

FAIRFAX COUNTY  
WASTEWATER MANAGEMENT



Quality of Water = Quality of Life

# COMPREHENSIVE ANNUAL FINANCIAL REPORT

For the Fiscal Year Ended  
June 30, 2017



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

Published December, 2017

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# **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, 2017

**DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES**

12000 Government Center Parkway, Suite 358

Fairfax, Virginia 22035

(703) 324-5030, TTY 711

[www.fairfaxcounty.gov](http://www.fairfaxcounty.gov)

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# FAIRFAX COUNTY WASTEWATER MANAGEMENT



*Quality of Water = Quality of Life*

**INTEGRATED SEWER SYSTEM • COUNTY OF FAIRFAX, VIRGINIA**  
**COMPREHENSIVE ANNUAL FINANCIAL REPORT**  
 For the Fiscal Years Ended June 30, 2017

**TABLE OF CONTENTS**

**PAGE**

**INTRODUCTORY SECTION (unaudited)**

Certificate of Achievement for Excellence in Financial Reporting.....	<i>Inside Introductory tab</i>
Letter of Transmittal .....	V
Directory of Officials.....	IX
Organizational Chart .....	XI

**FINANCIAL SECTION**

Report of Independent Auditor.....	1
Management’s Discussion and Analysis ( <i>unaudited</i> ) .....	3
Basic Financial Statements .....	11
Statement of Net Position.....	12
Statement of Revenues, Expenses, and Changes in Net Position.....	14
Statement of Cash Flows.....	15
<u>Notes to the Financial Statements</u>	
1 Summary of Significant Accounting Policies .....	17
2 Due from Other Governmental Entities .....	20
3 Deposits and Investments.....	20
4 Restricted Assets and Restricted Net Position .....	23
5 Capital Assets .....	24
6 Retirement Plan .....	25
7 Other Post-Employment Benefits .....	28
8 Long-Term Liabilities .....	29
9 Commitments and Contingencies .....	34
10 Risk Management .....	36
11 Implementation of New Accounting Pronouncements .....	36

**REQUIRED SUPPLEMENTAL INFORMATION SECTION (unaudited)**

1.0 Supplemental Pension Information .....	38
Table 1.1 Integrated Sewer System Proportionate Share of Net Pension Liability	
Table 1.2 Schedule of Integrated Sewer System Contributions	

STATISTICAL SECTION (*unaudited*)

Table

	<u>Financial Trends Information</u>	
1.1	Net Position by Component - Last Ten Fiscal Years.....	39
1.2	Changes in Net Position - Last Ten Fiscal Years .....	40
1.3	Operating Revenues Detail - Last Ten Fiscal Years.....	42
1.4	Operating Expenses Detail - Last Ten Fiscal Years .....	43
	<u>Revenue Capacity Information</u>	
2.1	Sewer Rate Structure - Last Ten Fiscal Years .....	44
2.2	Customer Base by Treatment Plant - Last Ten Fiscal Years .....	45
2.3	Customer Base by Service Class - Last Ten Fiscal Years .....	46
2.4	Number of Sewer Connections Sold - Last Ten Fiscal Years .....	47
2.5	Number of New Sewer Connections - Last Ten Fiscal Years .....	48
2.6	Ten Largest Customers - Current Year and Nine Years Ago.....	49
	<u>Debt Capacity Information</u>	
3.1	Ratios of Outstanding Debt - Last Ten Fiscal Years .....	50
3.2	Pledged Revenue Coverage - Last Ten Fiscal Years .....	51
3.3	Debt Service Requirements - Last Ten Fiscal Years .....	52
	<u>Demographic and Economic Information</u>	
4.1	Demographic and Economic Statistics - Last Ten Calendar Years .....	53
4.2	Principal Employers - Current Year and Nine Years Ago .....	54
	<u>Operating Information</u>	
5.1	Wastewater Management Employees by Division - Last Ten Fiscal Years .....	55
5.2	Treatment Plant Capacities (MGD) - Last Ten Fiscal Years .....	56
5.3	Average Wastewater Flows (MGD) by Treatment Plant - Last Ten Fiscal Years .....	57
5.4	Average Wastewater Flows (MGD) by Source - Last Ten Fiscal Years.....	58
5.5	Maximum Monthly Flows (MGD) by Treatment Plant - Last Ten Fiscal Years.....	58
5.6	Average Unused Capacity (MGD) by Treatment Plant - Last Ten Fiscal Years .....	59
5.7	Average Capacity Utilization by Treatment Plant - Last Ten Fiscal Years .....	60
5.8	Average Unit Cost of Wastewater Treatment (\$/MG) by Treatment Plant - Last Ten Fiscal Years.....	61
5.9	Capital Asset Statistics - Last Ten Fiscal Years.....	62
	<u>Miscellaneous Information</u>	
6.1	Wastewater Flow (GPD) per Capita by Treatment Plant - Last Ten Fiscal Years.....	63
6.2	Wastewater Flow (GPD) per Connection by Treatment Plant - Last Ten Fiscal Years.....	64
	Wastewater Treatment Plant Service Area Map.....	64

FAIRFAX COUNTY  
WASTEWATER MANAGEMENT



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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, 2016**

Executive Director/CEO



# County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

November 17, 2017

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, 2017. 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, 2017, were audited by the accounting firm of Cherry Bekaert LLP. The independent auditors 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 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

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**Department of Public Works and Environmental Services**

12000 Government Center Parkway, Suite 358

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FAIRFAX COUNTY  
WASTEWATER MANAGEMENT



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by the County of Fairfax, Board of Supervisors. The System handles approximately 91 million gallons of wastewater per day (MGD) generated mostly from approximately 937,000 County residents. More than 85 percent of the 414,000 County housing units and virtually all businesses in the County are connected to the public sewer system.

The System consists of over 3,200 miles of sewer lines and force mains ranging in size from 8 inches to 72 inches, 59 pump stations ranging in capacity from 0.1 to 37 MGD, and 54 metering stations. The total System workforce is 319 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.

## **FACTORS 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 a modest 1.2 percent over the FY 2016 level. Sales Tax receipts were down 1.2 percent for the year primarily as a result of a \$2.5 million refund. After adjusting for the refund, FY 2017 collections would have increased 1.5 percent. Additionally, the Transient Occupancy Tax receipts were up a strong 10.1 percent over the FY 2016 level. The unemployment rate in the County as of August 2017 is 3.2%, resulting in no change from August 2016. Residential sewer connections in the system, which are a measure of system growth, grew 0.1% in fiscal year 2017.

### **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. On June 28, 2017, the System issued \$85.8 million of Series 2017 Sewer Revenue Bonds with an average rate of 4.77 percent to provide funds for certain additions, extensions and improvements. As of June 30, 2017, the System had \$353.8 million in Sewer revenue bonds, \$26.5 million in VRA financing, and \$242.6 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. Table 3

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 3.6 percent in fiscal year 2017.

### **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 2017, total nitrogen discharges from the County's Noman M. Cole, Jr. Pollution Control Plant averaged less than 2.4 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 2018. 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 2018.

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.

### **AWARDS**

**GFOA Certificate of Achievement for Excellence in Financial Reporting** - For the fourteenth 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, 2016. 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 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 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 five consecutive years. The System's Noman M. Cole, Jr. Pollution Control Plant has been in compliance for 19 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.

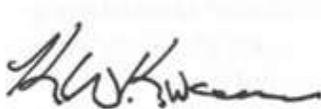
**Utility of the Future Recognition (UOTF)** – The Wastewater Management Program received an inaugural Utility of the Future Today recognition by the Water Environment Federation, National Association of Clean Water Agencies, Water Environment & Reuse Foundation and Water Reuse Association. The UOTF 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

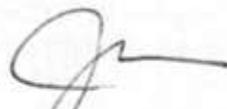
We express our sincere appreciation to all staff who contributed to this CAFR, especially the members of the System's Wastewater Planning and Monitoring Division of the Department of Public Works and Environmental Services and the Financial Reporting Division of the Department of Finance, who prepared 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.

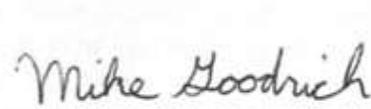
Respectfully,



Kirk W. Kincannon  
County Executive (Acting)



Joseph M. Mondoro  
Chief Financial Officer



Mike Goodrich  
Financial Manager  
Integrated Sewer System

**INTEGRATED SEWER SYSTEM**  
**COUNTY OF FAIRFAX, VIRGINIA**  
Urban County Executive Form of Government  
As of June 30, 2017

**BOARD OF SUPERVISORS**

Sharon S. Bulova, Chairman	At-large
Penelope A. Gross, Vice Chairman	Mason District
John C. Cook	Braddock District
Gerald W. Hyland	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
Michael R. Frey	Sully District

**COUNTY EXECUTIVE**

Kirk W. Kincannon (Acting)

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**DEPUTY COUNTY EXECUTIVE**

Robert A. Stalzer

**DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES**

James W. Patteson, Director

**WASTEWATER COLLECTION DIVISION**

Stacey Smalls, Director

**WASTEWATER TREATMENT DIVISION**

Michael McGrath, Director

**WASTEWATER PLANNING AND MONITORING DIVISION**

Shahram Mohsenin, Director

---

**DEPARTMENT OF MANAGEMENT AND BUDGET**

Joseph M. Mondoro, Chief Financial Officer

**DEPARTMENT OF FINANCE**

Christopher J. Pietsch, Director

**OFFICE OF THE COUNTY ATTORNEY**

David P. Bobzien, County Attorney

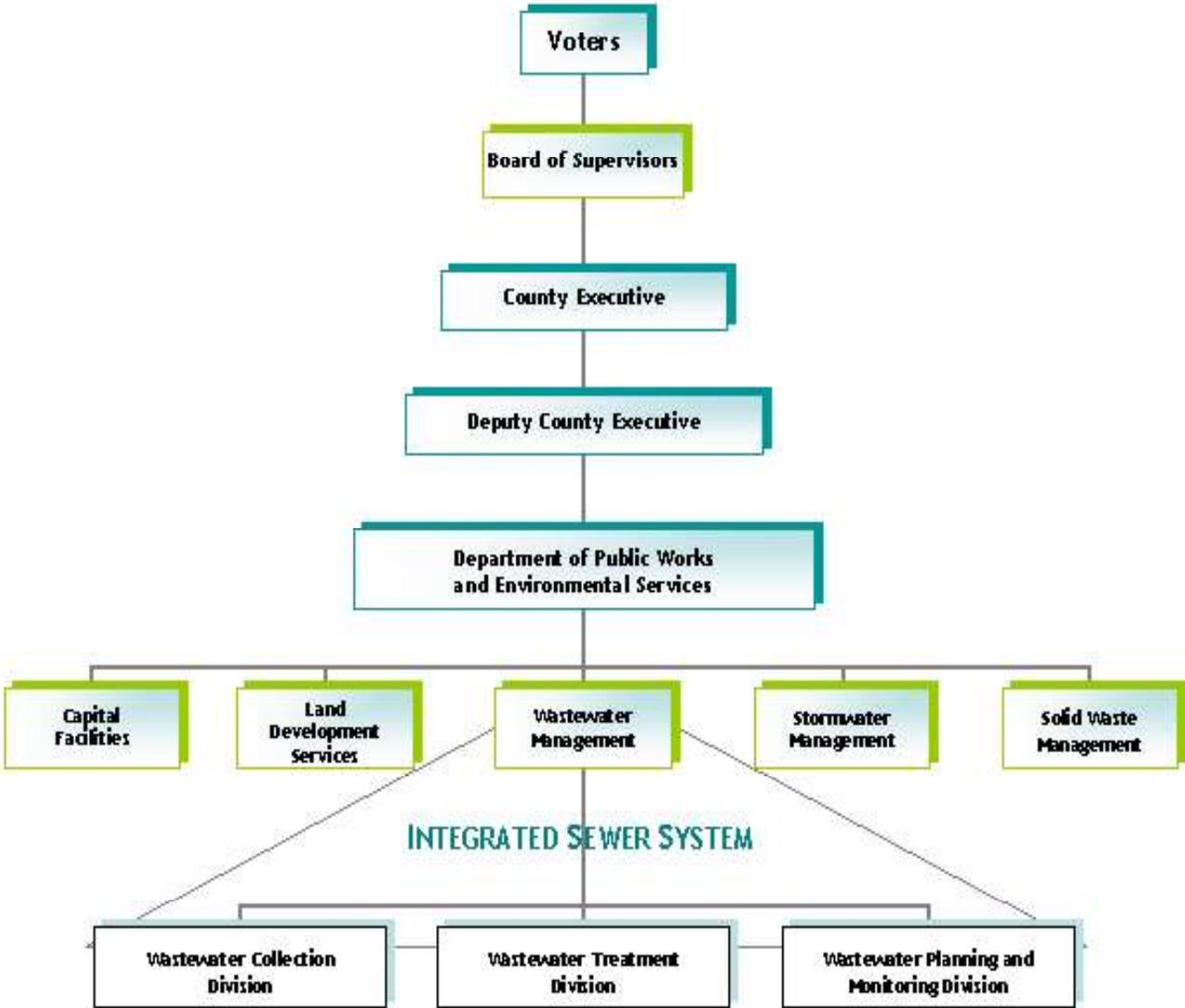
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# FAIRFAX COUNTY WASTEWATER MANAGEMENT



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# ORGANIZATION OF THE INTEGRATED SEWER SYSTEM - COUNTY OF FAIRFAX, VIRGINIA



This report was prepared by:

**COUNTY OF FAIRFAX, VIRGINIA**  
**WASTEWATER MANAGEMENT PROGRAM AND DEPARTMENT OF FINANCE**

12000 Government Center Parkway, Suite 358  
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(703) 324-5030, TTY 711  
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**WASTEWATER MANAGEMENT PROGRAM**

Mike Goodrich, Financial Manager  
Anand Goutam, CPA  
Tho Duong  
Yvonne T. Sullivan  
Charese Willis

**DEPARTMENT OF FINANCE**

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

FAIRFAX COUNTY  
WASTEWATER MANAGEMENT



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FINANCIAL SECTION



FAIRFAX COUNTY  
WASTEWATER MANAGEMENT



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## 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, 2017, 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, 2017, 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***

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, 2017, 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.

