2.47	2.59	2.40
Arlington County	1.21	1.36	1.32	1.57	1.42
Fort Belvoir	1.30	1.05	0.90	1.16	1.07
City of Falls Church	0.94	0.99	0.93	1.12	1.04
Town of Vienna	0.73	0.82	0.73	0.86	0.67
Loudoun County	0.10	0.09	0.08	0.07	0.07
Other (a)	0.19	0.12	0.12	0.11	0.11
Total system flow	98.09	102.79	100.40	107.73	100.56

Source: Fairfax County Wastewater Management Program

Notes:

(a) Other sources of wastewater include Fairfax Water and the County's solid waste resource recovery facility.

Unaudited - see accompanying report of independent auditor.

TABLE 5.5 - MAXIMUM MONTHLY FLOWS (MGD) BY TREATMENT PLANT - LAST TEN FISCAL YEARS

	Recent Five Years		Past Ten Years	
Treatment Plant	**Flow**	**Month**	**Flow**	**Month**
Noman M. Cole, Jr.	45.77	May-14	47.32	Feb-10
DCWASA Blue Plains	34.75	May-14	34.75	May-14
Alexandria Renew Enterprises	21.93	Apr-18	26.72	Sep-11
Upper Occoquan Sewage Authority	16.74	Feb-16	16.74	Feb-16
Arlington County	2.36	May-18	2.36	May-18

Source: Fairfax County Wastewater Management Program

Unaudited - see accompanying report of independent auditor.

Table 5.6 - Average Unused Capacity (MGD) by Treatment Plant (a) - Last Ten Fiscal Years

	Fiscal Year				
Treatment Plant	**2018**	**2017**	**2016**	**2015**	**2014**
Noman M. Cole, Jr.	30.05	31.36	29.22	28.64	27.23
DCWASA Blue Plains	4.20	5.64	3.86	2.83	1.02
Alexandria Renew Enterprises	15.09	16.94	15.88	16.01	13.33
Upper Occoquan Sewage Authority	10.13	10.74	9.96	9.83	9.07
Arlington County	0.75	0.82	0.92	0.97	1.04
Loudoun Water	1.00	1.00	1.00	1.00	1.00
Other (b)	0.16	0.16	0.14	0.15	0.15
Total unused capacity	61.38	66.66	60.98	59.43	52.84

	Fiscal Year				
Treatment Plant	**2013**	**2012**	**2011**	**2010**	**2009**
Noman M. Cole, Jr.	29.44	27.09	28.41	24.96	25.88
DCWASA Blue Plains	2.60	1.69	2.35	1.35	2.95
Alexandria Renew Enterprises	14.73	13.47	13.83	11.59	15.50
Upper Occoquan Sewage Authority	10.10	10.00	10.06	11.46	12.16
Arlington County	1.04	1.00	0.98	0.98	1.02
Loudoun Water	1.00	1.00	1.00	-	-
Other (b)	0.15	0.14	0.15	0.11	0.11
Total unused capacity	59.06	54.39	56.78	50.45	57.62

Source: Fairfax County Wastewater Management Program

Notes:

(a) See Table 5.2 for treatment plant capacity.

(b) Other plants include Harbor View and Prince William County Service Authority.

Unaudited - see accompanying report of independent auditor.

TABLE 5.7 - AVERAGE CAPACITY UTILIZATION (a) BY TREATMENT PLANT - LAST TEN FISCAL YEARS

	Fiscal Year				
Treatment Plant	**2018**	**2017**	**2016**	**2015**	**2014**
Noman M. Cole, Jr.	55.15 %	53.19 %	56.39 %	57.25 %	59.36 %
DCWASA Blue Plains	86.45	81.81	87.55	90.87	96.71
Alexandria Renew Enterprises	53.43	47.72	50.99	50.59	58.86
Upper Occoquan Sewage Authority	55.18	52.48	55.93	56.46	59.87
Arlington County	75.00	72.67	69.33	68.00	65.33
Other (b)	11.11	11.11	22.22	16.67	16.11
Total system capacity utilization	60.95 %	57.59 %	61.20 %	62.19 %	66.38 %