## 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 3-10 and the required supplementary information on page 38 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, 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 17, 2017, 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.

A handwritten signature in cursive script that reads "Cherry Bekant LLP".

Tysons Corner, Virginia  
November 17, 2017

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**INTEGRATED SEWER SYSTEM • COUNTY OF FAIRFAX, VIRGINIA**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS (unaudited)**  
**June 30, 2017**

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, 2017.

The System is a County of Fairfax, Virginia (County) business-type activity that 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 HIGHLIGHTS**

The System's total net position was \$1,109.8 million at June 30, 2017, compared to \$1,052.9 million at June 30, 2016.

Operating revenues of \$195.8 million exceeded operating expenses of \$157.6 million, which include depreciation and amortization of \$63.4 million, by \$38.2 million. After factoring in non-operating revenues and expenses - availability fees, investment revenue, interest expense, and capital contributions, the result was a \$56.9 million increase in net position for fiscal year 2017.

The System's cash and cash equivalents increased by \$93.8 million during fiscal year 2017. This increase compares to a \$35.6 million decrease in the prior fiscal year and is primarily due to a net cash inflow of \$103.8 million from the sale of Series 2017 Sewer Revenue Bonds.

#### **OVERVIEW OF THE FINANCIAL STATEMENTS**

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 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 ANALYSIS 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, 2017 and 2016:

Summary of Net Position As of June 30 (\$ in millions)				
	2017	\$ Change	% Change	2016
<b>Assets:</b>				
Current assets:				
Unrestricted	\$ 135.8	61.6	83.0	\$ 74.2
Restricted	142.6	43.6	44.0	99.0
Noncurrent assets:				
Capital assets (net)	1,531.1	38.3	2.6	1,492.8
Other non-current assets	2.1	(0.2)	(8.7)	2.3
<b>Total assets</b>	<b>1,811.6</b>	<b>143.3</b>	<b>8.6</b>	<b>1,668.3</b>
Deferred Outflows of Resources	36.3	4.9	15.6	31.4
<b>Liabilities:</b>				
Current liabilities				
Current liabilities	49.1	9.2	23.1	39.9
Noncurrent liabilities	682.9	80.9	13.4	602.0
<b>Total liabilities</b>	<b>732.0</b>	<b>90.1</b>	<b>14.0</b>	<b>641.9</b>
Deferred Inflows of Resources	6.1	1.2	24.5	4.9
<b>Net position:</b>				
Net investment in capital assets	1,004.0	63.4	6.7	940.6
Restricted	14.2	(59.6)	(80.8)	73.8
Unrestricted	91.6	53.1	137.9	38.5
<b>Total net position</b>	<b>\$ 1,109.8</b>	<b>56.9</b>	<b>5.4</b>	<b>\$ 1,052.9</b>

Nearly 90.5% and 89.3% of the System’s total net position for the fiscal years 2017 and 2016, respectively, are 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 \$1.2 million increase in Deferred Inflows of Resources in fiscal year 2017 is attributable to the implementation of GASB 68, which addresses the financial reporting treatment of pensions. See Note 6 for more information relating to the retirement plan. 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 assets themselves are not intended to be used to liquidate these liabilities. The \$56.9 million increase in net position in fiscal year 2017 was primarily the result of operating revenue exceeding total operating expenses due to increased revenue from Sales of Service and an increase in non-operating revenue from availability fees.

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. The \$53.1 million increase of unrestricted net position for fiscal year 2017 was primarily due to no funds being restricted for extension and improvement projects. See Note (4) to the Financial Statements for detailed information pertaining to restricted net position.

The unrestricted component of net position represents resources that are not subject to any external restrictions as to use, hence, they are available for future operations.

**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, 2017 and 2016:

Summary of Revenues, Expenses, and Changes in Net Position For the Fiscal Years Ended June 30 (\$ in millions)				
	2017	\$ Change	% Change	2016
Operating revenues - Sales of service	\$ 195.8	5.4	2.8	\$ 190.4
Less operating expenses:				
Personnel services	31.6	2.1	7.1	29.5
Materials and supplies	15.6	0.2	1.3	15.4
Contractual services and other	47.0	(0.5)	(1.1)	47.5
Depreciation and amortization	63.4	2.3	3.8	61.1
Total operating expenses	157.6	4.1	2.7	153.5
Operating Income	38.2	1.3	3.5	36.9
Nonoperating revenues (expenses):				
Availability fees	25.2	10.5	71.4	14.7
Investment and other revenues	1.0	(0.2)	(16.7)	1.2
Interest and other expenses	(20.0)	9.6	(32.4)	(29.6)
Total nonoperating revenues (expenses)	6.2	19.9	(145.3)	(13.7)
Income/(Loss) before contributions	44.4	21.2	91.4	23.2
Capital contributions	12.5	7.9	171.7	4.6
Change in net position	56.9	29.1	104.7	27.8
Total net position at beginning of year	1,052.9	27.8	2.7	1,025.1
Total net position at end of year	\$1,109.8	56.9	5.4	\$1,052.9

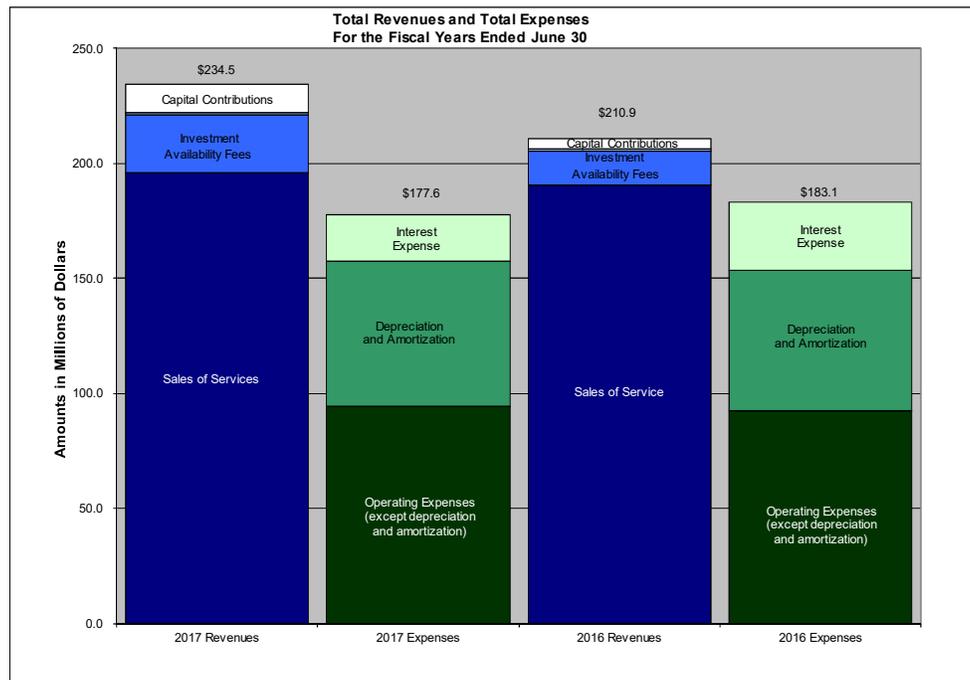
The System’s operating revenues consist of volumetric service charges and a service base charge to County users and to neighboring jurisdictions, which reflect a 3.6% rate increase implemented during fiscal year 2017. Operating income in fiscal year 2017 increased 3.5% compared to prior year which is consistent with increase in operating revenues. Operating expenses increased \$4.1 million in fiscal year 2017. This was primarily due to the increase in personnel services and depreciation and amortization.

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 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 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 2017 and 2016 is shown below:



**CAPITAL ASSETS AND LONG-TERM DEBT**

**Capital Assets**

The System’s gross investment in capital assets as of June 30, 2017, amounted to \$2,564.3 million, or \$1,531.1 million after deducting accumulated depreciation and amortization, as summarized in the table below:

<b>Capital Assets As of June 30 (\$ in millions)</b>				
	<b>2017</b>	<b>\$ Change</b>	<b>% Change</b>	<b>2016</b>
Land	\$ 17.5	0.1	0.6	\$ 17.4
Easement	0.5	-	-	0.5
Construction in progress	93.7	36.0	62.4	57.7
Buildings and improvements	1,380.8	40.9	3.1	1,339.9
Equipment	14.7	0.1	0.7	14.6
Purchased capacity	<u>1,057.1</u>	<u>23.9</u>	2.3	<u>1,033.2</u>
Gross capital assets	2,564.3	101.0	4.1	2,463.3
Accumulated depreciation and amortization	<u>(1,033.2)</u>	<u>(62.7)</u>	6.5	<u>(970.5)</u>
Total capital assets, net	\$1,531.1	38.3	2.6	\$1,492.8

The \$101.0 million increase in gross capital assets during fiscal year 2017 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 \$33.9 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, was \$11.4 million and 14.0 million, respectively.

Improvements to sewer lines and pumping stations in the System, other than donations from developers, totaled \$38.6 million.

Developers contributed sewer lines and manholes valued at \$3.1 million.

Additional information relative to the System’s capital assets is contained 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, 2017 and 2016:

<b>Gross Outstanding Debt As of June 30 (\$ in millions)</b>				
	<b>2017</b>	<b>\$ Change</b>	<b>% Change</b>	<b>2016</b>
Sewer revenue bonds	\$ 353.8	77.8	28.2	\$276.0
Subordinated bonds:				
Sewer Revenue bonds	26.5	(5.6)	(17.4)	32.1
System's share of UOSA's debt	<u>242.6</u>	<u>(11.9)</u>	(4.7)	<u>254.5</u>
Total outstanding debt	\$ 622.9	60.3	10.7	\$562.6

The \$353.8 million of outstanding sewer revenue refunding bonds and sewer revenue bonds issued in 2017, 2016, 2014, 2012, and 2009 by the System are currently rated AAA by Fitch and S&P and AAA by Moody's. These high credit ratings have enabled the County to sell bonds on behalf of the System at interest rates lower than those obtained by most sewer authorities, thereby achieving savings throughout the life of the bonds.

In June 2017, the System issued \$85.8 million of Series 2017 Sewer Revenue Bonds with an average rate of 4.77% to provide funds for certain additions, extensions and improvements to the County's sewer collection, treatment and disposal systems; and capital improvement costs allocable to the County at certain wastewater treatment facilities that provide service to the County.

In June 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% and 4.1%, respectively, to the Virginia Water Facilities Revolving Fund, acting by and through the Virginia Resources Authority, to fund its share of the ongoing expansion costs of the Alexandria Renew Enterprises' (ARE) wastewater treatment facilities, which provide service to some of the System's customers. In September 2012, the System executed a rate reduction agreement with VRA reducing the interest rates on these bonds to 2.4%. In May 2016, the System executed a rate reduction agreement with VRA reducing the interest rates on these bonds to 0.95%. As of June 30, 2017, the outstanding balance of the subordinate Sewer Revenue Bonds is \$26.5 million.

The Upper Occoquan Sewage Authority (UOSA), a joint venture which operates a regional sewage facility, issued regional sewer system revenue refunding bonds in November 2013, May 2013, February 2007, and November 2004 to refund certain of its outstanding bonds. In December 2010 and 2007, UOSA issued \$85.2 million and \$119.7 million of Regional Sewer System Revenue Bonds, of which the System's share is \$34.1 million and \$53.9 million, respectively, to finance the cost of certain capital improvements. In fiscal year 2012, UOSA entered into VRA loans 2011 A and 2011 B 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 refinance a portion of Bond Series 2007. \$93,175,291 was refunded into Series 2014. In fiscal year 2016, UOSA refinanced Bond Series 2007b. \$19,015,689 was refunded into Series 2016b. As of June 30, 2017, the System's share of UOSA's outstanding debt is \$242.6 million.

The System is required by the covenants of the 2009 General Bond Resolution to generate net revenues (defined as all revenues except grants and contributed assets, less operating expenses, except depreciation and amortization) at least equal to the debt service on its sewer revenue bonds each year. The ratios of net revenues to debt service for the senior sewer revenue bonds are 5.92 and 4.74 for fiscal years 2017 and 2016, respectively. The fiscal year 2017 ratio is less favorable than fiscal year 2016. Taking all long-term debt into account, the ratios are 2.10 and 2.38 for fiscal years 2017 and 2016, respectively, the fiscal year 2017 ratio is less favorable than fiscal year 2016 ratio.

Additional information related to the debt coverage ratios is contained in Table 3 of the Statistical Section. 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 2018 and beyond:

The sewer service charge rate to System users will increase from \$6.68 to \$6.75 per 1,000 gallons of water consumption and the sewer service base charge will increase from \$24.68 to \$27.62 for residential customers for fiscal year 2018. Subsequent rate increases for the sewer service charge to \$7.00, \$7.34, \$7.70, and \$8.08 along with increases to the sewer service base charge to \$30.38, \$33.42, \$36.76, and \$40.44 for fiscal years 2019, 2020, 2021, and 2022, respectively, have also been approved. The base charge for commercial customers is based on the meter size.

For fiscal year 2018, Sewer availability fees are increasing from \$7,750 to \$8,100 for Single Family Dwellings; from \$6,200 to \$6,480 for Townhouses, Apartments, Mobile Homes, and any other residential dwelling Units; from \$1,938 to \$2,025 for Hotels, Motels, and Dormitory Rental Units; and from \$401 to \$405 for Nonresidential Fixture Units. Also, no fee increases for fiscal years 2019, 2020, 2021, and 2022 have been approved. Unit sales of sewer availability taps averaged 328 per month during the first quarter of fiscal year 2018, compared to 469 per month during the comparable period of fiscal year 2017.

Interest rates on the County's investments through the first quarter of fiscal year 2018 have been approximately 1.42%, an increase from fiscal year 2017 rates.

The System's adopted budget for operating expenses, excluding depreciation and amortization, for fiscal year 2018 is \$101.5 million. The System's adopted budget for capital asset acquisitions for fiscal year 2018 is \$69.3 million, to be funded with available resources and bond proceeds. This budget includes \$23.0 million for the rehabilitation and renovation of the System's sewer lines, \$14.7 million for upgrades to the county-owned treatment plant, and the System's share of the upgrade costs of the Alexandria Renew Enterprises', Arlington's, and the District of Columbia's wastewater treatment facilities in the amounts of \$18.0 million, \$1.2 million, and \$12.4 million, respectively.

## CONTACTING THE SYSTEM'S FINANCIAL MANAGEMENT

This financial report is designed to provide the System's customers and 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, 2017**

	<b>2017</b>
<b>Assets</b>	
Current assets:	
Cash and cash equivalents	\$ 81,914,843
Due from intergovernmental units (note 2):	
Service charges	22,498,617
Unbilled service charges	25,986,947
Prepaid Expenses	4,708,489
Accounts receivable	352,068
Inventories	364,880
Total unrestricted	135,825,844
Restricted assets (note 4):	
Cash and cash equivalents	105,848,732
Cash with fiscal agent (note 3)	14,185,711
Investments (note 3)	22,522,490
Total restricted	142,556,933
Total current assets	278,382,777
Long-term assets:	
Capital assets (note 5):	
Non-depreciable:	
Land	17,455,028
Easement	501,687
Construction in progress	93,677,358
Depreciable/amortizable:	
Buildings, improvements, and sewer lines	1,380,839,417
Equipment	14,737,297
Purchased capacity	1,057,062,963
Gross capital assets	2,564,273,750
Accumulated depreciation and amortization	(1,033,168,730)
Total capital assets, net	1,531,105,020
Other Non-current assets:	
Accounts receivable	2,082,741
<b>Total assets</b>	<b>1,811,570,538</b>
<b>Deferred Outflows of Resources</b>	
Deferred outflow related to pensions (note 6)	11,613,050
Deferred loss on refunding of debt	24,708,605
Total Deferred Outflows of Resources	36,321,655
<b>Total assets and deferred outflows of resources</b>	<b>\$ 1,847,892,193</b>

continued

	<u>2017</u>
<b>Liabilities</b>	
Current liabilities:	
Accrued salaries and wages	\$ 1,565,303
Accounts payable and accrued liabilities	2,214,374
Contracts payable	11,316,510
Accrued interest payable	5,330,928
Compensated absences (note 8)	1,429,832
Bonds payable (note 8 and 9)	<u>27,231,792</u>
Total current liabilities	<u>49,088,739</u>
Long-term liabilities:	
Net pension liability (note 6)	32,568,322
Compensated absences (note 8)	759,351
Bonds payable (note 8 and 9)	<u>649,572,103</u>
Total long-term liabilities	<u>682,899,776</u>
<b>Total liabilities</b>	<u>731,988,515</u>
<b>Deferred Inflows of Resources</b>	
Deferred inflow related to pensions (note 6)	2,705,269
Deferred gain on refunding of debt	<u>3,420,698</u>
Total deferred Inflows of Resources	6,125,967
<b>Total liabilities and deferred outflows of resources</b>	<u>738,114,482</u>
<b>Net position</b>	
Net investment in capital assets	1,003,960,254
Restricted for (note 4):	
Debt service	14,185,711
Unrestricted	<u>91,631,746</u>
<b>Total Net position</b>	<u>\$ 1,109,777,711</u>

See accompanying notes to the financial statements.

concluded

**INTEGRATED SEWER SYSTEM • COUNTY OF FAIRFAX, VIRGINIA**  
**STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION**  
**For the Fiscal Year Ended June 30, 2017**

	<b>2017</b>
<b>OPERATING REVENUE:</b>	
Sales of service	\$ 195,753,184
Total operating revenue	\$ 195,753,184
<b>OPERATING EXPENSES</b>	
Personnel services	\$ 31,623,092
Materials and supplies	15,588,636
Contractual Services	46,232,788
Depreciation and amortization	63,441,165
Professional Fees	721,903
Total operating expenses	\$ 157,607,584
Operating income/(loss)	\$ 38,145,600
<b>NONOPERATING REVENUE (EXPENSES):</b>	
Availability Fees	25,206,124
Interest income	1,022,586
Interest expense	(19,502,116)
Gain on disposal of fixed assets	152,917
Bond issuance Costs	(673,776)
Total nonoperating revenues (expenses)	\$ 6,205,735
Income before contributions and transfers	\$ 44,351,335
<b>Capital contributions:</b>	
Grants	9,394,529
From Developers	3,119,145
Change in Net Position	\$ 56,865,009
<b>Total net position at beginning of year</b>	<b>1,052,912,702</b>
<b>Total net position at the end of the year.</b>	<b>\$ 1,109,777,711</b>

See accompanying notes to financial statements.

**INTEGRATED SEWER SYSTEM • COUNTY OF FAIRFAX, VIRGINIA**  
**STATEMENT OF CASH FLOWS**  
**For the Fiscal Year Ended June 30, 2017**

	<b>2017</b>
<b>Cash flows from operating activities:</b>	
Receipts from customers and users	\$ 196,021,180
Payments to employees	(31,069,454)
Payments to suppliers and contractors	(67,206,561)
Net cash provided by operating activities	97,745,165
<b>Cash flows from capital and related financing activities:</b>	
Capital grants received	9,394,529
Decrease in contracts payable	5,099,532
Availability charges received	25,206,124
Principal payments on revenue bonds	(23,953,495)
Interest payments on revenue bonds	(19,178,375)
Revenue bonds issued, including premium	103,823,280
Payment of bond issuance costs	(673,776)
Purchases of capital assets, other than purchased capacity	(72,318,780)
Acquisition of purchased capacity	(25,386,741)
Proceeds from the sale of capital assets	96,573
Net cash provided by capital and financing activities	2,108,871
<b>Cash flows from investing activities:</b>	
Sales of restricted investments	17,319,472
Purchases of restricted investments	(24,297,886)
Interest received	948,086
Net cash used by investing activities	(6,030,328)
<b>Net Increase in cash and cash equivalents</b>	93,823,708
Cash and cash equivalents at beginning of year	93,939,867
Cash and cash equivalents at end of year	\$ 187,763,575
<b>Reconciliation of operating income to net cash provided by operating activities:</b>	
Operating income	\$ 38,145,600
Adjustments to reconcile operating loss to net cash provided by operating activities:	
Depreciation and amortization	63,441,165
Changes in assets and liabilities:	
Decrease in intergovernmental receivables	267,996
Increase in inventories and other assets	(4,291,829)
Increase in accounts payable and accrued liabilities	182,233
Total adjustments	59,599,565
Net cash provided by operating activities	\$ 97,745,165
<b>Noncash investing, capital, and financing activities:</b>	
Capital contributions - from developers	\$ 3,119,145
Gain on disposal of capital assets	152,917
Net decrease in purchased capacity and long-term debt resulting from the issuance of loans/revenue bonds by UOSA	(1,533,709)
Amortization of bond premium	1,798,082
Increase in fair value of investments not classified as cash and cash equivalents	80,768

See accompanying notes to the financial statements.

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# FAIRFAX COUNTY WASTEWATER MANAGEMENT



*Quality of Water = Quality of Life*

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**INTEGRATED SEWER SYSTEM • COUNTY OF FAIRFAX, VIRGINIA**  
**NOTES TO THE FINANCIAL STATEMENTS**  
**June 30, 2017**

**(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, then unrestricted assets when needed. See Note 4 for additional information regarding restricted assets.

***(j) Investments***

Investments 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) Prepaid Assets***

Prepaid items represent non-inventory transactions that do not qualify for expense or expenditure recognition, but the cash flow occurred as of the end of the fiscal year but prior to meeting the requirements for liability recognition.

***(m) 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/amortized over their estimated useful lives using the straight-line method. The estimated useful lives are as follows:

Infrastructure	10-50 years
Sewer lines	50 years
Buildings	20-50 years
Purchased capacity	99 years
Improvements	15-25 years
Equipment	5-20 years
Software	5-20 years

For constructed assets, all costs necessary to bring such assets to the condition and location necessary for the intended use, including interest on related debt, 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. At June 30, 2017, the System incurred \$21,992,462 in interest costs and capitalized \$2,420,820 during the fiscal year.

***(n) Retirement Plan***

Employees of the System participate in the Fairfax County Employees’ Retirement System (Retirement Plan). The net pension 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 position as reported by the retirement system. Employer contributions to the plan during the current fiscal year are reflected as a deferred outflow of resources which will impact the net pension liability of the subsequent year. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Detailed information about the retirement plan is found in Note 6.

***(o) 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, 2017, the System accrued \$2,189,183 for such compensated absences.

***(p) 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 (see 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 2017, Fairfax Water collected approximately \$180.3 million on behalf of the System. As of June 30, 2017, the System has receivables of approximately \$41.5 million due from Fairfax Water and \$7.0 million due from other governmental entities.

**(3) DEPOSITS AND INVESTMENTS**

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
- 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

However, the County's investment policy precludes the investment of pooled funds in derivative securities, or reverse repurchase agreements.

**(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 also 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. The policy specifies the following acceptable credit ratings for specific types of investments in the pooled portfolio:

- U.S. government-sponsored enterprise (GSE) instruments shall be rated by both Moody's and S&P with a minimum rating of Prime 1 and A-1, respectively.
- Prime quality commercial paper shall 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.
- Bank deposit notes must have a rating of at least A-1 by S&P and P-1 by Moody's.
- Banker's acceptances must have a rating by at least two of the following: Moody's P-1, S&P A-1, Fitch F-1 and Duff and Phelps D-1.
- The VIP Trust Fund's policy is to maintain a bond fund rating on the Portfolio of AA/S1 or better from S&P. Moody's, S&P and Fitch are nationally recognized statistical rating organizations (NRSRO) serving investors, regulators and issuers.

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

The portfolio weighted average maturity for The County’s entire cash and investment pool was 143.0, as of June 30, 2017. The County’s portfolio, as of June 30, 2017, consisted of investments with credit quality ratings shown below:

<b>AA</b>	<b>A-1</b>	<b>AAA-m</b>	<b>Aaf/S1</b>	<b>Unrated</b>	<b>Total</b>
8.4%	60.9%	5.5%	2.1%	23.1%	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 & Agencies	100%	maximum
Banker's Acceptances	40%	maximum
Negotiable CD's & Bank Deposit Notes	40%	maximum
Non-Negotiable Certificates of Deposit	40%	maximum
Insured Certificates of Deposits	40%	maximum
Commercial Paper	35%	maximum
Repurchase Agreements	30%	maximum
Mutual Funds	30%	maximum
Collateralized Deposit Account	30%	maximum
Insured Deposit Account	30%	maximum
Corporate Notes	25%	maximum
Virginia Investment Pool	10%	maximum

In addition, not more than 5% 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, in the event of the failure of a counter party, 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. Per policy, all of the pooled investments purchased by the County are insured, or collateralized, or registered, or are securities held by its agent in the County's name.