	Fiscal Year				
Treatment Plant	**2013**	**2012**	**2011**	**2010**	**2009**
Noman M. Cole, Jr.	56.06 %	59.57 %	57.60 %	62.75 %	61.37 %
DCWASA Blue Plains	91.61	94.55	92.42	95.65	90.48
Alexandria Renew Enterprises	54.53	58.43	57.31	64.23	52.16
Upper Occoquan Sewage Authority	55.75	55.75	55.49	53.41	50.57
Arlington County	66.67	66.67	67.33	67.33	66.00
Other (b)	16.67	22.22	16.67	38.89	38.89
Total system capacity utilization	62.42 %	65.40 %	63.88 %	68.11 %	63.57 %

Source: Fairfax County Wastewater Management Program

Notes:

(a) See Table 5.2 for treatment plant capacity.

(b) Other plants include Harbor View and Prince William County Service Authority.

Unaudited - see accompanying report of independent auditor.

Table 5.8 - Average Unit Cost of Wastewater Treatment ($/MG) b Treatment Plant - Last Ten Fiscal Years

Treatment Plant	Fiscal Year 2018	2017	2016	2015	2014
Noman M. Cole, Jr.	$ 1,903	$ 1,856	$ 1,651	$ 1,542	$ 1,509
DCWASA Blue Plains	1,452	1,150	1,245	1,460	1,080
Alexandria Renew Enterprises	2,148	2,366	1,938	2,237	1,887
Upper Occoquan Sewage Authority	2,825	3,070	2,868	2,701	2,486
Arlington County	2,982	2,595	2,703	3,642	3,110

Treatment Plant	Fiscal Year 2013	2012	2011	2010	2009
Noman M. Cole, Jr.	$ 1,551	$ 1,379	$ 1,367	$ 1,254	$ 1,419
DCWASA Blue Plains	1,275	1,239	1,290	1,135	1,223
Alexandria Renew Enterprises	1,983	1,858	1,950	1,822	2,296
Upper Occoquan Sewage Authority	2,769	2,620	2,880	2,699	2,902
Arlington County	3,039	3,050	2,305	2,178	2,204

Source: Fairfax County Wastewater Management Program

Unaudited - see accompanying report of independent auditor.

TABLE 5.9 - CAPITAL ASSET STATI TICS - LAST TEN FISCAL YEARS

Fiscal Year	Treatment Plants (a) System-Owned	Treatment Plants (a) Purchased Capacity	Number of Pumping Stations	Number of Metering Stations	Miles of Sewer Pi e
2018	1	6	63	57	3,247
2017	1	6	59	54	3,242
2016	1	6	59	54	3,431
2015	1	6	59	54	3,425
2014	1	6	59	54	3,420
2013	1	6	59	54	3,412
2012	1	6	65	54	3,398
2011	1	6	65	54	3,390
2010	1	5	65	54	3,380
2009	1	5	65	54	3,375

Source: Fairfax County Wastewater Management Program

Notes:

(a) The System owns one treatment plant, the Noman M. Cole Jr. Plant, and has purchased capacity in the following treatment plants owned by other local jurisdictions: DC Water Blue Plains, Alexandria Renew Enterprises, Upper Occoquan Sewage Authority, Arlington County, Loudoun Water, and Prince William County Service Authorit .

Unaudited - see accompanying report of independent auditor.

6.0 Miscellaneous Information

Miscellaneous information is additional information presented that may be of interest to readers of this report. There are two tables and a wastewater treatment plant service area map presented in this section.

Table 6.1 - Wastewater Flow (GPD) per Capita by Treatment Plant - Last Ten Fi cal Years

	Fiscal Year				
Treatment Plant	**2018**	**2017**	**2016**	**2015**	**2014**
Noman M. Cole, Jr.	95	92	98	100	103
DCWASA Blue Plains	119	113	122	128	135
Alexandria Renew Enterprises	98	87	94	94	109
Upper Occoquan Sewage Authority	99	94	101	104	108
Arlington County	81	79	76	75	71
Total system flow per capita	101	96	103	105	112
Annual rainfall, inches	44.24	31.03	36.55	41.63	48.57

	Fiscal Year				
Treatment Plant	**2013**	**2012**	**2011**	**2010**	**2009**
Noman M. Cole, Jr.	98	104	106	100	100
DCWASA Blue Plains	129	133	137	109	109
Alexandria Renew Enterprises	101	108	112	97	97
Upper Occoquan Sewage Authority	100	101	106	105	105
Arlington County	71	72	77	77	77
Total system flow per capita	105	110	114	101	101
Annual rainfall, inches	39.65	46.83	40.67	42.32	42.32

Source: Fairfax County Wastewater Management Program

Unaudited - see accompanying report of independent auditor.