Additional information and 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 Comprehensive Annual Financial Report for the fiscal year ended June 30, 2017.

**(e) Fair Value Measurement**

The reporting entity's pooled investments are reported at fair value, except for money market funds and investments that have a remaining maturity at the time of purchase of one year or less. These are carried at amortized cost, which approximates fair value. The fair value of all investments is determined annually and is based on current market prices. The reporting entry 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 quoted prices in accessible active markets, Level 2 would be utilized information that is observable, either directly or indirectly from a source other than an active market, and Level 3 includes unobservable information to arrive at the valuation. The System has the following investments as of June 30, 2017, reported below at fair value using quoted prices in an active market for identical assets (level 1 inputs):

	<b>2017</b>
U.S. Treasury and Agency Securities at Fair Value	\$ 18,879,978
Total	<u>\$ 18,879,978</u>

**(4) RESTRICTED ASSETS AND RESTRICTED NET POSITION**

As of June 30, 2017, the System had restricted cash and investments of \$142,556,933 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 that the System must 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, 2017, are as follows:

	<b>2017</b>
Assets are restricted for:	
Long-term debt service requirements:	
Sewer revenue bonds:	
Series 2009, 2012, 2014 ,2016a & 2017	22,522,490
Subordinated sewer revenue bonds:	
2001 VRA	2,698,281
2002 VRA	3,276,611
Total long-term debt service requirements	<u>28,497,382</u>
Current debt service requirements	<u>14,185,711</u>
Total restricted assets	42,683,093
Less related debt	
Long-Term debt service requirement	(28,497,382)
Total restricted net position	<u>\$ 14,185,711</u>

**(5) CAPITAL ASSETS**

Changes in capital assets for the year ended June 30, 2017 is as follows:

	<b>Balances June 30, 2016</b>	<b>Increases</b>	<b>Decreases</b>	<b>Balances June 30, 2017</b>
Capital assets:				
Non-depreciable:				
Land	\$ 17,407,323	\$ 47,705	\$ -	\$ 17,455,028
Easement	501,687		-	501,687
Construction in progress	57,741,805	57,768,016	(21,832,463)	93,677,358
Depreciable/amortizable:				
Buildings	88,413,980	18,898	(15,149)	88,417,729
Improvements and sewer lines	1,251,453,404	40,968,284	-	1,292,421,688
Equipment	14,607,274	888,304	(758,281)	14,737,297
Purchased capacity	<u>1,033,209,931</u>	<u>25,386,741</u>	<u>(1,533,709)</u>	<u>1,057,062,963</u>
Total capital assets	<u>2,463,335,404</u>	<u>125,077,948</u>	<u>(24,139,602)</u>	<u>2,564,273,750</u>
Accumulated depreciation/amortization for:				
Buildings	(45,613,396)	(2,123,838)	15,149	(47,722,085)
Improvements and sewer lines	(570,825,507)	(29,837,874)	-	(600,663,381)
Equipment	(9,576,945)	(1,339,947)	752,681	(10,164,211)
Purchased capacity	<u>(344,541,492)</u>	<u>(30,139,506)</u>	<u>61,945</u>	<u>(374,619,053)</u>
Total accumulated depreciation/ amortization	<u>(970,557,340)</u>	<u>(63,441,165)</u>	<u>829,775</u>	<u>(1,033,168,730)</u>
Total capital assets, net	<u>\$ 1,492,778,064</u>	<u>\$ 61,636,783</u>	<u>\$ (23,309,827)</u>	<u>\$ 1,531,105,020</u>

Changes in purchased capacity, net of accumulated amortization, for the year ended June 30, 2017, in relation to each jurisdiction, are detailed as follows:

	<b>Balances June 30, 2016</b>	<b>Additions</b>	<b>Amortization (net of disposals)</b>	<b>Balances June 30, 2017</b>
Purchased capacity, net:				
Blue Plains	\$ 197,047,551	\$ 13,978,518	\$ (6,658,717)	\$ 204,367,352
UOSA	195,209,173	-	(12,441,186)	182,767,987
Alexandria Renew				
Enterprises	239,482,272	11,407,244	(10,164,210)	240,725,306
Arlington County	39,603,260	979	(1,641,950)	37,962,289
Prince William County				
Service Authority	456,000	-	(30,400)	425,600
Loudoun Water	<u>16,870,183</u>	<u>-</u>	<u>(674,807)</u>	<u>16,195,376</u>
Total purchased capacity, net	<u>\$ 688,668,439</u>	<u>\$ 25,386,741</u>	<u>\$ (31,611,270)</u>	<u>\$ 682,443,910</u>

**(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 which covers full-time and certain part-time employees of Fairfax County and component units of the County, 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, 2017, was 22.90 percent of annual covered payroll. In the event the ERS's funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) exceeds 120.00 percent or falls below 90.00 percent, the contribution rate will be adjusted to bring the funded ratio back within these parameters. The employer contribution made during the measurement period of the liability was \$3,323,979. The 2017 employer contribution totaled \$3,653,175.

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

At June 30, 2017, the System reported a liability of \$32,568,322 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, 2015 and actuarial valuation as of June 30, 2016, using the entry age actuarial cost method, with measurement date of June 30, 2016. At June 30, 2016, the System’s proportion was 2.13 percent, an increase of 0.06 percent from its proportion measured as of June 30, 2015.

For the year ended June 30, 2017, the System recognized pension expense of \$4,127,813. At June 30, 2017, the System’s 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	\$ -	\$ 1,964,204
Changes of assumptions	1,219,326	-
Net difference between projected and actual earning on pension plan investments	6,106,206	-
Change in proportion applicable to Authority	634,343	741,065
Authority contributions subsequent to the measurement date	3,653,175	-
Total	<u>\$ 11,613,050</u>	<u>\$ 2,705,269</u>

Deferred outflows of resources in the amount of \$3,653,175 related to pensions resulting from the System contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	
Measurement Date June 30 of Prior Year	
2018	\$ 924,034
2019	924,035
2020	2,205,951
2021	1,200,632
2022	(46)
	<u>\$ 5,254,606</u>

**(e) Actuarial Assumptions**

The reported total pension liability (TPL) calculation was based on participant data collected as of December 31, 2015 and the actuarial valuation as of June 30, 2016, using the entry age actuarial cost method, with a measurement date of June 30, 2016. 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% + merit
Investment rate of return, net of plan investment expenses	7.25%
Projected period of unfunded benefit payments	None
Municipal bond rate	N/A
Mortality	Sex Distinct RP-2000
	Combined Mortality projected to 2015 using Scale AA

The actuarial assumptions used in the June 30, 2016 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, 2016, are summarized below:

**Long Term Expected Rate of Return/ Target Allocation**

Long Term Expected Rate of Return/ Target Allocation		
Asset Class	Long Term Expected Real Rate of Return	Target Allocation*
Global Equities	9.15%	30.0%
Core Fixed Income	2.40%	42.5%
Risk Parity	6.00%	15.0%
Absolute Return	9.85%	20.0%
Real Estate	4.65%	8.5%
Commodity	4.65%	4.0%

\*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	Current Discount Rate	1% Increase
	6.25%	7.25%	8.25%
Total Pension Liability	\$ 123,305,339	\$ 109,173,497	\$ 98,812,905
Plan Fiduciary Net Position	76,605,175	76,605,175	76,605,175
Net Pension Liability	<u>\$ 46,700,164</u>	<u>\$ 32,568,322</u>	<u>\$ 22,207,730</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	62.1%	70.2%	77.5%

**(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 pension plan’s fiduciary net position, is available in the County CAFR for the fiscal year ended June 30, 2017. 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 POST-EMPLOYMENT BENEFITS**

The System participates in the County’s program to subsidize the health benefit coverage of certain retirees and surviving spouses. In order to participate, retirees must have reached the age of 55 or be on disability retirement and must have health benefit coverage in a plan provided by the County. Retirees must have five years of service in order to participate in this program. The amount of monthly subsidy provided by the County is based on years of service and ranges from \$15 per month to \$175 per month. Retirees receiving the subsidy prior to fiscal year 2004 are grandfathered at \$100 per month unless their years of service entitle them to receive a higher monthly subsidy. Beginning in fiscal year 2008, the subsidy is funded under the guidance of GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, which requires the County to recognize the cost of the retiree health subsidy and other post-employment benefits during the period of employees’ active employment.

In addition, the System participates in a County program to subsidize the continuation of term life insurance, at reduced coverage amounts, for retirees who choose to participate in this cost-sharing program. The cost associated with the System's retirees for the year ended June 30, 2017 was approximately \$330,000. Additional information regarding these programs is available in the County's CAFR for the year ended June 30, 2017.

## (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, 2017:

	<b>Balances</b>			<b>Balances</b>	<b>Current</b>
	<b>June 30, 2016</b>	<b>Increases</b>	<b>Decreases</b>	<b>June 30, 2017</b>	<b>Portions</b>
Compensated absences	\$ 2,231,568	\$ 1,408,698	\$ (1,451,083)	\$ 2,189,183	\$ 1,429,832
Sewer Revenue Bonds - 2009 Series	13,400,000	-	(3,105,000)	10,295,000	3,260,000
Sewer Revenue Bonds - 2012 Series	39,545,000	-	(1,600,000)	37,945,000	1,680,000
Sewer Refunding Revenue Bonds - 2014 Series	58,580,000	-	(3,275,000)	55,305,000	3,425,000
Sewer Refunding Revenue Bonds - 2016a Series	164,450,000	-	-	164,450,000	-
Sewer Revenue Bonds - 2017 Series	-	85,785,000	-	85,785,000	-
Premium on Sewer Refunding Revenue Bonds (net)	37,679,909	18,038,280	(1,798,082)	53,920,107	2,398,521
Subordinated Revenue Bonds - 2001	13,094,347	-	(2,528,321)	10,566,026	2,604,074
Subordinated Revenue Bonds - 2002	18,991,651	-	(3,028,595)	15,963,056	3,132,385
Subordinated UOSA Revenue Bonds	254,524,994	-	(11,950,288)	242,574,706	10,731,812
	<u>\$ 602,497,469</u>	<u>\$ 105,231,978</u>	<u>\$ (28,736,369)</u>	<u>\$ 678,993,078</u>	<u>\$ 28,661,624</u>

### (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 has agreed that it will charge reasonable rates for the use of services rendered by the System. Furthermore, the System will adjust the rates, from time to time, to generate net revenues sufficient to provide an amount equal to 100% of its annual principal and interest requirements and 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 and (ii) 125% 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 (the Series 2004 Bonds) with an average interest rate of 4.61% to advance refund \$91,430,000 of the outstanding Series 1996 Bonds with an average interest rate of 5.82%. 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 (the Series 2009 Bonds) with an average interest rate of 4.72% to fund upgrade costs allocable to the System at certain treatment facilities. On August 8, 2012, the System issued \$90,710,000 of Sewer Revenue Bonds (the Series 2012 Bonds) with an average interest rate of 4.54% 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 took advantage of lower market interest rates and issued \$61,755,000 of Sewer Revenue Refunding Bonds (the Series 2014 Bonds) with an average interest rate of 4.14% to refund \$69,745,000 of the outstanding Series 2004 Bonds with an average interest rate of 4.61%. The net proceeds were used to redeem the Series 2004 Bonds on July 15, 2014. This refinancing resulted in a net deferred loss of \$4,045,945 which will be amortized over 15 years. This refunding resulted in an aggregate decrease in the overall debt service of \$15,461,166.

On May 12, 2016, due to lower market interest rates, the System issued \$164,450,000 of Sewer Revenue Refunding Bonds (Series 2016a) with an average rate of 3.92% to refund \$123,065,000 of outstanding Series 2009 Bonds with an average interest rate of 5.00% and to refund \$46,720,000 of outstanding Series 2012 Bond with an average interest rate of 4.50%. This resulted in a net deferred loss of \$12,406,377 with a remaining outstanding amount of \$13,400,000 of unrefunded Series 2009 Bonds and \$39,545,000 of unrefunded Series 2012 bonds. This loss will be amortized over 24 years. The System will use the proceeds of the 2016a bonds to provide the redemption of the refunded 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 (the Series 2017 Bonds) with an average interest rate of 4.77% to provide funds for paying the costs of 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 and, if necessary, purchasing additional capacity at certain wastewater treatment facilities for the benefit of the County, and the costs of issuing the 2017 Bonds, and making a deposit to the Reserve Subfund.

The outstanding bonds as of June 30, 2017, consist of \$10,295,000, \$37,945,000, \$55,305,000, \$164,450,000, and \$85,785,000 of Series 2009 Revenue Refunding Bonds, Series 2012 Revenue Refunding Bonds, Series 2014 Revenue Bonds, Series 2016a Revenue Refunding Bonds, and Series 2017 Revenue Bonds respectively, that bear interest at varying rates and mature in varying amounts. The detail is as follows on the next page:

Fiscal Year	Series 2009			Series 2012			Series 2014			Series 2016a			Series 2017		
	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total
2018	\$ 3,260,000	\$ 433,250	\$ 3,693,250	\$ 1,680,000	\$ 1,712,125	\$ 3,392,125	\$ 3,425,000	\$ 2,297,625	\$ 5,722,625	\$ -	\$ 6,697,181	\$ 6,697,181	\$ -	\$ 2,293,053	\$ 2,293,053
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	1,457,412	12,557,412	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	\$ 10,295,000	\$ 789,375	\$ 11,084,375	\$ 37,945,000	\$ 30,464,114	\$ 68,409,114	\$ 55,305,000	\$ 14,376,825	\$ 69,681,825	\$ 164,450,000	\$ 91,012,343	\$ 255,462,343	\$ 85,785,000	\$ 81,747,928	\$ 167,532,928

**(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 and \$50,000,000, respectively, to the Virginia Water Facilities Revolving Fund, acting by and through the Virginia Resources Authority (VRA). The proceeds have been used to finance 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 bonds from 4.10% and 3.75% per annum, respectively, to 2.35% per annum and 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. The rate reduction agreement resulted in interest savings 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% per annum to 0.95%. 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 debt service of \$463,990 and \$813,525, respectively. These bonds are subordinated to all outstanding prior bond issues of the System and payments for operation and maintenance expenses.

As of June 30, 2017, the principal and interest payment schedule for the 2001 and 2002 subordinated revenue bonds is as follows on the next page:

Fiscal Year	2001 Subordinated Revenue Bonds			2002 Subordinated Revenue Bonds		
	Principal	Interest	Total	Principal	Interest	Total
2018	\$ 2,604,074	\$ 94,207	\$ 2,698,281	\$ 3,132,385	\$ 144,227	\$ 3,276,612
2019	2,628,871	69,410	2,698,281	3,162,212	114,399	3,276,611
2020	2,653,904	44,376	2,698,280	3,192,324	84,286	3,276,610
2021	2,679,177	19,105	2,698,282	3,222,724	53,888	3,276,612
2022	-	-	-	3,253,412	23,199	3,276,611
Total	<u>\$ 10,566,026</u>	<u>\$ 227,098</u>	<u>\$ 10,793,124</u>	<u>\$ 15,963,057</u>	<u>\$ 419,999</u>	<u>\$ 16,383,056</u>

**(c) Upper Occoquan Sewage Authority (UOSA) Debt**

In January 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. On December 15, 2003, UOSA issued \$58,150,000 of Regional Sewer System Revenue Refunding Bonds, of which the System's share is \$36,848,116, to advance refund the outstanding Series 1993 bonds, resulting in a \$1,514,494 accounting gain, which is being amortized over the life of the Series 2003 Bonds. On November 9, 2004, UOSA issued \$49,395,000 of Regional Sewer System Revenue Refunding Bonds, of which the System's share is \$31,866,527, to advance refund a portion of the outstanding Series 1995 Bonds, resulting in a \$619,329 accounting gain, which is being amortized over the life of the Series 2004 Bonds. On July 1, 2005, UOSA issued \$82,465,000 of Regional Sewer System Revenue Refunding Bonds, of which the System's share is \$53,201,198, to advance refund another portion of the outstanding Series 1995 Bonds, resulting in a \$1,909,604 accounting gain, which is being amortized over the life of the Series 2005 Bonds. In February 2007, UOSA issued \$90,315,000 of Regional Sewer System Revenue Refunding Bonds, of which the System's share is \$58,265,521, to advance refund another portion of the outstanding Series 1995 Bonds, resulting in a \$83,868 accounting loss, which is being amortized over the life of the Series 2007 Bonds. In December 2007, UOSA issued \$119,715,000 of Regional Sewer System Revenue Bonds, of which the System's share is \$53,925,458, to finance the cost of expanding its wastewater treatment and conveyance facilities. In December 2010, UOSA issued \$85,180,000 of Regional Sewer System Revenue Bonds, of which the System's share is \$34,113,615, to finance the cost of certain capital improvements. In fiscal year 2012, UOSA entered into VRA loans 2011A and 2011B to fund costs related to the Energy Service (ESCO) project and Phase 1 of the Nutrient Compliance Improvement Project (PINR), respectively. In fiscal year 2013, UOSA issued \$101,615,000 of Regional Sewer System Revenue Refunding Bonds of which the System's share is \$65,555,566, to refund the outstanding Series 2005 Bonds reducing total debt service payments over future years by approximately \$4.9 million.

In fiscal year 2014, UOSA issued \$37,735,000 of Regional Sewer System Revenue Refunding Bonds of which the System's share is \$23,911,671, to refund the outstanding Series 2003 Bonds. Although the refunding resulted in an accounting loss of \$2,520,436 which is being amortized over the life of the Series 2013B Bonds, the System reduced total interest payments over future years by approximately \$2.1 million.

In fiscal year 2015, UOSA refinanced a portion of Bond Series 2007. Of the \$112,190,980 balance, \$93,175,291 was refunded into Series 2014. This resulted in a gain of \$2,029,199 which will be amortized over 24 years. This refunding resulted in an aggregate decrease in the overall debt service of \$6,359,186.

In fiscal year 2016, UOSA refinanced Bond Series 2007b. The entire remaining principal of \$19,015,689 was refunded into Series 2016b. This resulted in a gain of \$533,782 which will be amortized over 22 years. This refunding resulted in an aggregate decrease in the overall debt service of \$4,676,694. The System's share of UOSA's total outstanding debt is \$242,574,706 and it is subordinate to the Sewer Revenue Bonds issued by the System.

As of June 30, 2017, the System is obligated to fund its proportionate share of outstanding UOSA Regional Sewer System Revenue and Refunding Bonds, as follows:

UOSA			
Fiscal Year	Principal	Interest	Total
2018	\$ 10,731,814	\$ 8,949,049	\$ 19,680,863
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
<b>Total</b>	<b>\$ 242,574,706</b>	<b>\$ 101,114,183</b>	<b>\$ 343,688,889</b>

**(9) COMMITMENTS AND CONTINGENCIES*****(a) Cost Sharing Agreement with Alexandria Renew Enterprises (AlexRenew)***

The System is obligated under an agreement with the ARE to share in the construction and operating costs and debt service requirements for ARE's sewage treatment facility. Currently, the System has a capacity entitlement of 32.4 MGD, which is 60% of the facility's total capacity of 54 MGD. Although the System is allowed one nonvoting representative at the meetings of ARE, the System has no significant influence in the management of the treatment facilities. 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 \$11,407,244 for purchased capacity in fiscal year 2017 to fund its share of the construction and land acquisition costs. The System estimates its share of the remaining construction costs to be \$143,298,000, of which \$18,034,000 is expected to be incurred in fiscal year 2018 and the balance over fiscal years 2019 to 2026. In addition, the System made total payments of \$13,350,729 to ARE during fiscal year 2017 for its share of the 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, Maryland; Prince George's County, 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% 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 along with the construction of new wet weather flow facilities. The System paid DC Water \$13,798,518 for purchased capacity in fiscal year 2017 and to fund its share of construction costs; the System estimates its share of the remaining construction costs to be \$79,221,000, of which \$12,424,000 is expected to be incurred in fiscal year 2018 and the balance over fiscal years 2019 to 2026. In addition, the System made total payments of \$10,644,395 to DC Water during fiscal year 2017, for its share of the 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, and the Cities of Manassas and 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% 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 2017. In addition, the System made total payments to UOSA of \$13,420,485 in fiscal year 2017 to pay its share of UOSA’s operating costs.

Summarized UOSA financial information as of and for the year ended June 30, 2016, (the most recent available audited financial information) is shown below:

	<u>2016</u>
Total assets	\$ 614,454,987
Deferred outflows of resources	24,335,773
Total liabilities	(560,475,900)
Deferred inflows of resources	<u>(1,165,632)</u>
Net position	<u>\$ 77,149,228</u>
Operating revenues	\$ 28,916,953
Operating expenses	(56,011,026)
Nonoperating revenues, net	4,136,204
Capital contributions	<u>31,187,091</u>
Decrease in net position	<u>\$ 8,229,222</u>

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

***(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% 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 paid Arlington \$979 for purchased capacity in fiscal year 2017 to fund its share of the construction costs; the System estimates its share of the remaining construction costs to be \$17,462,000, of which \$1,164,000 is expected to be incurred in fiscal year 2017 and the balance over fiscal years 2019 to 2026. In addition, the System made total payments of \$2,066,590 to Arlington during fiscal year 2017 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% 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 2018. The Broad Run Plant is a new facility;

**(f) Other Commitments**

At June 30, 2017, the System had contractual commitments of approximately \$52,565,000 for construction of various sewer projects, excluding the ARE, District, UOSA, Arlington County, and Loudoun Water contractual commitments noted above.

**(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 suits 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 are 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, 2017.

**(11) IMPLEMENTATION OF NEW ACCOUNTING PRONOUNCEMENTS**

In fiscal year 2017, the System implemented all remaining provisions of GASB Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*. GASB Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, GASB Statement No. 77, *Tax Abatement Disclosures*, GASB Statement No. 78, *Pensions Provided through Certain Multiple-Employer Defined Benefit Pension Plans*, GASB Statement No. 80, *Blending Requirements for Certain Component Units—an amendment of GASB Statement No. 14*, and GASB Statement No. 82, *Pension Issues*. The implementation of these new standards did not have a material impact on the Authority's financial statements for fiscal year 2017.

# 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.

**TABLE 1.1**

**Schedule of the Proportionate Share of the Net Pension Liability**  
**ERS Pension Plan**  
**Last 10 Fiscal Year\***

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

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

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

**TABLE 1.2**

**Schedule of Contributions**  
**ERS Pension Plan**  
**Last 10 Fiscal Years\***

	Actuarial Determined Contribution	Contributions in Relations to the Actuarial Determined Contribution	Contribution Deficiency (Excess)	Authority's Covered Payroll	Contributions as a Percentage of Covered Payroll
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	-	14,239,455	20.15
2014	2,727,132	2,727,132	-	14,130,410	19.30

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

FAIRFAX COUNTY  
WASTEWATER MANAGEMENT



Quality of Water = Quality of Life

STATISTICAL SECTION



FAIRFAX COUNTY  
WASTEWATER MANAGEMENT



Quality of Water = Quality of Life

**INTEGRATED SEWER SYSTEM - COUNTY OF FAIRFAX, VIRGINIA**  
**STATISTICAL SECTION (unaudited)**

**1.0 FINANCIAL TRENDS**

Financial trends information is intended to assist users in understanding and assisting 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				
	2017	2016	2015	Restated (a)	
				2014	2013
Net investment in capital assets	\$1,003,960,254	\$ 940,641,576	\$ 892,414,328	\$ 843,276,715	\$ 778,825,722
Restricted	14,185,711	73,853,503	66,038,662	43,116,468	44,113,954
Unrestricted	91,631,746	38,417,623	66,651,531	100,358,086	147,119,567
<b>Total net position</b>	<b>\$1,109,777,711</b>	<b>\$ 1,052,912,702</b>	<b>\$ 1,025,104,521</b>	<b>\$ 986,751,269</b>	<b>\$ 970,059,243</b>

	Fiscal Year				
	Restated (a)				
	2012	2011	2010	2009	2008
Net investment in capital assets	\$ 769,135,097	\$ 722,703,848	\$ 748,697,093	\$ 757,858,955	\$ 757,799,128
Restricted	51,055,374	93,427,366	44,371,666	35,945,622	28,251,270
Unrestricted	116,578,189	81,180,178	76,855,173	84,277,881	109,530,192
<b>Total net position</b>	<b>\$ 936,768,660</b>	<b>\$ 897,311,392</b>	<b>\$ 869,923,932</b>	<b>\$ 878,082,458</b>	<b>\$ 895,580,590</b>

Source: Fairfax County Wastewater Management Program

Notes:

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

Unaudited - see accompanying report of independent auditor.