TABLE 6.2 - WASTEWATER FLOW (GPD) PER CONNECTION BY TREATMENT PLANT - LAST TEN FISCAL YEARS

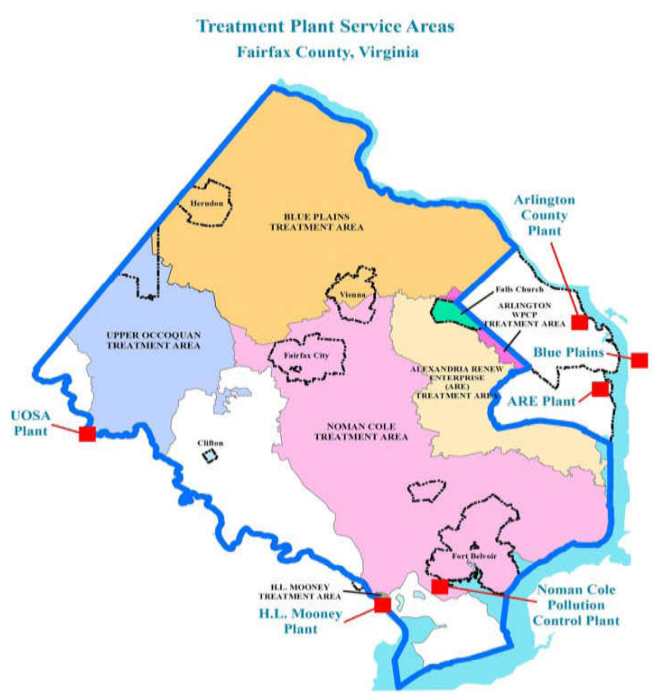
	Fiscal Year				
Treatment Plant	**2018**	**2017**	**2016**	**2015**	**2014**
Noman M. Cole, Jr.	247	238	252	257	267
DCWASA Blue Plains	302	286	306	319	340
Alexandria Renew Enterprises	253	226	241	240	280
Upper Occoquan Sewage Authority	252	240	256	261	275
Arlington County	211	204	195	191	184
Total system flow per connection	261	246	262	267	285

	Fiscal Year				
Treatment Plant	**2013**	**2012**	**2011**	**2010**	**2009**
Noman M. Cole, Jr.	253	269	262	286	250
DCWASA Blue Plains	323	335	328	342	263
Alexandria Renew Enterprises	260	279	276	310	239
Upper Occoquan Sewage Authority	254	256	255	268	261
Arlington County	184	188	190	190	190
Total system flow per connection	269	283	277	299	250

Source: Fairfax County Wastewater Management Program

Unaudited - see accompanying report of independent auditor.

WASTEWATER TREATMENT PLANT SERVICE AREA MAP



FAIRFAX COUNTY
WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

The three droplets in the logo range in color from dark to medium to light tones to signify the purification process that takes place at treatment facilities.

The end result of this process is water that is returned to the County’s streams at a high level of quality that supports a healthy ecosystem and end uses such as recreational boating, swimming and fishing.

The fish—the alewife—portrayed within the droplet, along with the aquatic grasses shown, are bellwethers of a hospitable environment.

The slogan, ”Quality of Water = Quality of Life,” represents the care taken by Wastewater Management to produce an end product that enhances the quality of residents’ environmental and recreational lives.

About the Fairfax County Wastewater Management Logo

VISION We aspire to achieve a pure and natural state of air and water quality by providing superior wastewater utility service in a spirit of teamwork and excellent customer service.

MISSION Our mission is to collect, treat, and monitor wastewater in compliance with all regulatory requirements, using state-of-the-art technology in the most effective manner. We work to improve the environment and enhance the quality of life in Fairfax County.

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WASTEWATER MANAGEMENT

Quality of Water = Quality of Life

A Publication of the County of Fairfax, Virginia
www.fairfaxcounty.gov/publicworks/wastewater