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

	Fiscal Year				
	2017	2016	2015	2014	2013
<b>Operating revenues:</b>					
Sales of service	\$ 195,753,184	\$ 190,433,799	\$ 187,538,854	\$ 188,168,475	\$ 173,553,631
<b>Operating expenses:</b>					
Personnel services	31,623,092	29,532,231	26,416,320	27,576,508	25,607,805
Materials and supplies	15,588,636	15,409,135	14,063,157	15,635,981	13,238,456
Contractual services	46,232,788	46,873,730	51,342,024	47,658,923	47,167,159
Depreciation and amortization	63,441,165	61,090,693	58,046,612	55,558,575	54,358,299
Professional fees and other	721,903	637,717	490,055	240,007	427,705
Total operating expenses	157,607,584	153,543,506	150,358,168	146,669,994	140,799,424
Operating income (loss)	38,145,600	36,890,293	37,180,686	41,498,481	32,754,207
<b>Nonoperating revenues (expenses):</b>					
Availability charges	25,206,124	14,681,449	21,689,013	24,007,197	20,477,318
Investment earnings	1,022,586	1,171,307	780,354	484,332	1,409,377
Interest expense	(19,502,116)	(20,601,532)	(23,677,340)	(26,960,382)	(28,052,165)
Amortization of bond issuance costs	(673,776)	(605,018)	-	(343,229)	(699,561)
Amortization of deferred amounts on refundings	-	-	(945,079)	(994,404)	151,242
Gain (loss) on disposal of capital assets	152,917	(8,326,757)	48,459	122,334	187,421
Total nonoperating revenues (expenses)	6,205,735	(13,680,551)	(2,104,593)	(3,684,152)	(6,526,368)
Loss before contributions and special item	44,351,335	23,209,742	35,076,093	37,814,329	26,227,839
<b>Capital contributions:</b>					
Grants from the Commonwealth	9,394,529	1,958,258	900,914	591,814	1,107,952
Federal Stimulus	-	-	-	-	-
From Fairfax County	-	-	-	-	-
From developers	3,119,145	2,640,181	2,376,245	3,482,762	5,954,792
<b>Special items:</b>					
Gain on sale of purchased capacity	-	-	-	-	-
Change in net position	\$ 56,865,009	\$ 27,808,181	\$ 38,353,252	\$ 41,888,905	\$ 33,290,583

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.

Unaudited - see accompanying report of independent auditor.

	Fiscal Year				
	2012	2011	2010	2009	2008
<b>Operating revenues:</b>					
Sales of service	\$ 159,957,639	\$ 142,929,404	\$ 126,681,734	\$ 108,723,096	\$ 100,297,089
<b>Operating expenses:</b>					
Personnel services	24,735,872	24,162,541	23,131,023	22,907,919	21,569,257
Materials and supplies	13,974,834	11,429,228	11,636,425	13,774,422	11,975,303
Contractual services	46,236,052	48,655,804	47,468,305	47,861,675	45,869,419
Depreciation and amortization	52,429,103	47,130,698	46,680,568	45,575,080	45,701,515
Professional fees and other	508,080	509,330	876,238	762,872	456,078
Total operating expenses	137,883,941	131,887,601	129,792,559	130,881,968	125,571,572
Operating income (loss)	22,073,698	11,041,803	(3,110,825)	(22,158,872)	(25,274,483)
<b>Nonoperating revenues (expenses):</b>					
Availability charges	28,959,575	11,189,312	10,668,539	11,461,530	13,909,729
Investment earnings	521,755	1,084,587	1,303,897	2,301,005	5,127,079
Interest expense	(25,227,137)	(25,300,800)	(25,929,969)	(18,309,964)	(17,224,651)
Amortization of bond issuance costs	(1,083,241)	(45,476)	(45,476)	(18,729)	(16,294)
Amortization of deferred amounts on refundings	229,931	229,931	229,931	229,931	229,931
Gain (loss) on disposal of capital assets	8,481	14,748	47,503	46,048	60,674
Total nonoperating revenues (expenses)	3,409,364	(12,827,698)	(13,725,575)	(4,290,179)	2,086,468
Loss before contributions and special item	25,483,062	(1,785,895)	(16,836,400)	(26,449,051)	(23,188,015)
<b>Capital contributions:</b>					
Grants from the Commonwealth	10,270,459	3,700,000	4,100,498	-	253,030
Federal Stimulus	-	4,525,425	1,974,575	-	-
From County	-	-	78,301	-	-
From developers	3,703,747	4,160,045	2,524,500	8,950,919	9,834,910
<b>Special items:</b>					
Cost of Purchased Capacity disposed	-	16,787,885	-	-	10,954,572
Change in net position	\$ 39,457,268	\$ 27,387,460	\$ (8,158,526)	\$ (17,498,132)	\$ (2,145,503)

Unaudited - see accompanying report of independent auditor.

**TABLE 1.3 - OPERATING REVENUE DETAIL - LAST TEN FISCAL YEARS**

	Fiscal Year				
	2017	2016	2015	2014	2013
<b>Sewer service:</b>					
County connections	\$ 186,702,496	\$ 180,554,128	\$ 176,558,827	\$ 176,471,310	\$ 163,052,021
City of Fairfax	2,304,397	2,301,634	1,667,693	2,158,338	1,702,234
Town of Herndon	1,281,635	1,034,990	3,229,858	3,758,078	2,992,525
Arlington County	339,303	727,823	705,557	540,121	538,464
Fort Belvoir	2,204,729	2,542,802	2,189,831	2,431,455	2,429,616
City of Falls Church	684,338	1,095,921	1,049,188	1,022,967	921,702
Town of Vienna	479,276	454,525	467,888	455,670	650,817
Other (a)	722,920	824,581	755,256	563,866	651,188
<b>Other services</b>	<b>1,034,090</b>	<b>897,395</b>	<b>914,756</b>	<b>766,670</b>	<b>615,064</b>
<b>Total operating revenues</b>	<b>\$ 195,753,184</b>	<b>\$ 190,433,799</b>	<b>\$ 187,538,854</b>	<b>\$ 188,168,475</b>	<b>\$ 173,553,631</b>

	Fiscal Year				
	2012	2011	2010	2009	2008
<b>Sewer service:</b>					
County connections	\$ 148,891,691	\$ 134,050,981	\$ 117,550,994	\$ 100,493,512	\$ 92,095,867
City of Fairfax	3,162,214	1,766,899	2,327,558	1,886,339	1,902,188
Town of Herndon	3,193,471	2,796,632	2,508,622	2,221,125	2,147,874
Arlington County	566,991	632,042	662,576	657,186	564,330
Fort Belvoir	1,842,643	1,440,178	1,617,140	1,285,825	1,245,801
City of Falls Church	1,030,951	1,055,703	887,498	1,242,233	1,166,939
Town of Vienna	451,532	452,817	589,075	453,261	405,636
Other (a)	348,552	390,641	296,331	293,946	290,664
<b>Other services</b>	<b>469,594</b>	<b>343,511</b>	<b>241,940</b>	<b>189,669</b>	<b>477,790</b>
<b>Total operating revenues</b>	<b>\$ 159,957,639</b>	<b>\$ 142,929,404</b>	<b>\$ 126,681,734</b>	<b>\$ 108,723,096</b>	<b>\$ 100,297,089</b>

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				
	2017	2016	2015	2014	2013
<b>Wastewater treatment expenses (a):</b>					
Noman M. Cole, Jr.	\$ 20,837,175	\$ 20,325,332	\$ 18,425,015	\$ 19,931,898	\$ 19,605,159
Alexandria Renew Enterprises	13,350,729	11,590,585	13,380,703	13,133,545	12,786,521
DCWASA Blue Plains	10,644,395	12,800,588	15,016,549	11,815,951	13,214,346
Upper Occoquan Sewage Authority	13,420,485	13,472,493	12,687,555	12,276,384	12,635,433
Arlington County	2,066,590	2,012,313	2,711,644	2,225,036	2,174,228
City of Falls Church Sewer	-	48,617	664,936	-	-
Other (b)	556,511	533,502	1,074,445	496,374	530,959
Total wastewater treatment expenses	60,875,885	60,783,430	63,960,847	59,879,188	60,946,646
<b>Other operating expenses:</b>					
Pumping, collection, and inspection	18,347,241	16,671,232	13,512,902	13,280,579	13,759,928
System repairs and renovations	238,102	194,724	260,030	115,557	280,341
Planning, engineering, and monitoring support	8,511,113	8,387,796	8,771,586	10,240,019	5,655,443
Billing and bill collection	6,194,078	6,415,631	5,806,191	7,596,076	5,798,767
Depreciation and amortization	63,441,165	61,090,693	58,046,612	55,558,575	54,358,299
Total operating expenses	\$ 157,607,584	\$ 153,543,506	\$ 150,358,168	\$ 146,669,994	\$ 140,799,424

	Fiscal Year				
	2012	2011	2010	2009	2008
<b>Wastewater treatment expenses (a):</b>					
Noman M. Cole, Jr.	\$ 20,088,669	\$ 19,682,549	\$ 19,246,868	\$ 21,300,335	\$ 18,933,101
Alexandria Renew Enterprises	12,836,900	13,221,642	13,840,642	14,170,985	14,125,041
DCWASA Blue Plains	13,257,118	13,492,628	12,279,110	12,516,382	11,868,018
Upper Occoquan Sewage Authority	12,045,467	13,187,574	12,944,970	13,171,944	12,634,484
Arlington County	2,224,503	1,700,523	1,607,662	1,595,998	1,502,058
Other (b)	497,634	608,470	560,153	672,775	393,200
Total wastewater treatment expenses	60,950,291	61,893,386	60,479,405	63,428,419	59,455,902
<b>Other operating expenses:</b>					
Pumping, collection, and inspection	13,445,481	12,573,304	12,909,408	13,034,159	12,316,625
System repairs and renovations	500,654	348,716	537,236	611,624	926,450
Planning, engineering, and monitoring support	5,305,778	3,845,246	3,520,455	3,110,606	2,819,735
Billing and bill collection	5,252,634	6,096,251	5,665,487	5,122,080	4,351,345
Depreciation and amortization	52,429,103	47,130,698	46,680,568	45,575,080	45,701,515
Total operating expenses	\$ 137,883,941	\$ 131,887,601	\$ 129,792,559	\$ 130,881,968	\$ 125,571,572

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**

Fiscal Year	Availability Charge (b) (Per Unit)			Retail Sewer Service Charge (c) (Per 1,000 gallons)	Retail Residential Sewer Service Base Charge (d) (Per Bill)
	Single Family Residence	Townhouse/ Apartment	Commercial Fixture		
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	-
2008	6,506	5,205	337	3.74	-

**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 BASE BY TREATMENT PLANT - LAST TEN FISCAL YEARS**

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
Noman M. Cole, Jr.	149,880	149,667	149,344	149,172	148,734
DCWASA Blue Plains	88,920	88,701	88,325	88,139	87,841
Alexandria Renew Enterprises	68,606	68,455	68,293	68,207	68,035
Upper Occoquan Sewage Authority	49,467	49,428	49,351	49,288	49,239
Arlington County	10,706	10,688	10,675	10,664	10,650
Other (a)	372	372	369	368	367
Customer base	367,951	367,311	366,357	365,838	364,866

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
Noman M. Cole, Jr.	147,998	147,478	146,810	144,407	143,900
DCWASA Blue Plains	87,551	87,406	86,575	85,937	85,197
Alexandria Renew Enterprises	67,805	67,229	67,069	66,278	65,448
Upper Occoquan Sewage Authority	49,188	49,109	48,889	48,796	48,647
Arlington County	10,644	10,639	10,623	10,445	9,947
Other (a)	357	348	345	342	339
Customer base	363,543	362,209	360,311	356,205	353,478

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 FISCAL YEARS**

<b>Service Class</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<b>Residential units:</b>					
Single family	165,552	165,113	164,418	164,021	163,266
Multi-family	96,251	96,247	96,226	96,212	96,207
Townhouse	77,905	77,722	77,549	77,469	77,301
Total residential units	339,708	339,082	338,193	337,702	336,774
<b>Nonresidential units (a)</b>	28,243	28,229	28,164	28,136	28,092
<b>Total customer base</b>	<b>367,951</b>	<b>367,311</b>	<b>366,357</b>	<b>365,838</b>	<b>364,866</b>

<b>Service Class</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
<b>Residential units:</b>					
Single family	162,671	162,264	161,777	161,271	160,681
Multi-family	96,177	95,649	95,476	94,872	94,123
Townhouse	77,019	76,885	76,811	76,698	76,532
Total residential units	335,867	334,798	334,064	332,841	331,336
<b>Nonresidential units (a)</b>	27,676	27,411	26,247	23,364	22,142
<b>Total customer base</b>	<b>363,543</b>	<b>362,209</b>	<b>360,311</b>	<b>356,205</b>	<b>353,478</b>

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**

<b>Service Class</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<b>Residential units:</b>					
Single family	227	161	189	168	242
Multi-family	2,709	1,386	1,608	2,571	1,580
Townhouse	213	136	195	84	218
Total residential units	3,149	1,683	1,992	2,823	2,040
<b>Nonresidential units (b)</b>	18	12	19	571	121
Total sewer connections sold	3,167	1,695	2,011	3,394	2,161
<b>Additional commercial fixture units sold</b>	12,151	9,163	12,898	12,463	17,856

<b>Service Class</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
<b>Residential units:</b>					
Single family	299	260	290	305	321
Multi-family	3,176	630	704	501	1,026
Townhouse	146	108	96	131	146
Total residential units	3,621	998	1,090	937	1,493
<b>Nonresidential units (b)</b>	559	12	8	20	847
Total sewer connections sold	4,180	1,010	1,098	957	2,340
<b>Additional commercial fixture units sold</b>	12,147	11,628	10,132	11,518	13,076

Source: Fairfax County Wastewater Management Program

Notes:

(a) The number of sewer connections sold include 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 SEWER CONNECTIONS - LAST TEN FISCAL YEARS**

<b>Service Class</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
<b>Residential units:</b>					
Single family	439	695	397	755	595
Multi-family	4	21	14	5	30
Townhouse	183	173	80	168	282
Total residential units	626	889	491	928	907
<b>Nonresidential units (a)</b>	14	65	28	44	416
Total new sewer connections	640	954	519	972	1,323

<b>Service Class</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
<b>Residential units:</b>					
Single family	407	487	506	590	774
Multi-family	528	173	604	749	983
Townhouse	134	74	113	166	203
Total residential units	1,069	734	1,223	1,505	1,960
<b>Nonresidential units (a)</b>	265	1,164	2,883	1,222	1,207
Total new sewer connections	1,334	1,898	4,106	2,727	3,167

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**

Name	Fiscal Year 2017			Fiscal Year 2007		
	Annual Revenues	Rank	Percentage of Total Operating Revenues	Annual Revenues	Rank	Percentage of Total Operating Revenues
INOVA Fairfax Hospital	\$ 899,610	1	0.46 %	\$ 283,133	1	0.30 %
Greenspring Village	557,409	2	0.28	270,942	2	0.28
Montebello Condo Unit	257,820	3	0.13	-	-	-
Reston Hospital Center	252,981	4	0.13	99,305	7	0.10
Homart Development Corp.	208,818	5	0.11	-	-	-
Hyatt Regency Reston	146,338	6	0.07	108,451	6	0.11
Reston Town Center	116,348	7	0.06	-	-	-
INOVA Health Systems - Fair Oaks Hospital	114,817	8	0.06	-	-	-
McLean Hilton Hotel Assoc.	111,231	9	0.06	80,661	10	0.08
Fairview Park Marriott	109,772	10	0.06	-	-	-
Shenandoah's Pride Dairy	-	-	-	168,378	3	0.18
Tyson Corner Property Holdings LLC	-	-	-	141,136	4	0.15
Ritz-Carlton Hotel Co.	-	-	-	111,762	5	0.12
BECO Management	-	-	-	83,066	8	0.09
Rolling Fullerton	-	-	-	82,906	9	0.08
<b>Totals</b>	<b>\$ 2,775,144</b>		<b>1.42 %</b>	<b>\$ 1,429,740</b>		<b>1.49 %</b>

Source: Fairfax County Wastewater Management Program

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				
	2017	2016	2015	2014	2013
<b>Senior debt:</b>					
2017 Sewer Revenue Refunding Bonds	\$ 103,823,280	\$ -	\$ -	\$ -	\$ -
2016 Sewer Revenue Refunding Bonds	188,200,007	189,232,620	-	-	-
2014 Sewer Revenue Refunding Bonds	60,998,066	64,786,726	68,475,386	68,989,046	-
2012 Sewer Revenue Bonds	43,788,214	45,612,953	101,522,504	103,487,772	105,418,040
2009 Sewer Revenue Bonds	10,890,540	14,022,610	146,030,833	149,111,493	152,057,153
2004 Sewer Revenue Refunding Bonds	-	-	-	3,413,434	77,950,428
<b>Total senior debt</b>	<b>407,700,107</b>	<b>313,654,909</b>	<b>316,028,723</b>	<b>325,001,745</b>	<b>335,425,621</b>
<b>Subordinate debt:</b>					
Upper Occoquan Sewage Authority Bonds	242,574,706	254,524,994	265,680,629	277,293,041	283,269,711
Virginia Resource Authority Bonds	26,529,083	32,085,998	37,440,694	42,671,739	47,781,987
<b>Total subordinate debt</b>	<b>269,103,789</b>	<b>286,610,992</b>	<b>303,121,323</b>	<b>319,964,780</b>	<b>331,051,698</b>
<b>Total outstanding debt</b>	<b>\$ 676,803,895</b>	<b>\$ 600,265,901</b>	<b>\$ 619,150,046</b>	<b>\$ 644,966,525</b>	<b>\$ 666,477,319</b>
<b>Outstanding Debt Ratios:</b>					
Per capita (a)	\$ 594	\$ 526	\$ 544	\$ 570	\$ 596
Percent of personal income (a)	0.79%	0.70%	0.76%	0.80%	0.87%
Per connection (b)	\$ 1,839	\$ 1,634	\$ 1,690	\$ 1,763	\$ 1,827
To operating revenues (c)	\$ 3.46	\$ 3.15	\$ 3.30	\$ 3.43	\$ 3.84

	Fiscal Year				
	2012	2011	2010	2009	2008
<b>Senior debt:</b>					
2009 Sewer Revenue Bonds	\$ 147,430,000	\$ 149,875,000	\$ 152,255,000	\$ 152,255,000	\$ -
2004 Sewer Revenue Refunding Bonds	79,280,000	82,215,000	85,050,000	87,790,000	90,435,000
1996 Sewer Revenue Bonds	-	-	-	-	-
1993 Sewer Revenue Refunding Bonds	-	-	-	-	-
<b>Total senior debt</b>	<b>226,710,000</b>	<b>232,090,000</b>	<b>237,305,000</b>	<b>240,045,000</b>	<b>90,435,000</b>
<b>Subordinate debt:</b>					
Upper Occoquan Sewage Authority Bonds	273,056,094	276,062,972	248,240,949	253,660,620	258,823,549
Virginia Resource Authority Bonds	52,487,594	56,946,896	61,236,896	65,364,033	69,334,502
<b>Total subordinate debt</b>	<b>325,543,688</b>	<b>333,009,868</b>	<b>309,477,845</b>	<b>319,024,653</b>	<b>328,158,051</b>
<b>Total outstanding debt</b>	<b>\$ 552,253,688</b>	<b>\$ 565,099,868</b>	<b>\$ 546,782,845</b>	<b>\$ 559,069,653</b>	<b>\$ 418,593,051</b>
<b>Outstanding Debt Ratios:</b>					
Per capita (a)	\$ 493	\$ 522	\$ 509	\$ 532	\$ 402
Percent of personal income (a)	0.78%	0.73%	0.71%	0.75%	0.59%
Per connection (b)	\$ 1,519	\$ 1,560	\$ 1,518	\$ 1,570	\$ 1,184
To operating revenues (c)	\$ 3.45	\$ 3.95	\$ 4.32	\$ 5.14	\$ 4.17

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 FY2006 - 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)			Debt Coverage (f)		
				Senior Debt (c)	Subordinate Debt (d)	Total	Senior w/o AF	Total w/AF w/o AF	
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
2008	119,394,571	79,870,054	39,524,517	6,637,531	21,745,381	28,382,912	3.86	1.39	0.90

Source: Fairfax County Wastewater Management Program

Notes:

- (a) Gross revenues include all revenues, except amortization of deferred gains on bond refundings and Gain on disposal of fixed assets.
- (b) Operating expenses do not include depreciation and amortization.
- (c) Senior debt includes sewer revenue 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 and 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 2014.

Unaudited - see accompanying report of independent auditor.

**TABLE 3.3 - DEBT SERVICE REQUIREMENTS - LAST TEN FISCAL YEARS**

	Fiscal Year				
	2017	2016	2015	2014	2013
<b>Senior debt:</b>					
2016 Sewer Revenue Refunding Bonds	\$ 4,520,597	\$ -	\$ -	\$ -	\$ -
2014 Sewer Revenue Refunding Bonds	5,707,375	5,688,250	1,901,681	-	-
2012 Sewer Revenue Bonds	3,394,125	5,556,950	5,554,675	5,556,200	1,801,401
2009 Sewer Revenue Bonds	3,697,375	9,651,150	9,650,025	9,651,900	9,652,150
2004 Sewer Revenue Refunding Bonds	-	-	3,418,375	6,681,644	6,700,000
Total senior debt	<u>17,319,472</u>	<u>20,896,350</u>	<u>20,524,756</u>	<u>21,889,744</u>	<u>18,153,551</u>
<b>Subordinate debt:</b>					
Upper Occoquan Sewage Authority Bonds	5,974,892	20,016,677	20,035,797	19,903,758	19,734,931
Virginia Resource Authority Bonds	19,837,505	6,203,278	6,203,277	6,203,278	6,420,175
Total subordinate debt	<u>25,812,397</u>	<u>26,219,955</u>	<u>26,239,074</u>	<u>26,107,036</u>	<u>26,155,106</u>
Total debt service requirements	<u>\$ 43,131,869</u>	<u>\$ 47,116,305</u>	<u>\$ 46,763,830</u>	<u>\$ 47,996,780</u>	<u>\$ 44,308,657</u>

	Fiscal Year				
	2012	2011	2010	2009	2008
<b>Senior debt:</b>					
2009 Sewer Revenue Bonds	\$ 9,651,213	\$ 9,652,475	\$ 4,222,501	\$ -	\$ -
2004 Sewer Revenue Refunding Bonds	6,683,506	6,670,056	6,658,681	6,644,456	6,637,531
Total senior debt	<u>16,334,719</u>	<u>16,322,531</u>	<u>10,881,182</u>	<u>6,644,456</u>	<u>6,637,531</u>
<b>Subordinate debt:</b>					
Upper Occoquan Sewage Authority Bonds	18,890,938	18,303,668	17,660,059	16,385,086	15,108,309
Virginia Resource Authority Bonds	6,637,073	6,637,073	6,637,073	6,637,072	6,637,072
Total subordinate debt	<u>25,528,011</u>	<u>24,940,741</u>	<u>24,297,132</u>	<u>23,022,158</u>	<u>21,745,381</u>
Total debt service requirements	<u>\$ 41,862,730</u>	<u>\$ 41,263,272</u>	<u>\$ 35,178,314</u>	<u>\$ 29,666,614</u>	<u>\$ 28,382,912</u>

Source: Fairfax County Wastewater Management Program

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 sections.

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

Calendar Year	County Population		Personal Income (c) (000s)	Per Capita Personal Income (c)	Unemployment Rate (d)
	Total (a)	On County Sewer (b)			
2016	1,138,652	937,500	\$ 85,311,224	\$ 74,923	3.2 %
2015	1,142,234	937,000	85,675,546	75,007	3.1
2014	1,137,538	936,245	81,620,627	71,752	3.5
2013	1,130,924	935,435	80,982,075	71,607	3.7
2012	1,118,602	932,864	77,012,392	68,847	4.3
2011	1,100,692	930,350	71,145,429	64,637	4.2
2010	1,081,726	912,000	72,577,324	67,094	4.9
2009	1,074,227	878,170	74,380,758	71,982	4.8
2008	1,050,315	874,200	74,385,409	70,822	3.4
2007	1,041,507	873,500	70,500,650	67,691	2.2

Notes:

- (a) Total population data includes the Cities of Fairfax and Falls Church and is obtained from 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 2013 is estimated using percent change in per capita personal income from 2011 to 2012.
- (d) Unemployment rates are obtained from the Virginia Employment Commission, Annual Unemployment Statistics for the calendar year, not seasonally adjusted. The previously reported estimated figures for the most recent prior year have been updated to reflect the final reported figures from the Commission.

Unaudited - see accompanying report of independent auditor.

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

Employer	Fiscal Year 2017 (1)			Fiscal Year 2008		
	Number of Employees (2)	Rank	Pct. of Total County Employment (3)	Number of Employees (2)	Rank	Pct. of Total County Employment (3)
Federal Government	24,970	1	4.02 %	15,087	2	2.56 %
Fairfax County Public Schools	24,688	2	3.97	22,994	1	3.91
Fairfax County Government	12,438	3	2.00	12,263	3	2.08
Inova Health System	7,000-10,000	4	1.37	7,000-10,000	4	1.45
George Mason University	7,000-10,000	5	1.37	-	-	-
Booz-Allen Hamilton	4,000-6,999	6	0.89	7,000-10,000	5	1.45
Federal Home Loan Mortgage	4,000-6,999	7	0.89	4,000-6,999	8	0.94
General Dynamics	4,000-6,999	8	0.89	-	-	-
Northrop Grumman	1,000-3,999	9	0.40	7,000-10,000	6	1.45
Science Applications International Corporation (4)	1,000-3,999	10	0.40	4,000-6,999	7	0.94
Lockheed Martin	-	-	-	4,000-6,999	9	0.94
Sprint	-	-	-	4,000-6,999	10	0.94
Totals			<u>16.20 %</u>			<u>16.66 %</u>

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 2017 excluding data from Fairfax County Government and Fairfax County Public Schools, is from the 1st quarter of calendar year 2017 VEC. Employment information for fiscal year 2008 is from 2008
- (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 2017 is estimated at 621,364, based on Business Vital Statistics of the Fairfax Economic Development Authority. Average total County employment for fiscal year 2008 was estimated at 588,192.
- (4) Science Applications International Corporation employment reported prior to the September 2013 split into two independent companies (SAIC and Leidos).

Unaudited - see accompanying report of independent auditor.

## 5.0 DEMOGRAPHIC AND ECONOMIC 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**

Division	Fiscal Year				
	2017	2016	2015	2014	2013
Planning & Administration	32	35	35	35	25
Laboratory	21	19	19	19	21
Collection	134	132	132	132	140
Treatment	132	129	129	129	135
<b>Total</b>	<b>319</b>	<b>315</b>	<b>315</b>	<b>315</b>	<b>321</b>

Division	Fiscal Year				
	2012	2011	2010	2009	2008
Planning & Administration	25	25	25	25	26
Laboratory	21	21	21	21	19
Collection	140	140	140	140	141
Treatment	135	135	135	135	135
<b>Total</b>	<b>321</b>	<b>321</b>	<b>321</b>	<b>321</b>	<b>321</b>

Source: Fairfax County Wastewater Management Program

Notes:

(a) Number of employees represent 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**

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
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
<b>Treatment plant capacity</b>	<b>157.18</b>	<b>157.18</b>	<b>157.18</b>	<b>157.18</b>	<b>157.18</b>

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
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	24.60	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
<b>Treatment plant capacity</b>	<b>157.18</b>	<b>157.18</b>	<b>158.18</b>	<b>158.18</b>	<b>158.18</b>

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**

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
Noman M. Cole, Jr.	35.64	37.78	38.36	39.77	37.56
DCWASA Blue Plains	25.36	27.14	28.17	29.98	28.39
Alexandria Renew Enterprises	15.46	16.52	16.39	19.07	17.66
Upper Occoquan Sewage Authority	11.86	12.64	12.76	13.53	12.50
Arlington County	2.18	2.08	2.04	1.96	1.96
Loudoun Water	0.00	0.00	0.00	0.00	0.00
Other (a)	0.02	0.04	0.03	0.03	0.02
<b>Total system flow</b>	<b>90.52</b>	<b>96.20</b>	<b>97.75</b>	<b>104.34</b>	<b>98.09</b>

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
Noman M. Cole, Jr.	39.91	38.59	42.04	41.12	40.53
DCWASA Blue Plains	29.31	28.65	29.65	28.05	26.67
Alexandria Renew Enterprises	18.93	18.57	20.81	16.90	17.04
Upper Occoquan Sewage Authority	12.60	12.54	13.14	12.44	12.61
Loudoun Water	2.00	2.02	2.02	1.98	0.00
Arlington County	0.00	0.00	0.00	0.00	1.95
Other (a)	0.04	0.03	0.07	0.07	0.04
<b>Total system flow</b>	<b>102.79</b>	<b>100.40</b>	<b>107.73</b>	<b>100.56</b>	<b>98.84</b>

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**

<b>Source</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
County connections	80.85	85.82	87.93	92.26	88.72
City of Fairfax	2.95	3.24	2.84	3.20	2.63
Town of Herndon	2.68	2.43	2.46	2.66	2.27
Arlington County	1.09	1.35	1.37	1.39	1.21
Fort Belvoir	1.08	1.29	1.13	2.70	1.30
City of Falls Church	0.86	0.94	0.89	0.98	0.94
Town of Vienna	0.69	0.75	0.77	0.86	0.73
Loudoun County	0.11	0.12	0.12	0.11	0.10
Other (a)	0.21	0.26	0.24	0.18	0.19
<b>Total system flow</b>	<b>90.52</b>	<b>96.20</b>	<b>97.75</b>	<b>104.34</b>	<b>98.09</b>

<b>Source</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
County connections	92.75	90.85	96.79	90.51	88.63
City of Fairfax	3.15	3.00	3.46	3.27	3.49
Town of Herndon	2.46	2.47	2.59	2.40	2.40
Arlington County	1.36	1.32	1.57	1.42	1.40
Fort Belvoir	1.05	0.90	1.16	1.07	1.12
City of Falls Church	0.99	0.93	1.12	1.04	1.02
Town of Vienna	0.82	0.73	0.86	0.67	0.61
Loudoun County	0.09	0.08	0.07	0.07	0.05
Other (a)	0.12	0.12	0.11	0.11	0.12
<b>Total system flow</b>	<b>102.79</b>	<b>100.40</b>	<b>107.73</b>	<b>100.56</b>	<b>98.84</b>

Source: Fairfax County Wastewater Management Program

Notes:

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

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

<b>Treatment Plant</b>	<b>Recent Five Years</b>		<b>Past Ten Years</b>	
	<b>Flow</b>	<b>Month</b>	<b>Flow</b>	<b>Month</b>
Noman M. Cole, Jr.	45.77	May-14	50.19	May-08
DCWASA Blue Plains	34.75	May-14	34.75	May-14
Alexandria Renew Enterprises	26.72	Sep-11	26.72	Sep-11
Upper Occoquan Sewage Authority	15.60	Mar-15	15.96	May-08
Arlington County	2.36	Jan-17	2.36	Jan-17

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**

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
Noman M. Cole, Jr.	31.36	29.22	28.64	27.23	29.44
DCWASA Blue Plains	5.64	3.86	2.83	1.02	2.60
Alexandria Renew Enterprises	16.94	15.88	16.01	13.33	14.73
Upper Occoquan Sewage Authority	10.74	9.96	9.83	9.07	10.10
Arlington County	0.82	0.92	0.97	1.04	1.04
Loudoun Water	1.00	1.00	1.00	1.00	1.00
Other (b)	0.16	0.14	0.15	0.15	0.15
<b>Total unused capacity</b>	<b>66.66</b>	<b>60.98</b>	<b>59.43</b>	<b>52.84</b>	<b>59.06</b>

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
Noman M. Cole, Jr.	27.09	28.41	24.96	25.88	26.47
DCWASA Blue Plains	1.69	2.35	1.35	2.95	4.33
Alexandria Renew Enterprises	13.47	13.83	11.59	15.50	15.37
Upper Occoquan Sewage Authority	10.00	10.06	11.46	12.16	11.99
Arlington County	1.00	0.98	0.98	1.02	1.06
Loudoun Water	1.00	1.00	-	-	0.00
Other (b)	0.14	0.15	0.11	0.11	0.14
<b>Total unused capacity</b>	<b>54.39</b>	<b>56.78</b>	<b>50.45</b>	<b>57.62</b>	<b>59.36</b>

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**

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
Noman M. Cole, Jr.	53.19 %	56.39 %	57.25 %	59.36 %	56.06 %
DCWASA Blue Plains	81.81	87.55	90.87	96.71	91.61
Alexandria Renew Enterprises	47.72	50.99	50.59	58.86	54.53
Upper Occoquan Sewage Authority	52.48	55.93	56.46	59.87	55.75
Arlington County	72.67	69.33	68.00	65.33	66.67
Other (b)	11.11	22.22	16.67	16.11	16.67
<b>Total system capacity utilization</b>	<b>57.59 %</b>	<b>61.20 %</b>	<b>62.19 %</b>	<b>66.38 %</b>	<b>62.42 %</b>

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
Noman M. Cole, Jr.	59.57 %	57.60 %	62.75 %	61.37 %	60.50 %
DCWASA Blue Plains	94.55	92.42	95.65	90.48	86.02
Alexandria Renew Enterprises	58.43	57.31	64.23	52.16	52.58
Upper Occoquan Sewage Authority	55.75	55.49	53.41	50.57	51.26
Arlington County	66.67	67.33	67.33	66.00	64.83
Other (b)	22.22	16.67	38.89	38.89	20.00
<b>Total system capacity utilization</b>	<b>65.40 %</b>	<b>63.88 %</b>	<b>68.11 %</b>	<b>63.57 %</b>	<b>62.48 %</b>

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) BY TREATMENT PLANT - LAST TEN FISCAL YEARS**

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
Noman M. Cole, Jr.	\$ 1,856	\$ 1,651	\$ 1,542	\$ 1,509	\$ 1,551
DCWASA Blue Plains	1,150	1,245	1,460	1,080	1,275
Alexandria Renew Enterprises	2,366	1,938	2,237	1,887	1,983
Upper Occoquan Sewage Authority	3,070	2,868	2,701	2,486	2,769
Arlington County	2,595	2,703	3,642	3,110	3,039

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
Noman M. Cole, Jr.	\$ 1,379	\$ 1,367	\$ 1,254	\$ 1,419	\$ 1,268
DCWASA Blue Plains	1,239	1,290	1,135	1,223	1,210
Alexandria Renew Enterprises	1,858	1,950	1,822	2,296	2,246
Upper Occoquan Sewage Authority	2,620	2,880	2,699	2,902	2,725
Arlington County	3,050	2,305	2,178	2,204	2,106

Source: Fairfax County Wastewater Management Program

Unaudited - see accompanying report of independent auditor.

**TABLE 5.9 - CAPITAL ASSET STATISTICS - LAST TEN FISCAL YEARS**

<b>Fiscal Year</b>	<b>Treatment Plants (a)</b>		<b>Number of Pumping Stations</b>	<b>Number of Metering Stations</b>	<b>Miles of Sewer Pipe</b>
	<b>System-Owned</b>	<b>Purchased Capacity</b>			
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
2008	1	5	65	54	3,353

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 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 Authority.

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 FISCAL YEARS**

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>
Noman M. Cole, Jr.	92	98	100	103	98
DCWASA Blue Plains	113	122	128	135	129
Alexandria Renew Enterprises	87	94	94	109	101
Upper Occoquan Sewage Authority	94	101	104	108	100
Arlington County	79	76	75	71	71
<b>Total system flow per capita</b>	<b>96</b>	<b>103</b>	<b>105</b>	<b>112</b>	<b>105</b>
Annual rainfall, inches	31.03	36.55	41.63	48.57	39.65

<b>Treatment Plant</b>	<b>Fiscal Year</b>				
	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
Noman M. Cole, Jr.	104	106	100	100	99
DCWASA Blue Plains	133	137	109	109	111
Alexandria Renew Enterprises	108	112	97	97	99
Upper Occoquan Sewage Authority	101	106	105	105	107
Arlington County	72	77	77	77	79
<b>Total system flow per capita</b>	<b>110</b>	<b>114</b>	<b>101</b>	<b>101</b>	<b>102</b>
Annual rainfall, inches	46.83	40.67	42.32	42.32	42.39

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**

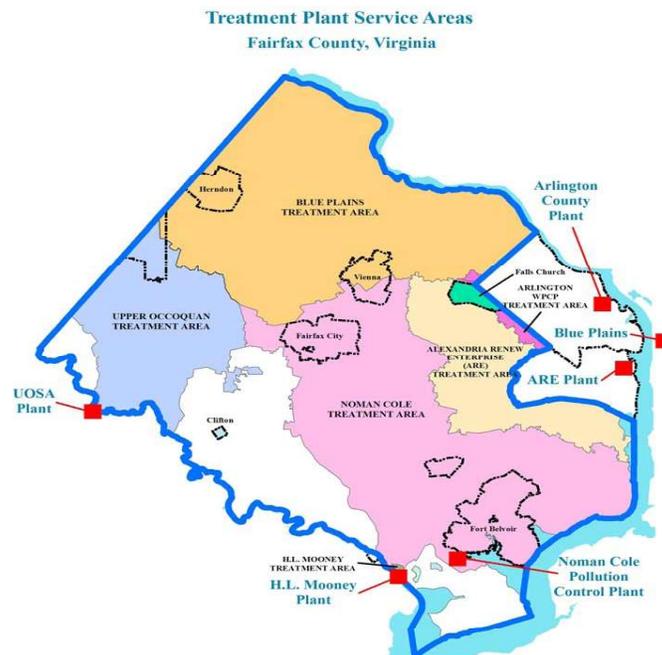
Treatment Plant	Fiscal Year				
	2017	2016	2015	2014	2013
Noman M. Cole, Jr.	238	252	257	267	253
DCWASA Blue Plains	286	306	319	340	323
Alexandria Renew Enterprises	226	241	240	280	260
Upper Occoquan Sewage Authority	240	256	261	275	254
Arlington County	204	195	191	184	184
<b>Total system flow per connection</b>	<b>246</b>	<b>262</b>	<b>267</b>	<b>285</b>	<b>269</b>

Treatment Plant	Fiscal Year				
	2012	2011	2010	2009	2008
Noman M. Cole, Jr.	269	262	286	250	247
DCWASA Blue Plains	335	328	342	263	270
Alexandria Renew Enterprises	279	276	310	239	247
Upper Occoquan Sewage Authority	256	255	268	261	260
Arlington County	188	190	190	190	196
<b>Total system flow per connection</b>	<b>283</b>	<b>277</b>	<b>299</b>	<b>250</b>	<b>253</b>

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.



## FAIRFAX COUNTY WASTEWATER MANAGEMENT



Quality of Water = Quality of Life

Fairfax County is committed to a policy of nondiscrimination in all county programs, services and activities and will provide reasonable accommodations upon request. Special accommodations/alternative information formats will be provided upon request. Call 703-324-5030, TTY 711.



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